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COMPARATIVE EFFECTS OF INSTRUCTION, SELF-MONITORING, AND
SELF-REINFORCEMENT ON TEACHER ATTENDING BEHAVIOR

A Dissertation
Presented for the
Doctor of Education
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ABSTRACT

A major purpose of the present study was to assess the relative merits of instruction in contingent teacher attention, self-monitoring, and self-reinforcement on teacher approval and disapproval to disruptive classroom students. Other objectives were to assess the reliability of teacher self-recorded data and to determine whether a relationship between the frequency of approval and disapproval occurred as a function of the experimental conditions.

Five junior high school teachers in an urban school system served as subjects. Each teacher identified two students in their classes regarded as disruptive or nonparticipating. Teachers and students were observed for 55 days. Data on teacher rates of approval and disapproval to a target students and student rates of appropriate and inappropriate behaviors were collected to ascertain the effectiveness of experimental conditions.

Treatments were temporally staggered to avoid simultaneous duplication across teachers. Two teachers were assigned the experimental phases of instruction, self-monitoring approval, self-monitoring disapproval and self-reinforcement. Two others were given instruction, self-monitoring approval and self-reinforcement; and one teacher was under the instruction condition only.

The instruction phase involved brief teacher introduction to the rationale and techniques of contingent teacher attention for controlling

disruptive classroom behaviors. During the self-monitoring approval and disapproval phases, teachers recorded their rates of approval or disapproval on small mechanical counters. The self-reinforcement condition involved teachers setting up behavioral goals and rewards contingent upon their approval of target students.

Line graphs were plotted to illustrate the frequencies of teacher behaviors and percentages of appropriate student behaviors. Single subject analyses of these graphs revealed the changes in teacher and student behaviors. Tabular presentations assisted in the analysis of the relationship between the changes in rates of approval and disapproval and the reliability of self-recorded data.

The results showed that instruction had little effect upon either positive teacher or student behavior. Self-monitoring approval had no clear effects on teacher approval or disapproval, although students under this condition reduced their inappropriate behavior. Teachers under the self-monitoring disapproval phase reduced their disapproval, but a decrease in approval rates and appropriate student behavior also occurred. Self-reinforcement increased teacher approval but had ambiguous effects on disapproval and student behaviors.

Agreement between teacher self-recorded data was low for both approval and disapproval. Teacher rates of approval and disapproval failed to show systematic variation with respect to each other as a function of the experimental treatments.

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CHAPTER I

INTRODUCTION

Skinner (1953) has interpreted self-control as essentially similar to the control of other's behavior--through the manipulation of environmental determinants which affect behavior. For Skinner the determinants of behavior are external to the individual. He emphasizes that an approach which views the individual as acting on his environment to influence the probability of behaviors has valuable practical implications:

. . . analysis of the behavior of control should make it possible to teach relevant techniques as easily as any other technical repertoire. This should also improve the procedures through which society maintains self-controlling behaviors in strength (p. 240).

Kanfer (1970a) and Cautela (1969) consider the future of self-control as providing shorter consultative procedures and more durable and extended behavior changes. Some writers suggest that behavior change is greatest (Davison and Valins, 1969) and techniques used to facilitate behavior change are most effective (Cautela, 1969; Kolb, Winter, and Berlew, 1968) when the individual feels that he, and not some external agent, is responsible for the changes that occur.

The lure of these promises and the limitations of designing and implementing extensive environmental controls for others (Kanfer, 1970a; Kanfer and Phillips, 1970) have stimulated operant psychologists

to begin developing and analyzing self-control programs which generally follow Skinner's (1953) conceptualization (Ferster, Nurnberger, and Levitt, 1962; Goldiamond, 1965; Homme, 1965). For example, educational psychologists are beginning to investigate the utility of self-control techniques. This application of self-control to the school setting is, in part, a function of the failure of behavior modification to have a widespread effect on education. Traditionally, teacher educators have erroneously assumed that instruction in the classroom will transfer to teacher behavior (Justman, 1966). Edgar (1972), in a traditional approach to instruction, trained teachers in behavior modification techniques but found no generalization to the classroom. Buckley and Walker (1971) found that classroom teachers given brief training in attending to appropriate behavior did not significantly perform better than teachers who had not been given training. In-service and consultant teacher training which provide applied opportunities have been effective (Hall, Cristler, Cranston, and Tucker, 1970; Hall, Fox, Willard, Goldsmith, Emerson, Owen, Davis, and Porcia, 1971; MacDonald and Gallimore, 1972; Martin, 1973); however, the impact seems to be short-lived or limited. Hall (1971) reports that he and his colleagues found that in many cases teachers fail to continue treatment procedures taught to them during the experiment. Others writers (Williams and Anandam, 1973) likewise note that less than 50 percent of the teachers assisting them in behavior modification studies continue using the techniques after completion of the studies. Blackwood (1970) claims that even in some of the most "successful" classroom studies posttreatment rates for

misbehavior remain high enough to handicap educational programs. A practical consideration is noted by Dickerman (1972). He points out that the amount of consultation and observational time usually required for teacher training limits its use in many instances.

Williams and Anandam (1973) suggest several reasons for behavior modification's limited impact on education which fall into two broad categories: (1) misapplication of treatment procedures and (2) inadequate external support. The anticipation that research in the acquisition and effects of self-control can help solve problems of this type has led researchers such as Kanfer (1970a) and Mahoney (1972) to view self-control as one of the most promising developments in behavior change.

Several self-control programs include two general components: (1) a pretreatment phase in which the individual self-monitors his behavior and (2) a self-monitoring plus positive self-reinforcement phase (Harris, 1969; Jackson, 1972; Watson and Tharp, 1972). Self-monitoring involves both self-observation and self-recording of the occurrence of an individual's behavior.¹ This informs the individual of the extent of the behavior and, if combined with subsequent treatment conditions, of the change in that behavior (Leitenberg, Agras, Thompson, and Wright, 1968; Williams and Long, 1975). Positive self-reinforcement is a derivative from Skinner (1953) who roughly equates this procedure with the operation for strengthening the behavior of another person. However, he notes that the self-reinforcer could obtain reinforcement at

¹Some self-control treatment techniques involve the individual monitoring the setting events surrounding his behavior and its consequence (Williams and Long, 1975).

any time "but does not do so until a particular response has been emitted." Bandura (1971) explains that positive self-reinforcement provides immediate support for the self-controlling behaviors until the benefits that eventually accrue take over the reinforcing function. This is achieved, he notes, by having individuals select an activity or payoff which the individual finds rewarding and then make that event contingent upon the performance of the target behavior.

I. LITERATURE REVIEW

Several writers have noted that the process of self-monitoring may itself have an accelerating or depressing effect on the behavior being measured (Johnson and White, 1971; Kanfer, 1970b; Mahoney, 1972; McFall, 1970).

In research with students, Lovitt (1973) was able to reduce talk-outs and hitting of elementary school children in a regular classroom by instructing the students to record their own behavior on cards taped to their desk tops. Broden, Hall, and Mitts (1971) successfully increased study behaviors of an eighth grade girl, but were unable to effect a reduction in talking-out behavior in another student through self-monitoring. Potential high school dropouts were requested to monitor their frequency of oral class participation in a study by Gottman and McFall (1972). Self-monitoring increased their rate of participation in classroom discussion, but had marginal effect on grades and no effect on their frequency of visits to the teacher's office. Bolstad and Johnson (1972) trained first and second graders in self-control

procedures. They then prevented access to the reinforcers for both groups, but asked one group to continue self-monitoring. This group displayed 23 percent less deviant behavior than the group not asked to continue self-monitoring.

Experimenters have also utilized self-monitoring procedures in training teachers to attend to appropriate behavior. Dickerman (1972) trained teachers to increase contacts with their students following appropriate behavior and asked them to record on index cards their interactions with target students following either appropriate or inappropriate behaviors. In comparison with a control group of teachers the self-monitoring group significantly increased the contacts following appropriate student behaviors, and target students significantly increased appropriate and on-task behaviors. In another study, Buckley and Walker (1971) asked teachers who were experienced in the use of behavior modification techniques and token classroom management to tally each time they praised a target child. The rate of praise and positive contact during baseline was .01 per minute. A rate of .05 per minute was achieved by the same teachers during a self-recording phase. The authors concluded that teachers could effectively increase their rate of social reinforcement by monitoring their own behavior. A third study (Hendricks, 1974) also utilized self-monitoring of teacher verbal praise as part of a training program. This training process included a training manual, videotapes, and role playing exercises for noting, counting, charting, and analyzing self-behaviors in the classroom. Hendricks found that self-observation was associated with increases in

teacher verbal and nonverbal approval when these behaviors were the focus of self-observation.

Some authors have speculated that different self-monitoring instructions have different effects on the monitored behaviors (Kanfer, 1970b; McFall, 1970). Johnson and White (1971) predicted that self-monitoring of an approved behavior would result in an increase in that behavior and that self-monitoring of a disapproved behavior would result in a decrease in that behavior. The only study to address this issue failed to support this prediction. Hendricks (1974) taught teachers to self-record their negative comments in class and found that teacher self-observation had little effect on teacher negative commands.

Experimenters who have investigated positive self-reinforcement as a separate event differ in their definition. Kanfer and Marston (1963) consider self-reinforcement to occur in situations in which reinforcement is administered by an individual to himself, while Bandura and Perloff (1967) assume self-determination of a reinforcement schedule to be crucial in self-reinforcement with the agent of reinforcement being irrelevant. For the present study, either function will serve as a sufficient definition of self-reinforcement.

The effect of self-reinforcement has been studied by several investigators in classroom settings.² Lovitt and Curtis (1969) found that with a 12 year old student higher rates of academic behaviors

²Studies in classroom settings which focus on self-reinforcement either do not specify the method of monitoring target behaviors (Johnson, 1970) or describe a variety of methods subsumed under the self-reinforcement process (Bolstad and Johnson, 1972; Felixbrod and O'Leary, 1973; Glynn, 1970; Glynn, Thomas, and Shee, 1973; Lovitt and Curtis, 1969).

occurred when the student arranged the contingency requirements for self-reinforcement than when the teacher specified them. Also, Glynn (1970), in a study with ninth grade girls, found that self-determined reinforcement contingencies were at least as effective as experimenter-determined contingencies using test scores as a measure. With classes of second graders, Glynn, Thomas, and Shee (1973) demonstrated successful use of combined self-recording and self-reinforcement to maintain high rates of on-task behavior that had been established by externally administered reinforcement procedures. Felixbrod and O'Leary (1973) also demonstrated that contingent self-reinforcement had a facilitative impact on time-at-task and arithmetical problem solving of second graders. For first and second grade boys, Johnson (1970) used tokens as rewards and found that both self-reinforcement and experimenter reinforcement maintained high response rates on match-to-sample discrimination problems. Self-reinforcement was also demonstrated to be slightly more effective than externally managed procedures in the reduction of disruptive behaviors for first and second grade children (Bolstad and Johnson, 1972). Recent classroom studies by other researchers (Drabman, Spitalnik and O'Leary, 1973; Glynn and Thomas, 1974) have also shown increases in on-task behaviors for third and fourth grade students using self-reinforcement procedures. Self-reward programs seem to be practical and effective alternatives to external control for student behaviors in the classroom setting.

II. THE PROBLEM

The primary aim of the present study was to compare the effects of designated treatment conditions (instruction, self-monitoring approval, self-monitoring disapproval, and self-reinforcement) on teacher approval and disapproval. The instruction condition involved a brief introduction to the teachers of the principles and techniques of classroom behavior modification (contingent teacher attention). The self-monitoring conditions involved brief teacher consultation in identifying and self-recording of approval and/or disapproval. A final self-reinforcement phase dealt with the establishment of a self-reinforcement program designed to increase the occurrence of teacher approval. Appropriate student behaviors were also examined as dependent variables during all conditions.

The study also incorporated two auxiliary investigations. First, data were analyzed to determine the amount of agreement between teacher self-recorded and observer data. Second, the association between the changes in rates of teacher approval and disapproval were investigated. That is, the change in approval (increase or decrease in frequency) was compared to the change in disapproval across each phase.

CHAPTER II

METHOD

I. SUBJECTS AND SETTING

The study was conducted in five schools in an East Tennessee metropolitan area. Five junior high school teachers with traditionally intact classes (self-contained classrooms) were selected as primary subjects. The teachers were all volunteers but were initially identified by their principals as being relatively inexperienced and having students with behavior problems. All teachers were college graduates. Teacher A was a 23 year old white female in her first year of teaching. She taught seventh grade English (3:10-4:00) in a predominantly white suburban school. Teacher B was a 25 year old white female with one year of teaching experience. She was teaching eighth grade mathematics (12:40-1:30) in a school located in a largely white suburban area. Teacher C taught seventh grade English (11:10-12:00) at a suburban school with a predominantly white student population. She was a white 25 year old first year teacher. Teacher D, a 28 year old white, had been teaching for five years and was assigned to a suburban junior high. She taught eighth grade geography (9:20-10:15) to a predominantly white class. Teacher E was teaching introductory French (9:20-10:15) to a class with a majority of black students. This teacher was a 23 year old

white male in his first year of teaching. The school was located in an urban area.

After selection of the teachers, experimenter (E) asked each teacher to identify two target students and two alternates in the class to serve as secondary subjects. The students were identified on the basis of their frequent disruptive behaviors or their unwillingness to participate in class learning activities.

II. OBSERVATIONAL PROCEDURES

Two predata observations per class were employed to permit students and observers to adjust to one another's presence. A single observer was assigned for each forty-minute class meeting. For each class, one observer was scheduled to meet on Monday, Wednesday, and Friday, while a different observer was scheduled for Tuesday and Thursday.

The teacher and two target students were concurrently observed for a total of 36 minutes per class. Teacher behaviors were recorded on the data form (see Figure 1) at the time of their occurrence during the observational session. Identifiable student behaviors were recorded at the beginning (on the count) of every 15-second interval. The observer recorded the first target student's behavior at the beginning of one 15-second interval and recorded the second student's behaviors at the start of the next interval. Teachers were requested to notify the observer which alternate student was serving as the replacement for an absent target student.

Student 1	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30
Teacher																				
Student 2	15	45	15	45	15	45	15	45	15	45	15	45	15	45	15	45	15	45	15	45
Teacher																				
Student 1	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30
Teacher																				
Student 2	15	45	15	45	15	45	15	45	15	45	15	45	15	45	15	45	15	45	15	45
Teacher																				

Figure 1. Sample portion of behavioral data form.

Teacher behaviors were recorded in the following categories adapted from Williams and Anandam (1973):

- Tr Task relevant: answering or asking questions (must be lesson oriented), writing when directed to do so, looking at book when directed to do so, hand raising to get teacher's attention, looking at teacher during lectures, looking at another student who is participating in class discussion, and any other behavior that is consistent with the ongoing lesson.
- S Appropriate social interaction: includes talking, laughing, playing games, telling jokes or just sitting at one's desk when students have not been instructed to engage in lesson activity and when these behaviors are not forbidden by the instructor.
- To Time-off task: just sitting at one's desk without appropriate materials, looking at nonlesson materials, gazing out the window, or looking around the room when lesson activity has been assigned. The student, however, is not distracting another student by his inattention.
- D Disruptive: includes any behavior that disrupts the lesson related behavior of another student. Subcategories of disruptive behavior include: Motor behaviors--getting out of seat, standing up, walking around, rocking in chair, moving chair, gesturing without talking, exchanging looks with another student, or any disruptive movement. Noise making--tapping feet or objects, clapping hands, tearing papers, or any nonverbal noise-producing behavior not directly involved in Tr or S. Verbalization--crying, screaming, singing,

whistling, laughing, coughing, or engaging in conversation (talking and listening) with other children when these behaviors are not consistent with Tr or S. Aggression--hitting, pushing, shoving, prodding, slapping, striking, grabbing objects from another child, or destroying objects.

Student behaviors were recorded in the following categories developed by Williams and Anandam (1973):

- + Approval: includes teacher attention to student Tr or S behavior. Subcategories of teacher approval include: verbal approval--"That's good." "You're doing a fine job." "Exactly," "You're progressing nicely" or similar remarks administered to a child for lesson related behavior. Nonverbal approval--a smile, a head nod, or touching or patting the child when the intent is clearly positive.
- Disapproval: includes teacher attention to student To or D behavior. Subcategories of disapproval include: verbal attention--reprimands, threats (yelling, scolding, sarcasm). Nonverbal gestures--facial disapproval (frowning, grimacing, hard stares, side-to-side head movements, and gestures), corporal punishment (grabbing, hitting, spanking, shaking, slapping or pushing).

For teacher behaviors, the observers recorded teacher approval only when it was directed to the target student individually or in a small group of less than three students. Following each student-teacher interaction, the observer recorded only one approval, regardless of the number which occurred during the interaction. For example, a pat on the back and two approving statements were only recorded as one approval if

they occurred during a single contact between the teacher and target student. If the observers were unable to hear an interaction, they recorded whether the attention followed appropriate or inappropriate student behavior. An approval was recorded if the attention followed appropriate behavior, and a disapproval if the attention followed inappropriate behavior.

III. OBSERVER TRAINING AND RELIABILITY CHECKS

Fourteen graduates and nine undergraduates served as observers. The observers were volunteers who received partial credit toward completing the requirements for courses in educational psychology. The observers were trained by the E using a video tape of simulated classroom situations. The experimenter and observers viewed the tape while simultaneously recording teacher and student behaviors.

Observer data of teacher behavior were compared item by item (+ or -) against the data of the trainer. Agreement occurred when a particular rating of the observer was identical to the rating of the trainer. The rate of trainer-observer agreement was determined by dividing the number of agreements by the total number of trainer observations. Observers were required to agree an average of .85 or better with the trainer on four 4-minute video segments. Reliability on student behavior ratings was determined by comparing trainer and observer data interval by interval over 4-minute segments. An agreement occurred when the trainer and observer recorded the same behavior for the same interval. The rate of agreement was calculated by dividing the number of agreements

by the number of recorded intervals. All observers achieved a minimum rate of .85 with the trainer on four 4-minute video segments.

During the study reliability was checked at least once per phase or at least once every thirteen observational sessions (with the exception of the baseline for classroom B). These reliability checks were based on 24-minute observations and involved a comparison of the experimenter's recordings with those of the observers. The results of the checks for teacher behavior ranged from .00 to 1.00 (mean = .88). For students the checks ranged from .83 to .99 (mean = .92). Tables 7 and 8 (Appendix A) show the behavior rating agreements for both teacher and target student behaviors.

IV. EXPERIMENTAL CONDITIONS

The major design strategy was an intrasubject comparison of treatment conditions. However, the design also involved a multiple baseline in that the same behaviors of different teachers and students were concurrently measured in five different classes. To control for the influence of extraneous variables, the experimental conditions were staggered to avoid simultaneous duplication of treatments across classes.

Data were recorded for teachers and students in classrooms A and B during five conditions or phases. Teacher and student data were recorded for classes C and D during the same conditions but without the self-monitoring disapproval phase. The classroom E teacher and target students were observed for two phases only. Data from this class were delayed since the teacher originally selected terminated her employment after

fifteen days of observation. A graphic delineation of experimental phases is presented in Figure 2.

Instruction (I)

During this treatment, teachers were instructed to increase their approval of appropriate target student behaviors and to decrease their disapproval of inappropriate student behaviors. In consulting sessions of 23 to 30 minutes, the E presented teachers with a brief written statement explaining the rationale and procedures involved in contingent teacher attention (see Appendix B). After allowing each teacher time to read the handout, the E explained each concept and answered teachers' questions about applying these techniques to their own classroom situation.

Self-Monitoring Approval (SMA)

This experimental condition involved teachers' self-monitoring frequencies of approval to the target students. In sessions of 12-15 minutes the E requested teachers to record the number of approvals (according to the instructions given to the classroom observers) on a mechanical counter. This device was a knitting stitch counter modified so as to slip over the end of a pencil. If one of the two target students was absent, the teacher and observer recorded approvals administered to the alternate student. The teacher recorded approvals only during the first 36 minutes of the class period. At the end of the class the teachers transferred the data on the counter to a note card kept in a convenient place (i.e., taped to their record book or on the

Classroom A	Baseline	10	Instruction	10	Self-Monitoring Approval	13	Self-Mon. Disap.	5	Self-Reinforcement	17
Classroom B	Baseline	15	Instruction	10	Self-Mon. App.	5	Self-Mon. Disap.	5	Self-Reinforcement	20
Classroom C	Baseline	20	Instruction	11	Self-Monitoring Approval	10	Self-Reinforcement	14		
Classroom D	Baseline	25	Instruction	10	Self-Monitoring Approval	11	Self-Reinforcement	9		
Classroom E	Base-Line	5	Instruction	35						17

Figure 2. Delineation of experimental conditions for classrooms A, B, C, D, and E.

inside of a desk drawer). These cards were provided by the experimenter and collected after every five days of recording or at the end of the phase.

Self-Monitoring Disapproval (SMD)

Teachers in this phase self-monitored disapproval of target students. In training sessions of approximately 10 minutes, teachers were instructed by the E to record disapprovals using the same counting device and procedures as in the SMA condition. It was intended that four teachers would be assigned the SMD treatment; however, only two teachers (A and B) had sufficiently high baserates of disapproval to warrant their self-recording rates of disapproval.

Self-Reinforcement (SR)

In this phase teachers rewarded themselves (self-reinforcement) contingent upon an increase in their frequency of approval. In consulting sessions of 22-31 minutes, the E presented the teacher with a brief written summary of the rationale and procedures involved in a self-reinforcement program (see Appendix C). The E also gave the teacher a graph of her previously self-recorded approvals and a planning record designed to help structure the self-reinforcement program (see Appendix D). After the teachers read the handout, the experimenter explained the concepts of self-reinforcement and the use of the graph and planning form. Every five days, the E collected the planning record which had been filled out by the teacher and presented her with another form for the coming week. As these planning records were collected,

the experimenter responded to any questions the teachers had regarding aspects of their self-reinforcement programs.

V. TEACHER CONSULTATION

Because of the number of experimental conditions assigned to individual teachers, the amount of experimenter attention was unevenly assigned across teachers. In order to equalize the amount of consultation per teacher, additional consultations or contacts were scheduled. For teachers C and D these meetings were held during the SR phase. Teacher D had three contacts with the experimenter during the I phase. Discussions during these contacts were limited to two areas: (1) the content presented in previous meetings and (2) the effect of the experimental conditions on target students' behavior.

In order to control for the effects of experimenter attention on teacher behavior, the consulting sessions were recorded on audio tapes and rated by trained observers. Experimenter verbal response was logged at 15-second intervals according to the following categories:

- D Declaration: formal or off-the-cuff statements, suggestions, or examples such as "Try to increase your praise," "Students generally behave according to the consequences of their behavior," "This child may not respond immediately to your attention."
- P Probe: restatements or questions which require a response from the teacher such as "So your students seem to be improving his behavior?" "How have you done this week?"

- A Approval: definite or clearly stated phrases of support such as "Very good," "I want to encourage you to continue," "That's exactly the right approach."
- D Disapproval: reproof or admonishment, such as: "That is incorrect," "Stop immediately. If you don't try harder, you won't get results."
- S Social: social conversation or digressions not clearly relevant to the consultation process.

Ten graduate students (five male and five female) served as observers. The observers were volunteers who received partial credit towards completion of the requirements for a course in educational psychology.

Two observers were assigned to rate the tapes of each treatment consultation for a designated teacher. This assignment permitted analysis of inter-teacher variations in experimenter verbal attention. Observers were trained to record the identifiable experimenter verbal response which occurred during the beginning of a 15-second interval. The intervals were timed with a stopwatch by one observed who signalled the other observer at the appropriate moment. In order to assess reliability, the E checked one observer's data against the other observer's data according to the process described for determining classroom observer reliability. Rates of agreement ranged from .84 to 1.00 (mean = .94). Table 9, Appendix E, presents the agreement rates for each observer pair and audio tape recording.

CHAPTER III

RESULTS

Data depicting behavioral levels and change in teacher and student behaviors were presented in graphic and tabular forms. Rates of teacher behavior (approval and disapproval) for each observational session were shown in line graphs; and mean rates of teacher behavior for each treatment phase were presented in a table. As an analytical aid, student task relevant behavior (Tr) and social behavior (S) were combined and labeled appropriate behavior. Similarly, disruptive (D) and time-off task (to) behaviors were combined into the category of inappropriate behavior. Rates of student appropriate behavior for each observational session are depicted in graphs. Mean rates of appropriate student behavior for each experimental phase were displayed in tabular form. Observational sessions for which no data were plotted on the graphs represent teacher or observer absence or regular class cancellation. Each teacher consultation session was analyzed according to consultant verbal response and duration. These data were shown in tabular form.

I. TEACHER DATA

Teacher and Observer Agreement

A rate of agreement between teacher self-recorded data and classroom observer data was calculated by dividing the lower frequency of recorded teacher response by the higher frequency of teacher response. Table 1

TABLE 1

TEACHER SELF-RECORDED AND CLASSROOM OBSERVER DATA AGREEMENT
FOR TEACHER APPROVAL AND DISAPPROVAL

Treatment	Teacher				Overall Agreement
	A	B	C	D	
<u>Approval</u>					
Self-Monitoring Approval	.11	.60	.63	.17	.38
Self-Reinforcement	.15	.75	.70	.09	.42
Overall Agreement	.14	.71	.68	.13	.42
<u>Disapproval</u>					
Self-Monitoring Disapproval	.27	.44	--	--	.36

^aRates of agreement for approval were based on 19 to 24 observation sessions for each teacher. Rates of agreement for disapproval were based on five observation sessions for each teacher.

presents the rates of agreement across both teachers and phases. Moderate levels of agreement for approval for teachers B and C were recorded (.71 and .68 respectively). Two other teachers, however, were unable to reliably monitor their approval rates (.14 for A and .13 for D). Overall teacher/observer agreement for approval was .42. Inter-teacher analysis shows agreement for the self-reinforcement phase to be slightly greater than for self-monitoring approval, though both rates are low. Agreement for the SMD was also low across teachers A and B (.36).

Relationship between Approval and Disapproval

In order to determine if a change in the rate of approval is accompanied by a corresponding change in the rate of disapproval, a ratio was calculated by dividing the mean rate of approval by the mean rate of disapproval for each experimental condition (see Table 2). Baseline ratios ranged from a high of 2.03 approvals per disapproval (teacher B) to a low of .08 approvals per disapproval (teacher E). The baseline ratio for D was not calculated since her mean rate of approval was zero.

The effects of the instruction condition on changes in rates of approval and disapproval were ambiguous. From baseline, ratios for teachers A and B during I were lowered, while that for teacher E was dramatically raised. D's ratio was extremely high as she increased her rate of approval (from a baseline of zero) and simultaneously decreased her rate of disapproval. The values for C were not computed since her rate of disapproval for I was zero.

TABLE 2

COMPARISON OF THE RATIOS OF APPROVALS PER DISAPPROVALS FOR EACH TEACHER

Treatment	Teacher			
	A	B	C	D
Baseline	.34	2.03	.66	.00/.41 ^a
Instruction	.12	.83	.48/.00	10.09
Self-Monitoring Approval	.08	1.44	1.98	4.05
Self-Monitoring Disapproval	.22	2.32	--	--
Self-Reinforcement	.18	2.53	21.94	2.55

^aMean rates of approval per disapproval were presented for teacher C (instruction) and teacher D (baseline) in lieu of ratios since zero values in the ratio computation present misleading data.

The effects of the SMA phase were also unclear. In comparison with the I condition, the ratio for teacher B was raised from .83 to 1.44, while the ratios for teachers A and D were lowered (.12 to .08 for A and 10.09 to 4.05 for D). A comparison between SMA and I for C was not made since her ratio for instruction was not computed. Additional comparisons between baseline and SMA show no consistent effects. Teacher ratios for SMA were above baseline ratios for both C and D. Teachers A and B, however, failed to raise their rates of approval relative to their rates of disapproval as compared to baseline.

Ambiguity was also apparent in the SMD condition. Table 2 shows that the SMD ratios for A and B upon comparison with the previous phase (SMA) were raised; however, while A's SMD ratio increased above baseline, B's was not.

The effects for the SR phase were likewise obscured. Two teachers (A and D) responded with smaller ratios as contrasted with the immediately preceding phases (SMA or SMD). In comparison, B and C had larger ratios for SR than the immediately preceding phases. The direction of ratio change was also divided when compared to baseline. Teachers B and C increased their ratios, but teacher A decreased her ratio. Since a baseline ratio was not computed, no comparison was made for D.

By way of summary, a consistent relationship between the changes in rate of approval and disapproval across teachers could not be established. Specifically, analysis of the ratio of approvals per disapproval failed to identify an experimental phase in which increases

in classroom teacher approval were consistently accompanied by reductions in disapproval.

Overview of Treatment Effects

Inconsistencies in the degree and direction of behavior change within phases made the overall effects of the treatment conditions difficult to determine. For the variable of teacher approval, each treatment condition exhibited differing amounts of experimental control (see Table 3). The most ambiguous data resulted from instruction. Three teachers (A, B and C) reduced their approval rates an average of 1.28 approvals per day from baseline. D and E, however, responded with an increase in approval (1.30 per day) from baseline.

Only slightly more straightforward evidence was produced by the SMA phase. The increases in approval occurred for teachers B (over baseline and instruction), teacher C (over instruction), and teacher D (over baseline). A reduction in rates of approval for the SMA phase resulted for A and C from baseline and A and D from I. Comparisons of SMA with baseline and I showed an increase in approvals (mean = .62). Comparisons which showed a decrease in approvals averaged .37.

The SMD phase evidenced a trend towards reduction of the frequency of approval. Rates for A and B decreased from baseline as did B's rate from SMA. Comparison of the SMD frequency of approval for teacher A to the previous condition (SMA) shows only a slight increase in approval from .18 to .22.

The SR phase had a general effect of increasing the frequency of approval. Of the four teachers who underwent the SR condition, two

TABLE 3

COMPARISON OF THE MEAN RATES OF APPROVAL
AND DISAPPROVAL FOR EACH TEACHER

Treatment	Teacher									
	A		B		C		D		E	
	Appr.	Disappr.	Appr.	Disappr.	Appr.	Disappr.	Appr.	Disappr.	Appr.	Disappr.
Baseline	.83	2.45	3.84	1.89	2.23	3.36	.00	.41	.60	7.60
Instruction	.20	1.65	2.39	2.87	.48	.00	1.11	.11	2.08	.78
Self-Monitoring Approval	.18	2.30	4.86	3.26	1.64	.83	.89	.22	--	--
Self-Monitoring Disapproval	.22	.98	3.34	1.44	--	--	--	--	--	--
Self-Reinforcement	.52	2.94	4.22	1.67	3.95	.18	.56	.22	--	--

increased approval rates above both baseline and the preceding conditions (teachers B and C). One increased her rate above baseline (teacher D) and one increased rates above SMA (teacher A). A and D slightly decreased their approval from baseline and SMA respectively (.31 for A and .33 for B).

For disapproval, the effects of I and SMD were relatively straightforward, but the effects of SMA and SR were equivocal. During the instruction phase, desirable reductions in disapproval occurred for four of five teachers, with two teachers (C and E) lowering their rates dramatically. Teacher B during instruction increased her rate by slightly less than one response per day.

Self-monitoring approval failed to show consistent effects. Disapproval for teachers A, C, and D was decreased below baseline levels an average of 42 percent. Conversely, these same teachers increased disapproval rates from the immediately preceding phase (I). For B during the self-monitoring approval phase, disapproval increased from both baseline and instruction.

The SMD phase produced the most consistent effects for teacher disapproval. In comparison with both baseline and the immediately preceding SMA condition, two subjects (A and B) responded with lower rates.

No reliable inter-subject effects were demonstrated for the SR condition. The outcomes were divided as teacher A more frequently responded with disapproval during SR than baseline; and teachers B, C, and D decreased rates of disapproval from baseline. Using the

immediately preceding phase rates of disapproval as references, the disapproval rate for A was lowered, but raised for B and C. No change in rate of disapproval for D occurred from the previous condition (SMA).

The duration of the treatment phases across teachers was of varying lengths for instruction, self-monitoring approval and self-reinforcement. This within phase differential had no consistent effect on teacher behavior for either SMA or SR conditions. For instruction however, there was evidence that the longer the phase the greater the increase of teacher approval and decrease in disapproval. Teachers D and E, who were under the instruction phase longest of all teachers (see Figure 2, page 17), demonstrated the greatest amount of increase in approval (see Table 3). For disapproval, teachers C, D, and E spent more time under I (see Figure 2) and, likewise, reduced their rates of disapproval more than teachers A and B (see Table 3).

In summary, during SMD the rates of approval and disapproval were generally reduced for each teacher. For the majority of teachers self-reinforcement slightly increased approval of appropriate student behaviors; but produced no consistent changes across teachers for disapproval. Likewise, instruction was somewhat effective in reducing disapproval, but ambiguous in its effect on approval. The data also showed that SMA had ambiguous effects on teacher approval or disapproval of target students. Last, there were no indications that teachers who were assigned to longer instruction phases also produced higher rates of approval and lower rates of disapproval.

Teacher Consultation

The amount of time the experimenter spent in consultation with each teacher is shown in Table 4. Consultation periods for self-monitoring approval and self-monitoring disapproval were of similar length. Consultation time varied only three minutes for SMA and one minute for SMD across teachers. Larger variation existed, however, for the instruction and self-reinforcement conditions.

Further analysis revealed that the varying lengths of consulting sessions for the instruction and self-reinforcement conditions had no measurable effect on teacher behavior. Teachers B and C received the most consultation for the instruction phase. However, Table 3, page 27, shows neither B nor C had the greatest increases in approval or decreases in disapproval. During the SR condition, teachers C and B received the most and least consultation respectively. These same teachers, as seen in Table 3, showed the largest amount of desirable behavior change indicating no consistent effects of consultation on teacher behavior.

Table 5 compares the minutes duration of each experimenter verbal response across consultation sessions. Experimenter verbal responses of probe, approval, disapproval, and social occurred equally among teachers with no more than two minutes variation among teachers for the category of declaration as indicated by the range (see Table 5).

Additional investigation showed that the amount of declaration had no consistent effects on teacher behavior change. Teacher C who received the most experimenter declaration response during the study,

TABLE 4
MINUTES DURATION OF CONSULTATION FOR EACH TEACHER

Consulting Session	A	B	Teacher C	D	E	Range
Instruction	23	30	30	24	25	7
Self-Monitoring Approval	15 ^a	13	12	12	-	3
Self-Monitoring Disapproval	10	11	-	-	-	1
Self-Reinforcement	25	22	31	24	-	9
Contact ^b	-	-	10	12	16,17,23	

^aEstimated.

^bConsultation in which no new phase was introduced. Sessions of contact were introduced in order to equalize the total amount of consultation time across teachers.

TABLE 5

AMOUNT OF EXPERIMENTER VERBAL RESPONSE IN MINUTES FOR ALL CONSULTATION SESSIONS

Response Category	Teacher					Range
	A	B	C	D	E	
Declaration	50	49	54	35	41	15
Probe	1	1	0	1	0	1
Approval	4	4	3	4	4	1
Disapproval	0	0	0	0	0	0
Social	2	0	0	0	0	2

failed to demonstrate the greatest amount of positive behavior change across treatments.

In short, variations in the amount of consultation and the type of experimenter verbal response during consultation showed no consistent effects on teacher increase in approval or decrease in disapproval.

Individual Teacher Data

This section describes the behavior of individual teachers under the assigned experimental treatments. The figures in this section present the daily percentages of approval and disapproval of the teacher to the two target students.

Teacher A (age 23). This female was in her first year of teaching seventh grade English. Her teaching was usually conducted in close proximity to her desk which faced the class from the front of the room. Her mode of responding to the target students during baseline was friendly but perfunctory. Her approval and disapproval of individual students was inconsistent.

The experimental conditions failed to effect an increase in teacher A's rate of approval. Her rate of approval during baseline (.83) as shown in Table 3, page 27, ranked midway among the rates of the four other teachers in the study. The instruction phase reduced her approval by more than four times to a rate of .20. This low frequency of response was maintained through SMA and SMD phases (see Figure 3). Approximately one-half of the reduction in approval from baseline to instructions was regained in the SR condition which left

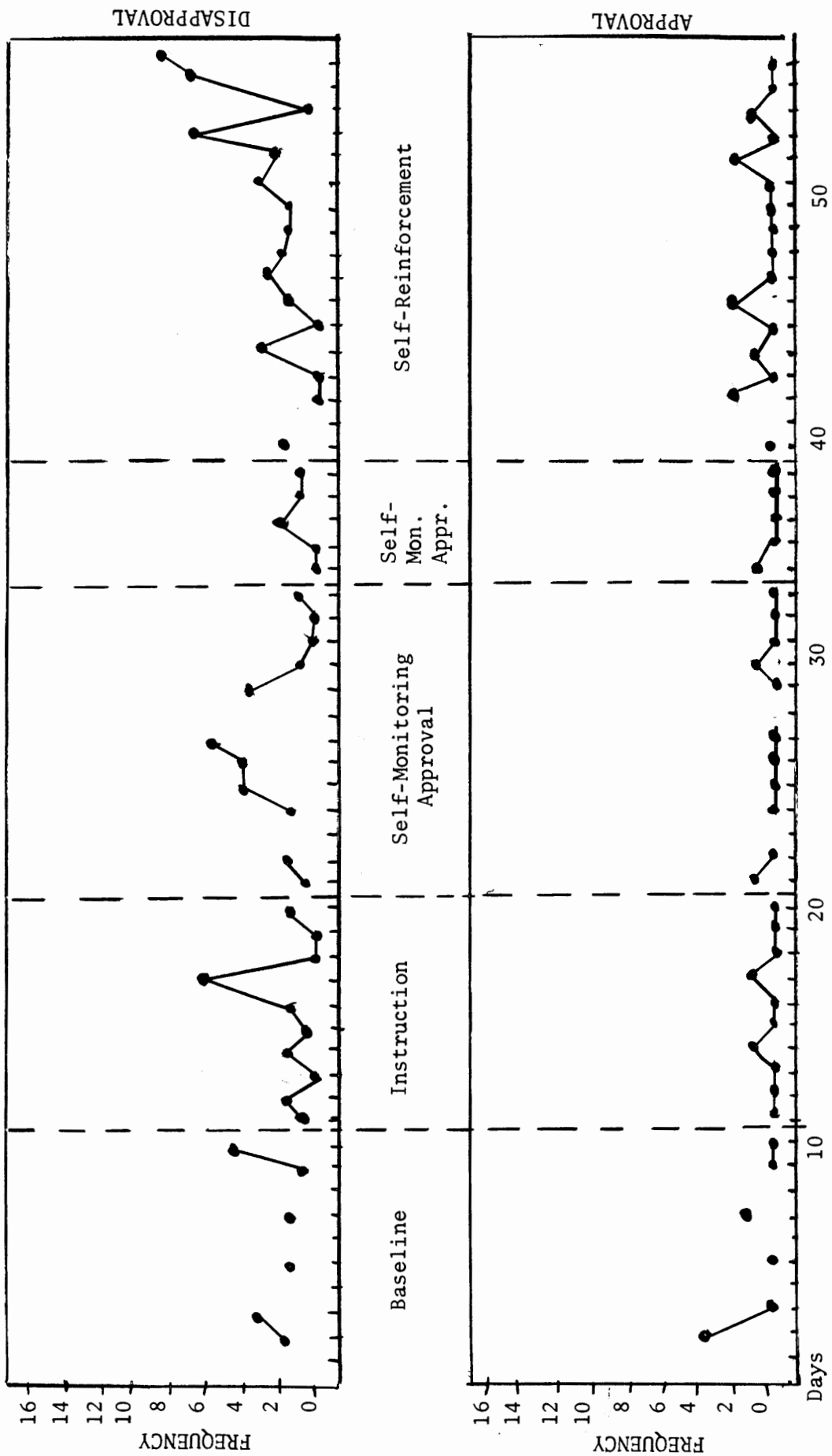


Figure 3. Teacher A: Approval and disapproval as a function of experimental conditions.

approval at 62 percent of the original baseline rate. Unlike all other teachers in the study, A did not increase her approval rates above baseline levels during SR.

For disapproval, two treatment conditions decreased the rate for teacher A, and two conditions increased the rate. Her rate of disapproval also ranked midway among the other teachers' rates (see Table 3, page 27). A 33 percent reduction from baseline occurred during the I condition for teacher A. Visual interpretation of Figure 3 shows that frequency of disapproval was restored to just below baseline rates (2.30) during SMA. Self-monitoring disapproval was the most effective condition in reducing disapproval. Her rate fell more than one disapproval per day from baseline and SMA. Recovery of the higher disapproval frequency occurred during the SR phase to a rate of .49 above baseline.

In summary, teacher A's approval was modified by the experimental treatments least in comparison with other teachers. Self-reinforcement was conditionally effective in increasing her rate of approval over the previous phase, but not over baseline. I, SMA and SMD phases were ineffective in raising approval rates. The SMD and I phases reduced disapproval for A with SMD producing the greater effects. SR and SMA both resulted in a return of disapproval to undesirably high levels.

Teacher B (age 23). Teacher B was a female teaching eighth grade mathematics. She characterized herself as somewhat of an introvert, but utilized a variety of group discussion and individual seatwork assignments which brought her into frequent interaction with the target

students. The experimental phases produced differential effects for teacher B's approval. Her baseline rate of 3.84, highest for all teachers, was inflated by 1.23 approvals by an uncharacteristic session of 16 responses (see Figure 4). A drop in this approval rate of 1.45 per day resulted when the instruction condition was introduced. This rate fell between the rates of teachers A and C, who also responded to instructions with lower approval. Instruction was least effective in producing increments in approval for B. SMA was the most effective treatment, as B's frequency of approval rose by more than one per session above baseline and more than two per session above instruction. This increment (2.47 above I) represented the largest increase in approval across phases for all teachers. The rate of 4.86 was the highest for all teachers and all treatments. The SMD condition reduced approval 13 percent below baseline and 31 percent below SMA, consistent with the effects for teacher A. This rate was still considerably above the I levels. The second most effective treatment was self-reinforcement, as approval again rose to a rate of .38 above baseline, but .64 below SMA.

Disapproval was reduced under two treatments, but substantially increased under two others. Teacher B's disapproval rate during baseline (1.89), next to the lowest for all teachers, almost doubled during the instruction phase. This rate increased further in the self-monitoring approval condition. This resulted in the highest frequency of disapproval for all teachers excluding baseline values. The largest decrease in disapproval occurred in the SMD condition, with the SR

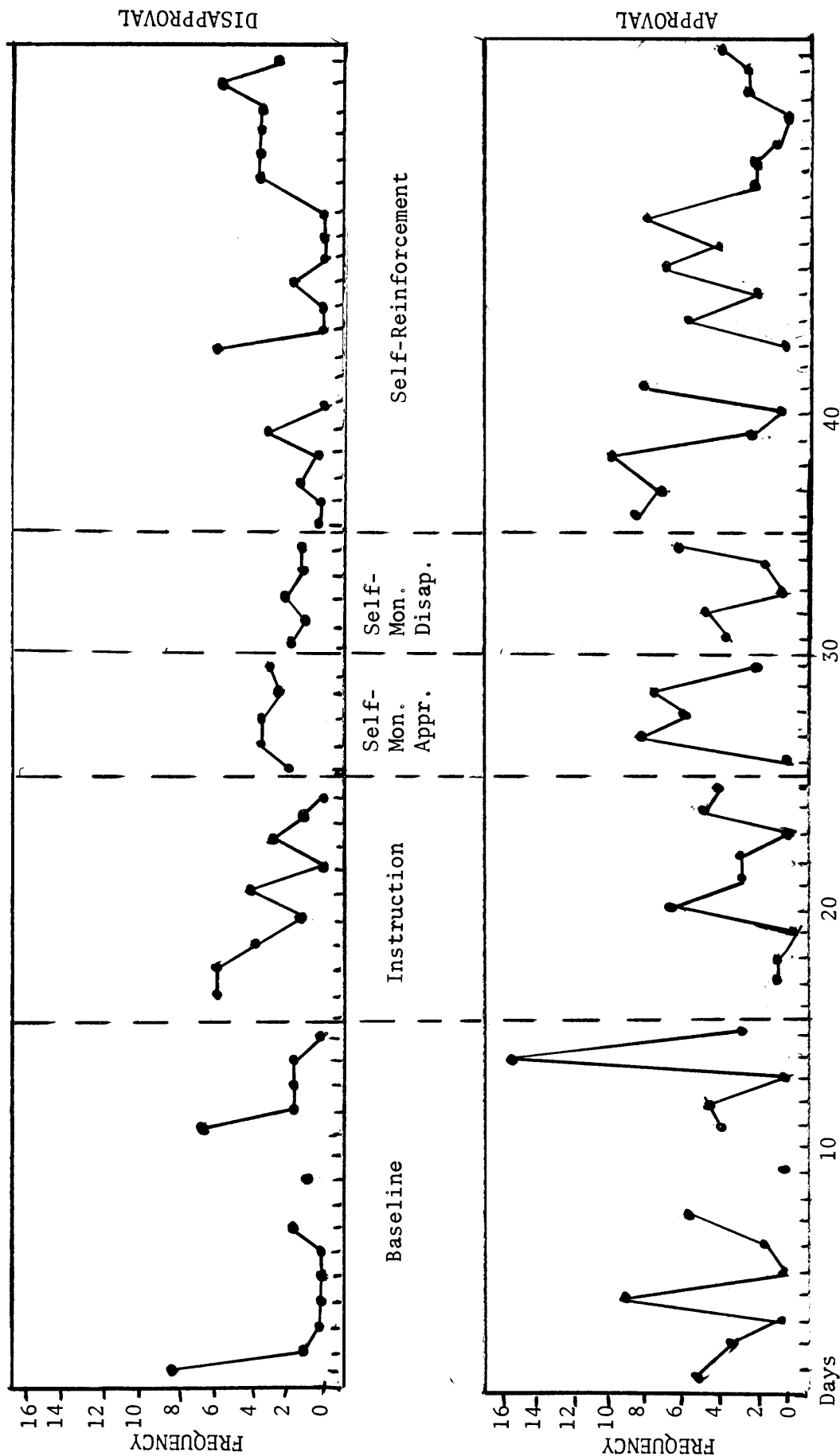


Figure 4. Teacher B: Approval and disapproval as a function of experimental conditions.

condition ranking second. Rates of 1.44 for SMD and 1.07 for SR were slightly under baseline levels and considerably below the SMA phase.

In summary, SMA and SR treatments were more influential than any condition in increasing the approval rates for teacher B. Instructions and SMD reduced approval. SMA increased teacher disapproval, as did instruction. Disapproval was reduced most under SMD and SR conditions.

Teacher C (age 25). This teacher was a female in her first year of teaching seventh grade English. She infrequently attended to her students during seatwork assignments, but spent considerable time reprimanding students or talking with them on nonscholastic topics. Of the three experimental phases, only one phase (SR) favorably increased teacher C's approval. Her base rate for approval, while second highest of all teachers, was characterized by two days of unusually high frequencies of approval (10 and 13.5) as can be seen in Figure 5. Introduction of the I treatment reduced approval to a rate lower than baseline (.48). This difference in response was greater than those for either teacher A or B who also decreased their approval from baseline. Self-monitoring approval restored C's approval rate to 74 percent of the base rate. Though this value remained below the baseline level, consecutive observation periods during SMA in which no approvals occurred were fewer than during baseline. In the SR treatment, she impressively increased her responses to 3.95 approvals per class session, the second highest for all teachers. Her amount of increase was the greatest for all teachers from baseline and second highest from the previous treatment (SMA). Additionally, she responded with at least

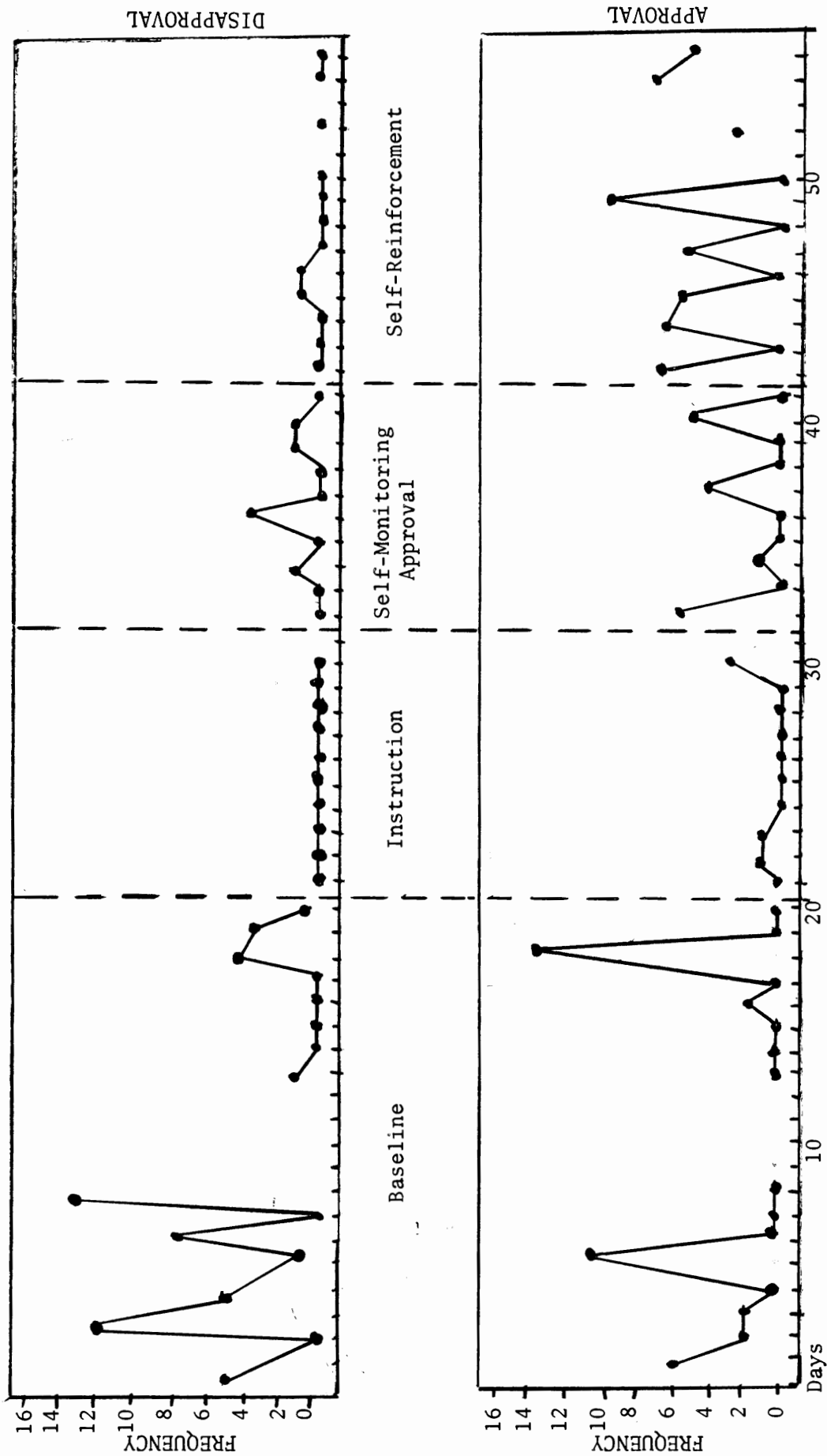


Figure 5. Teacher C: Approval and disapproval as a function of experimental conditions.

one approval during 75 percent of the SR sessions as compared to 38 percent for baseline and 40 percent for SMA.

For teacher C, the treatments were uniformly effective in reducing disapproval. Her base rate of disapproval was the second highest for all teachers and was characterized by alternating sessions of high and low frequencies for the first half of the baseline period (see Figure 5). She averaged 3.88 fewer disapprovals in the second part of baseline than in the first half. Upon introduction of I, C had the second largest decrease of disapprovals for any teacher from baseline. In fact, this phase decreased disapprovals to zero. The disapproval rate increased less than one (.83) during SMA from instruction, indicating a lesser treatment effect than I. Self-reinforcement was the second most effective phase in reducing disapprovals. The rate for disapproval fell to .18, more than three disapprovals below the baseline rate.

In summary, SR increased approval more effectively than either I or SMA. SR was the only treatment which raised the frequency per session above the relatively high base rate. Instruction was dramatic in its suppression of disapproval. Self-reinforcement was only slightly less effective. SMA reduced disapproval; but rates were above those for SR.

Teacher D (age 29). In the sixth year of teaching seventh grade geography, this female interacted with her students mainly through well-structured group activities. Individual instruction or contact with students during seatwork activities was not generally initiated, though students frequently asked for her assistance. Her rate of approval or disapproval was the least of any teacher during baseline. All

experimental phases increased teacher D's approval. As seen in Figure 6, she had a baseline rate of zero approvals for the twenty-five sessions. Instruction was the most effective experimental condition in raising approval rate. During this phase, her rate increased by more than one approval per day (1.11). She responded with approvals during 70 percent of the observational periods. Ranking second, SMA maintained approval above baseline but decreased to below one response per day (.89). She approved the target students in only 56 percent of the SMA sessions. Self-reinforcement had a slight influence on approval rate. The rate of .56 was higher than the base rate, but lower than those for I or SMA.

Teacher D's disapproval was generally reduced by all treatment conditions. The baseline value for disapproval for D (.41), the lowest for all teachers, was lowered further upon application of the I condition (.11). Only teacher C, with zero disapprovals in this phase, was lower. Self-monitoring approval and SMD were only slightly less effective. Their identical rates rose .11 above I but 47 percent below the originally low base rate.

In summary, teacher D emitted more approval under the instruction phase than any other teacher. SMA and SR conditions had successively less influence. Instruction was also the most effective phase in reduction of disapproval with SMA and SR having equal, but lesser, effects.

Teacher E (age 23). This teacher was a male in his first year of teaching eighth grade introductory French. His method of teaching was principally through class discussion and activities which provided

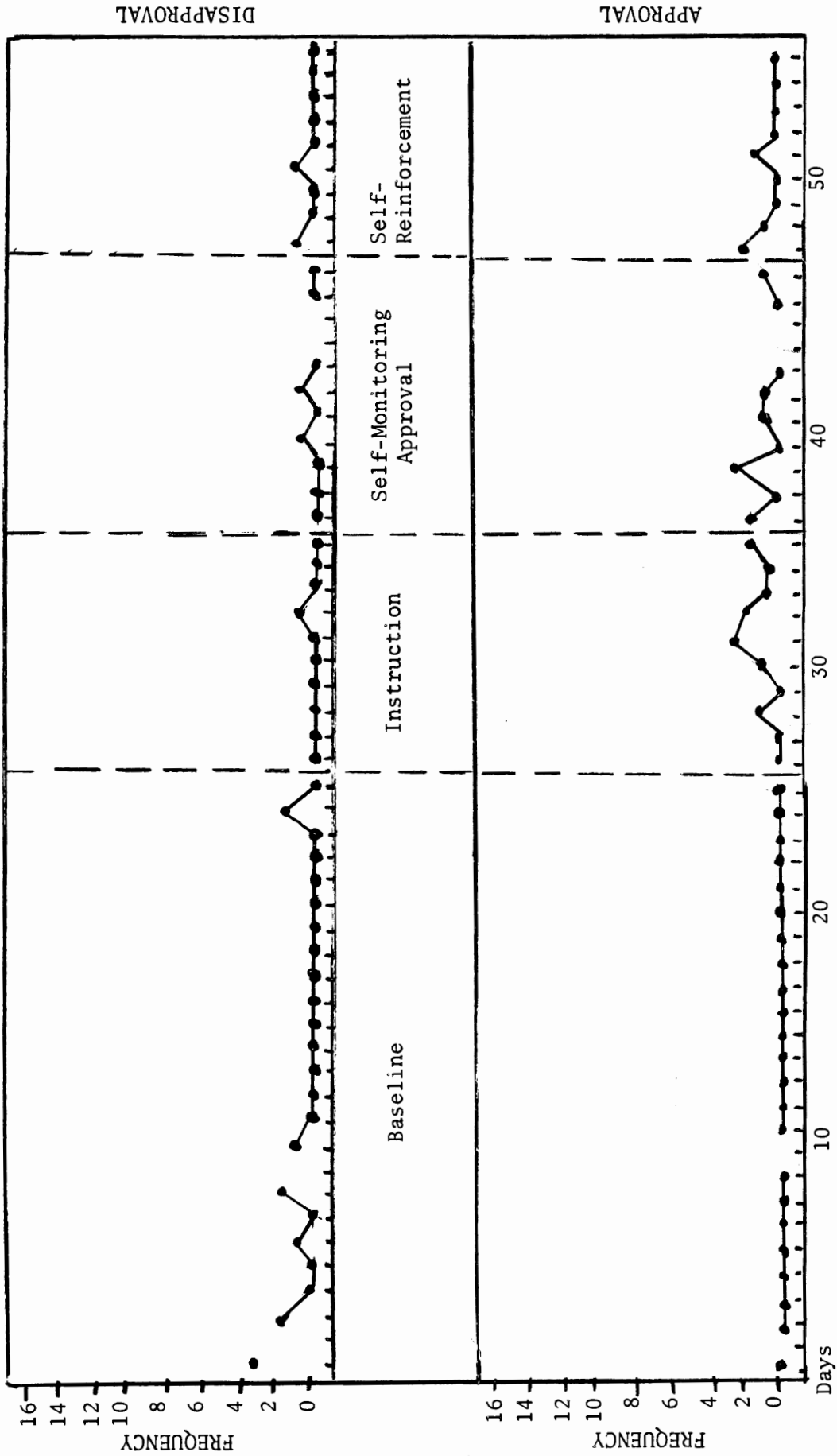


Figure 6. Teacher D: Approval and disapproval as a function of experimental conditions.

frequent opportunities to interact with students. His rate of approval was second lowest of all teachers (.60) and his rate of disapproval (7.60) was the greatest. The effects of instruction on approval were clearly effective as can be seen from Figure 7. His rate was increased by 1.48 and sustained for seven weeks. Instructions also accounted for a simultaneous reduction in his rate of disapproval (7.60 to .78). Disapprovals occurred in only 39 percent of the 31 days during instruction, as compared to 100 percent during baseline.

In summary, instruction clearly increased teacher E's rate of approval and dramatically decreased his rate of disapproval.

II. STUDENT DATA

Overview of Treatment Effects

The treatment conditions demonstrated varying amounts of experimental control over appropriate student behavior. Data from two phases (SMA and SMD) indicated a general desirable effect on student behaviors; but two other conditions (I and SR) showed no consistent effects. The data in Table 6 show that SMA was generally effective in increasing appropriate student behaviors. Of the eight students in this treatment, six raised their appropriate behavior above baseline an average of 16 percentage points. In comparison to instruction, SMA increased appropriate behavior for seven target students and increased inappropriate behavior only slightly for one student.

The self-monitoring disapproval phase showed an overall effect of raising inappropriate behavior in target students. For two of the three

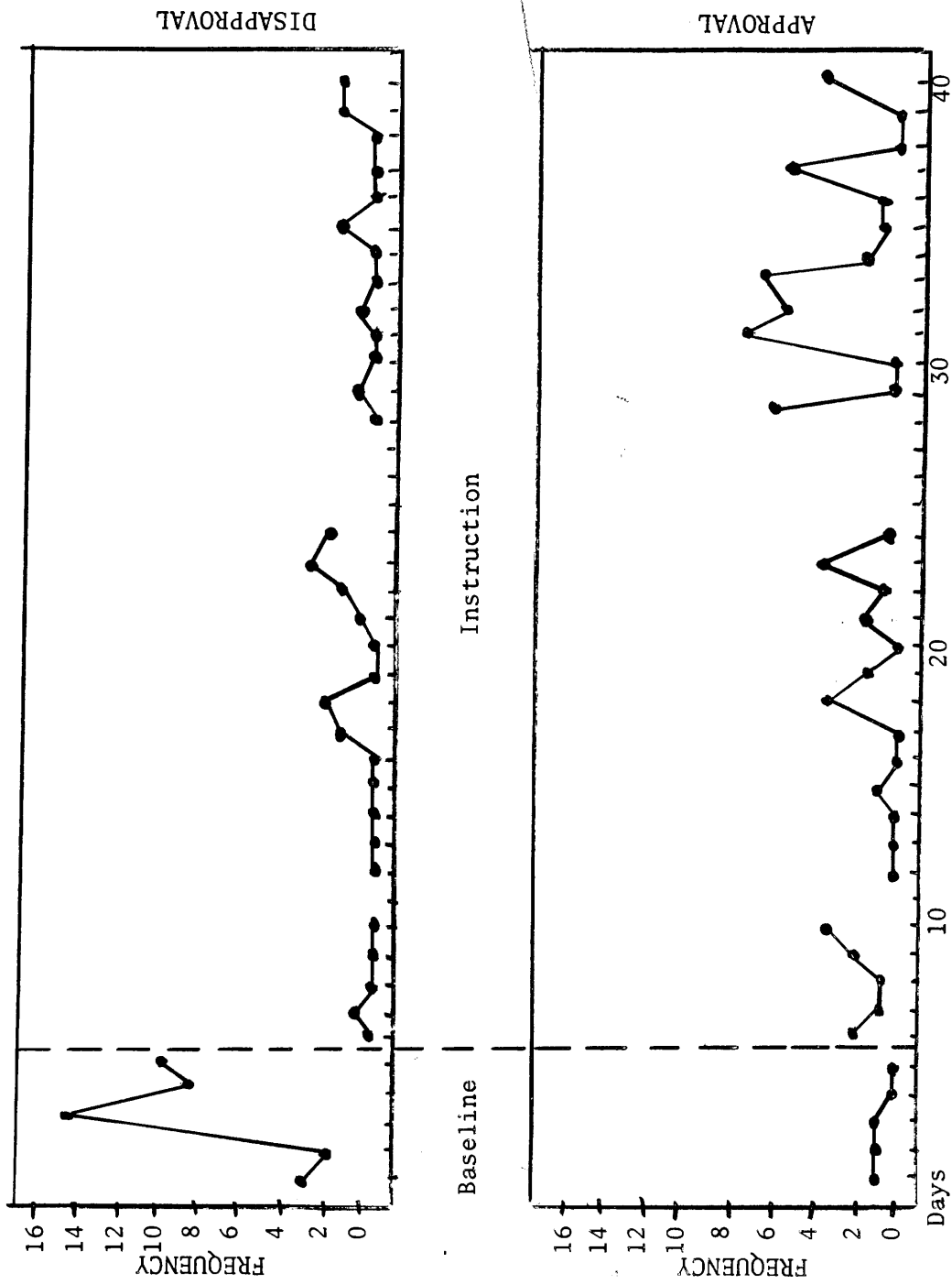


Figure 7. Teacher E: Approval and disapproval as a function of experimental conditions.

TABLE 6

COMPARISON OF THE MEAN RATES OF APPROPRIATE BEHAVIOR FOR EACH TARGET STUDENT

Student	Baseline	Instruction	Self-Mon. Approval	Self-Mon. Disapproval	Self- Reinforcement
<u>Classroom A</u>					
Joe	72.00	47.70	59.90	37.60	33.12
Ron	73.33	68.33	74.30	72.00	38.35
<u>Classroom B</u>					
<u>Bill/Chuck</u> ^a	39.67	41.67	49.80	33.40	48.17
Dave	25.67	21.86	43.00	30.40	41.24
<u>Classroom C</u>					
Bob	46.80	35.70	31.40	--	33.83
Jerry	26.40	14.33	28.33	--	57.25
<u>Classroom D</u>					
Jim	26.68	32.56	43.38	--	41.13
Sam	25.00	61.90	77.22	--	70.00
<u>Classroom E</u>					
Carol	31.80	35.96	--	--	--
Wanda	30.60	32.77	--	--	--

^aBill was a target student for baseline, I, and SMA phases. Chuck replaced Bill as a target student for SMD and SR phases.

students under SMD treatment, the percentage of appropriate behavior was reduced considerably.¹ Comparisons with previous phases show a reduction in appropriate behavior for all target students.

Instructions and SR were both equivocal in their effects. During the instruction phase, the appropriate behaviors for five target students increased an average of 10.22 percentage points from baseline. Appropriate behavior for five other students, however, decreased an average of 11.26 points. SR treatment effects show four students increasing appropriate behavior from base rates with three students decreasing appropriate behavior. The percentage of appropriate behavior as compared to the previous phase (SMD or SMA) for four students increased, while for four others this percentage declined.

To summarize, the overall effect of SMA was to increase student appropriate behavior. SMD generally reduced appropriate behavior. Instructions and self-reinforcement produced ambiguous effects.

Individual Student Data²

Classroom A. Joe (age 12, white) was characterized by the teacher as being inattentive and constantly talking with peers. This description seemed somewhat inaccurate as the baseline rate of Joe's appropriate

¹Dave's data were not included in this analysis as he replaced Mike as the target student in SMD and SR phases. No previous phase comparisons were made for SMD and no baseline comparisons were made for SMD or SR.

²Names were fictionalized for ethical reasons. Sex identity was retained by the assignment of commonly recognized male and female names.

behavior was a high 72 percent, the second highest of all target students. Subsequent treatment conditions reduced this level by 34, 17, 48, and 54 percent for I, SMA, SMD, and SR respectively as seen in Figure 8. Joe was one of two students whose percent of appropriate behavior failed to increase above baseline for any treatment phase. The drop of 54 percent from baseline to SR represented the greatest decrease in appropriate behavior across conditions for all students. In conclusion, baseline was by far superior to all conditions with SR being clearly ineffective.

The teacher characterized Ron (age 12, white) as a capable but frequently disruptive student. He often blurted out opinions and answers to questions during discussions. These behaviors were not reflected by baseline data as Ron's appropriate behavior percentage (73 percent) was second highest rate of appropriate behavior for all students throughout the study. Instruction and SMD were effective in sustaining this high rate (68 percent for I and 72 percent for SMD). The introduction of self-reinforcement resulted in a remarkable drop of 35 percent in appropriate behavior. In summary, appropriate behavior for Ron varied very little from baseline through I, SMA and SMD conditions, but was significantly reduced by SR.

Classroom B. Bill (age 13, white) was described by the teacher as talkative and oppositional. His baseline percentage of appropriate behavior (40 percent) was exceeded by three other students in the study. Instructions had little effect on Bill's appropriate behavior (see Figure 9), since it increased only 2 percent. Self-monitoring approval

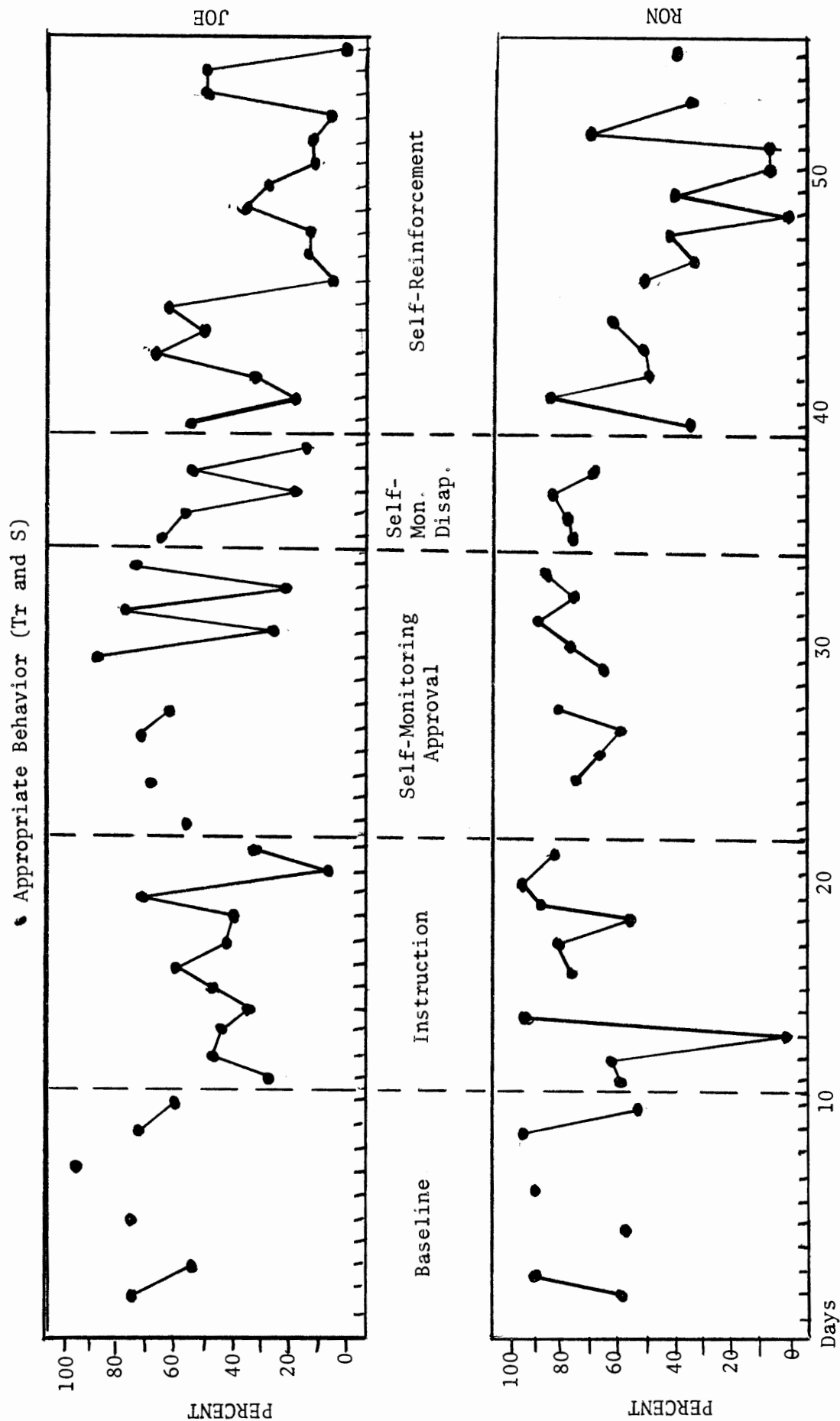


Figure 8. Classroom A students: Appropriate behavior as a function of experimental conditions.

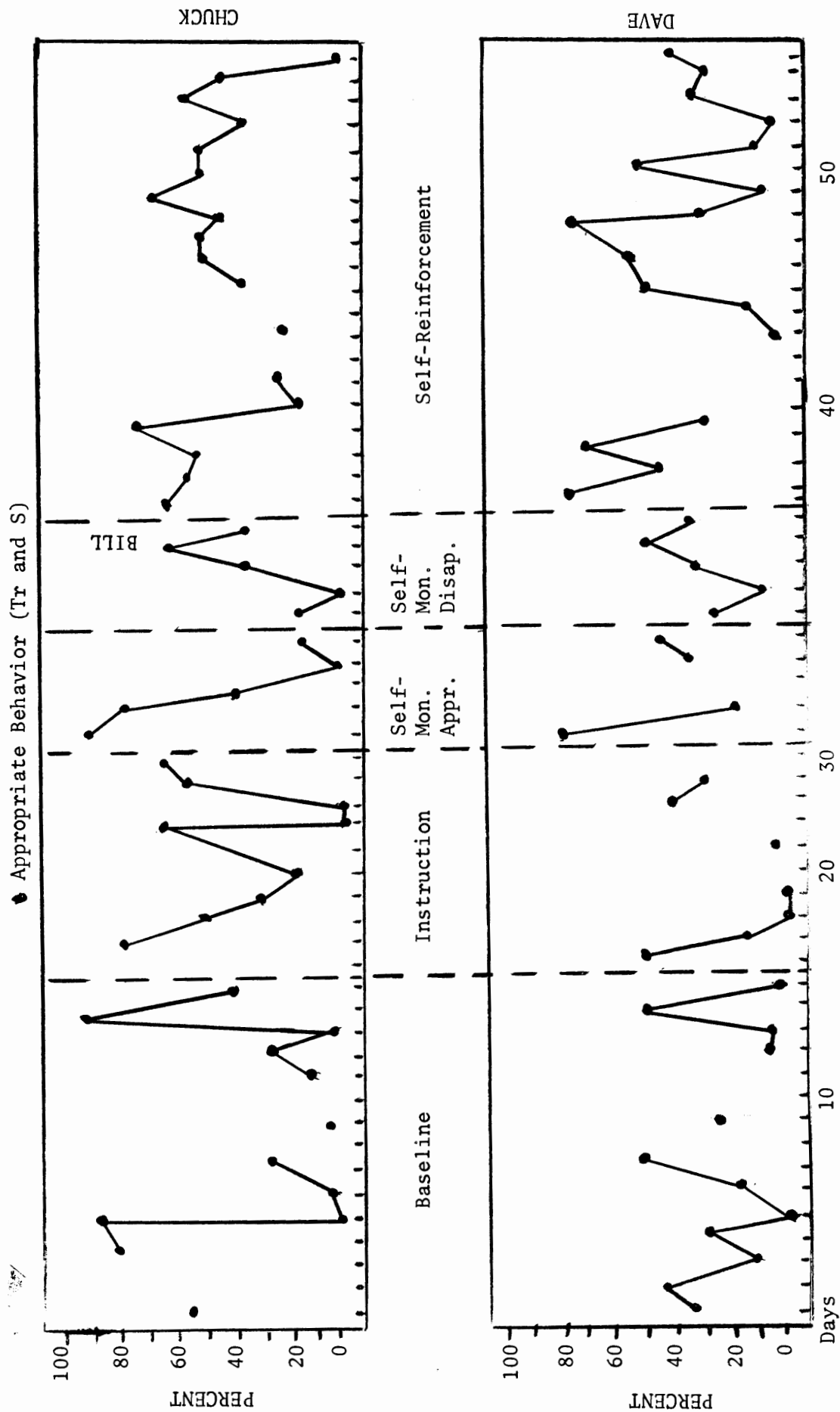


Figure 9. Classroom B students: Appropriate behavior as a function of experimental conditions.

resulted in a 10 percent increase in appropriate behavior. This percentage was fourth highest of any student for this phase.

Bill moved to another city and was replaced by Chuck, for phases SMD and SR. Since no baseline level was recorded for Chuck, the efficacy of the SMD condition could not be measured. Chuck was characterized as a mischievous student who was frequently out of his seat and/or talking with classmates. His rate of appropriate behavior during SMD (33 percent) was second lowest of four students. The self-reinforcement condition resulted in a 31 percent increase in his appropriate behavior over SMD. This rate of 48 percent was third highest for the SR condition for all students.

According to his teacher, Dave was an oppositional student who frequently slept or drew pictures rather than attend to his math assignments. His base rate of 26 percent was the second lowest of all students. During the instruction phase, his behavior dropped to the second lowest of appropriate behavior recorded. A 40 percent increase over baseline and a 49 percent increase from I resulted upon implementation of SMA. This subsequent level of appropriate behavior (43 percent) was the highest attained by Dave under the various conditions. The SMD phase resulted in a decrease from this rate to 30 percent. Introduction of the SR condition brought the level of appropriate behavior just below that of the SMA phase (41 percent). For Dave SMA most effectively increased appropriate behavior and the SR condition ranked second. Self-monitoring disapproval and instruction showed successively less effective results.

Classroom C. Bob (age 14, white) was described as inattentive and disruptive by the teacher. He frequently left the classroom without permission and failed to return for extended intervals. Bob's baseline rate of appropriate behavior (see Figure 10) was third highest of all students. He was one of two students whose baseline level of appropriate behavior was higher than any treatment condition. Instruction, SR and SMA conditions resulted in a 24, 28, and 33 percent drop in appropriate behavior respectively. For Bob no treatment demonstrated behavioral effects.

Jerry (age 13, white) was also disruptive and entered and left the room at will (at one time through the window). His irregularity in school attendance requires precautionary interpretation of treatment effects. Appropriate behavior in I fell to 14 percent. This was the smallest percentage of appropriate behavior for any student and condition. Jerry's appropriate behavior in the SMA phase rose to a level slightly higher than base rate. This was the smallest percentage of appropriate behavior of all students for SMA. The only phase which conclusively affected Jerry was SR which caused a 54 percent increase in appropriate behavior. To summarize, instruction reduced Jerry's appropriate behavior, while SR impressively increased it.

Classroom D. Jim (age 14, white) was characterized as a nonproductive student who frequently slept in class. His base rate was among the lowest of all the students (27 percent appropriate behavior). Figure 11 shows that instruction had an inconsistent within phase effect on Jim's classroom behavior, and resulted in an increase of only 6

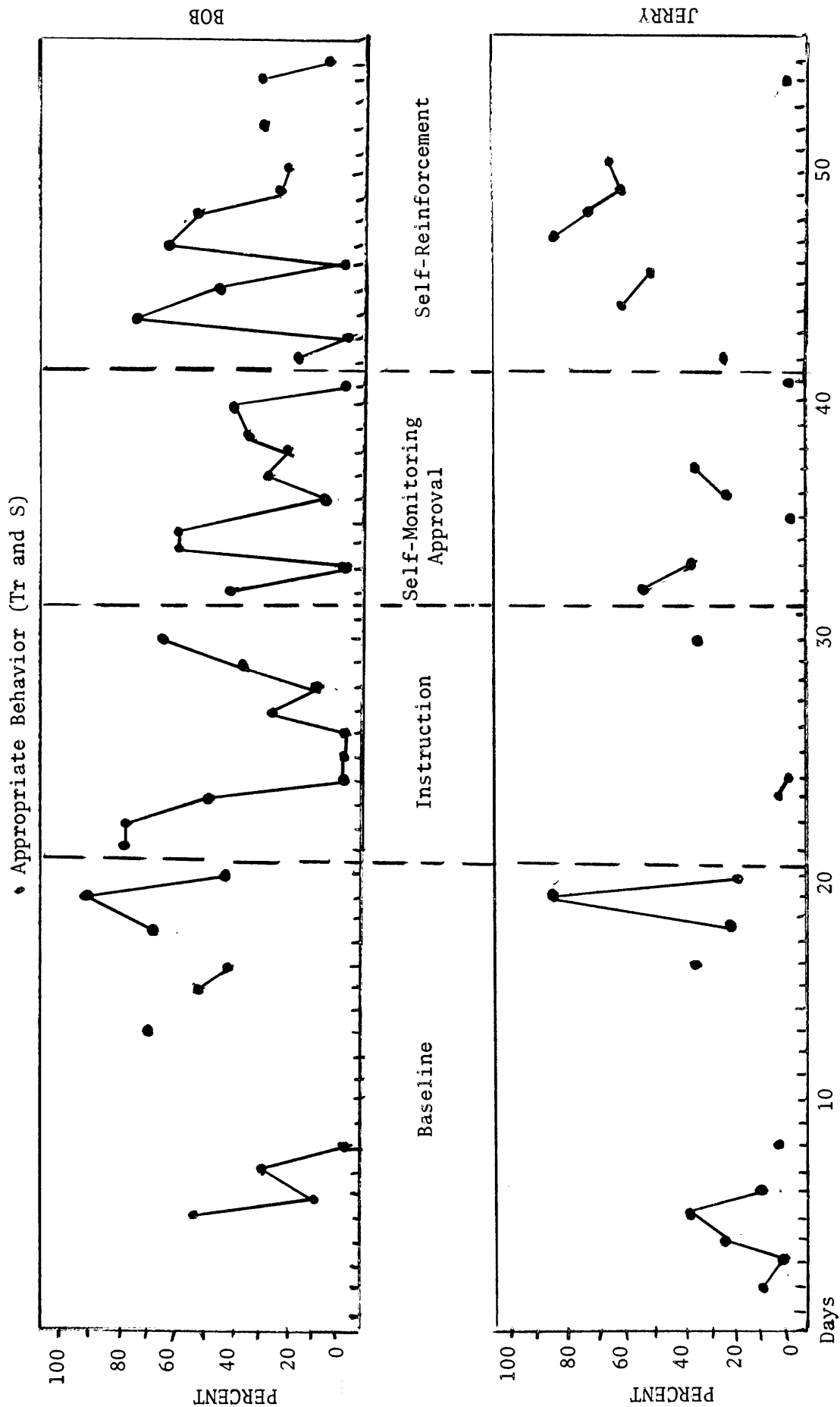


Figure 10. Classroom C students: Appropriate behavior as a function of experimental conditions.

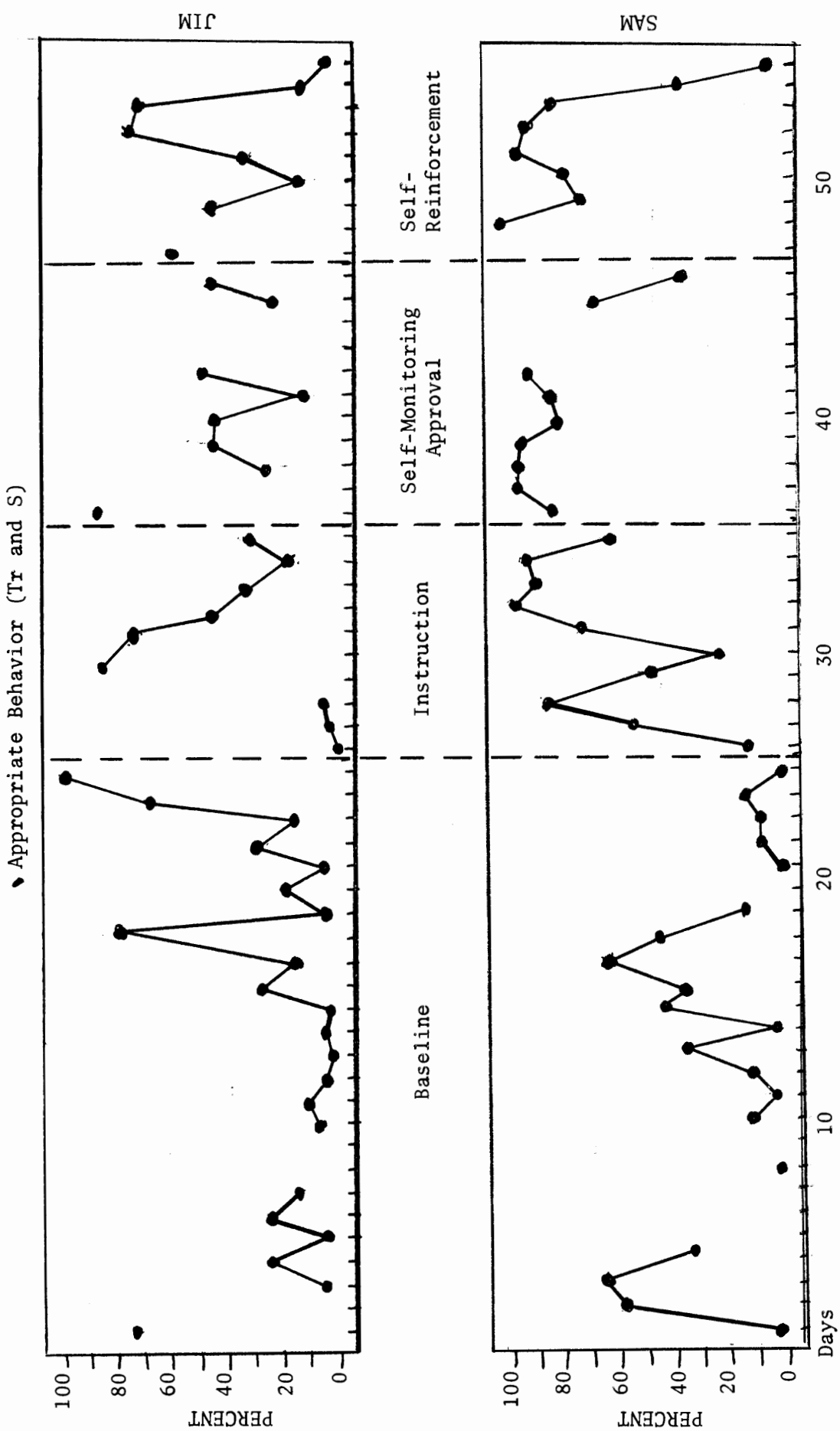


Figure 11. Classroom D students: Appropriate behavior as a function of experimental conditions.

percentage points in appropriate behavior over baseline. SMA showed the most beneficial effects of Jim's mean percentage increased considerably over baseline and I (17 percent and 11 percent respectively). SR also showed a definite increase to 41 percent appropriate behavior, slightly below the SMA level. In summary, SMA was most beneficial for Jim with SR ranking a close second.

According to the teacher, Sam (age 12, white) was also nonproductive and seemed to daydream a considerable amount of time during class. His baseline rate of 25 percent appropriate behavior was lowest of all students. Sam was also the most responsive of all students to the treatment conditions, as all phases resulted in dramatic increases. Instruction accounted for the greatest rise from baseline for all students (59 percent). Sam's appropriate behavior rose to the highest level (77 percent) under the SMA condition. The difference in base rate and SMA was the largest for all treatments. SR slightly reduced appropriate behavior for Sam, but the rate (70 percent) remained dramatically above baseline. Overall, Sam responded dramatically to all treatment conditions with SMA and SR being the most effective.

Classroom E. The teacher described Carol (age 14, black) as a capable student who was generally disruptive and oppositional. She showed a consistent baseline (see Figure 12) of 31 percent appropriate behavior, slightly below the baseline average. Carol's behavior was only slightly altered across the seven weeks of the instruction phase.

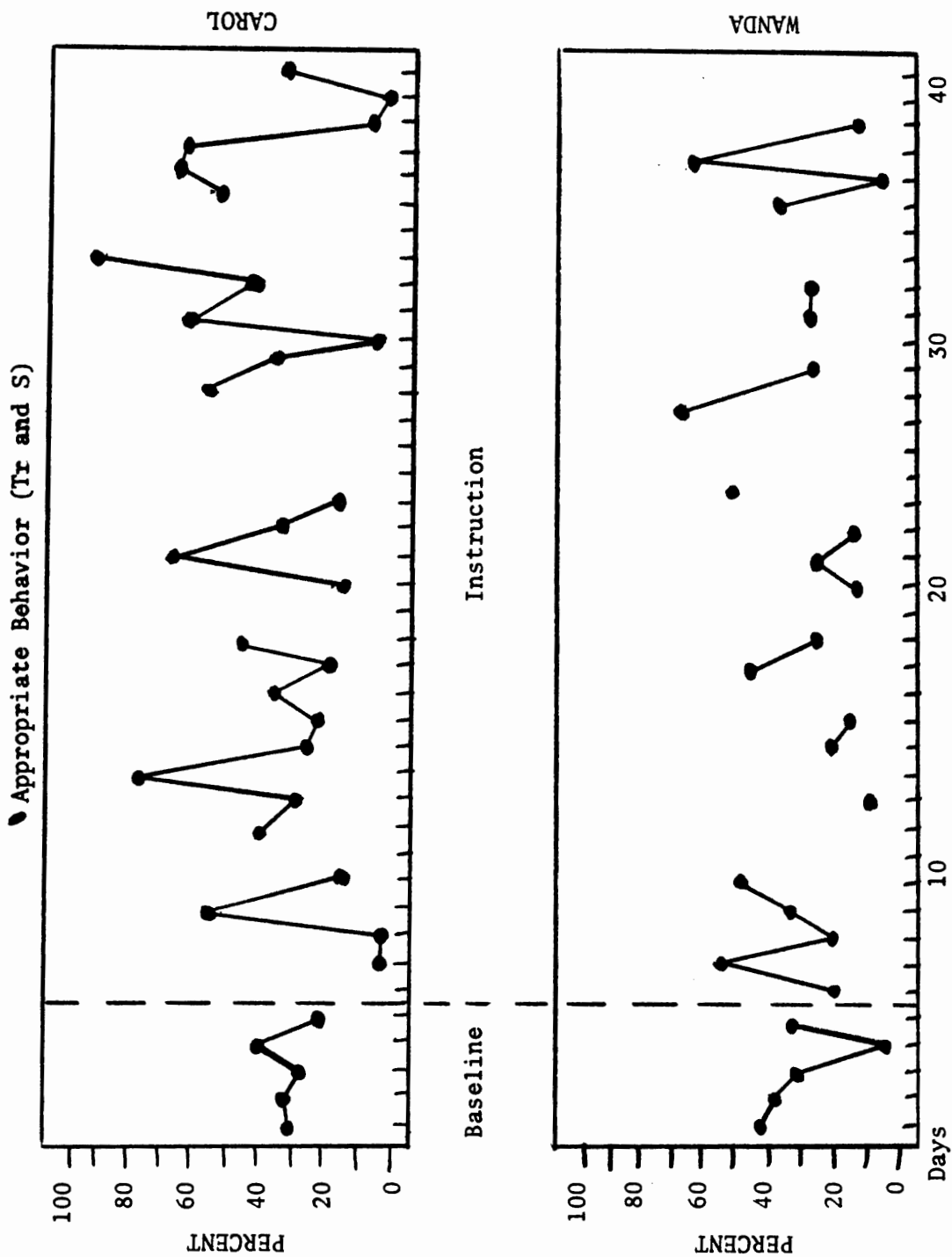


Figure 12. Classroom E students: Appropriate behavior as a function of experimental conditions. 55

Wanda was described by the teacher as disruptive and defiant. Her baseline rate of appropriate behavior was raised only 2 percentage points during I. The relatively low level of appropriate behavior for Wanda was basically unaffected by the instruction treatment.

III. SUMMARY OF RESULTS

The results of the study can be summarized as follows:

1. Agreement between teacher self-recorded data and classroom observer data was low for both teacher approval and disapproval.
2. Teacher rates of approval and disapproval of target students demonstrated no systematic variation with respect to one another.
3. Teachers receiving quantitatively greater consultation or experimenter verbal response did not demonstrate correspondingly positive behavior changes.
4. Teachers showed no consistency in response for either approval or disapproval to the instruction phase. Student appropriate behavior was, likewise, inconsistent under the instruction treatment.
5. Under self-monitoring approval, student appropriate behavior generally increased. Effects of self-monitoring approval on teacher approval and disapproval were ambiguous.
6. The self-monitoring disapproval treatment was generally effective in reducing teacher disapproval of target students. However, self-monitoring disapproval was also accompanied by a reduction in teacher approval and a subsequent increase of inappropriate student behavior.

7. Self-reinforcement increased teacher approval in most instances. The effects of self-reinforcement on teacher disapproval or student behavior were not clearly identifiable.

CHAPTER IV

DISCUSSION, CONCLUSIONS, AND SUGGESTIONS FOR FURTHER STUDY

I. DISCUSSION

The present study investigated the differential effects of traditional teacher training approaches in behavior modification and self-management techniques. The experimental treatments were: (1) instruction of the teacher in contingent teacher attention as a classroom technique to modify student behavior, (2) teacher self-recording of approval, (3) teacher self-recording of disapproval of target students, and (4) teacher self-reinforcement contingent upon approval of target students. A multiple baseline design was used with the experimental conditions temporally staggered to avoid simultaneous duplication of treatments across teachers. Teacher behaviors of approval and disapproval of target students and student appropriate behavior were measured as the dependent variables.

The teachers selected in this study, while not necessarily representative of public school teachers, were not atypical. Originally only female subjects were selected. Experimental mortality necessitated the inclusion of a male teacher as a subject. All teachers were young (23-27 years) having less than two years experience with the exception of teacher D who had five years experience. All teachers had at least

two students in their class whom they considered to be either disruptive or unmotivated (nonparticipating).

Reliability of Self-Monitoring Data

Agreement between teacher self-monitored (recorded) data and classroom observer data ranged from moderate to low for teacher approval. Teachers B and C had agreement rates of .68 and .71 respectively. However, for two others (A and D) low ratios of .14 and .13 were recorded. For the present study the mean rate was .42. This rate is slightly lower but comparable to the values which Dickerman obtained in his study which he termed "moderately accurate" (.52).

Hendricks (1974) in another study reported moderate to high reliability for teacher self-recorded data. One possible explanation for the higher rates in Hendricks' study is the length of teacher training. Hendricks' study involved considerably more teacher training than the present study. For example, Hendricks used specifically designed training manuals, videotapes, and role playing exercises. It appears that the accuracy of self-recorded data for teachers' approval of target students in the classroom is dependent to an extent upon the amount of training in the identification and recording of the approving behaviors.

The rate of agreement between teacher self-recorded and observer data for disapproval was also low (.36). This is consistent with the findings of Dickerman (1972). He asked teachers to monitor their attention to students following inappropriate student behaviors and reported a correlation between teacher and observer data to be .36.

A number of considerations may be offered as explanations for the low agreement ratios in the present study aside from the previously mentioned issue of teacher training. Lipinski and Nelson (1974) found that subjects increased self-recorded accuracy if they were aware that their data were being independently verified. Teachers in the present study were told that the study would focus on student behaviors and that the observers would be recording student behaviors. No mention was made that their responses would also be recorded. It is possible, however, that the teachers inferred that their behaviors were being recorded since they were instructed to record approvals or disapprovals only when an observer was present.

Another possible source of variation in self-monitoring reliability is the motivation of the teachers selected (Thoresen and Mahoney, 1974). The teachers were initially introduced to the study with the emphasis that the techniques they would be asked to use were designed to fit into their present method of teaching. They may have assumed that their participation would be undemanding and, thus, agreed to participate. The teachers were not self-referred individuals with recognized and expressed needs to improve classroom control. In this sense, they volunteered to participate but not specifically to observe and record their own behavior.

Other variables which may have affected the agreement ratio relate the complexity of the classroom situation. The teacher in the classroom ordinarily finds himself attending to many cues. The subject matter, the students' behaviors, the specific teaching methods, and time

limitations are examples of the variables which the teacher must manage within the class period. The additional tasks of observing, responding to specific students, and self-recording may be too much for the teacher to handle efficiently.

Methodological constraints may have also influenced accuracy. First, the observational period began just after the class began, but was terminated from 10 to 20 minutes before the class was dismissed. The teacher was told to report her behavior only during the period in which the observers were present. Because of the amount of activity in the classroom, the teachers perhaps failed to notice the arrival or departure of an observer and, therefore, self-monitored approvals outside the observation period. Second, the teachers may have counted wrong responses. Occasionally the teachers would interact with the target child in an instructional function such as checking answers or asking questions during discussion. These contacts may have been recorded as instances of approval by the teacher, but may not have been correspondingly recorded by the classroom observer. Third, though teachers were instructed to immediately record their behaviors, one teacher mentioned that she failed to record her behaviors during a class and estimated post hoc. Failing to record immediately would reduce agreement accuracy.

Every teacher under the self-monitoring approval treatment and both teachers (A and B) under the self-monitoring disapproval treatment recorded rates of approval and disapproval greater than the rates reported by the classroom observers. The previously mentioned possibilities of teachers recording longer than the designated observation

time and overestimating their behaviors on a post hoc basis may help to explain inflated teacher data. One other consideration is that the teachers and observers discriminated somewhat differently between approval and disapproval behaviors. Since the observers and the teachers were trained independently using differential processes, it would be expected that each would interpret interaction between the target students and the teacher somewhat differently. Student-teacher interactions in which the teacher questions students and individually checks written answers have been previously mentioned as possible areas of disagreement. Training teachers to reliably record behaviors with the same procedures used to train classroom observers would make the self-monitoring teacher more aware of the overt behaviors involved in approval and disapproval and, therefore, result in greater reliability.

Relationship Between Approval and Disapproval

The analysis of the functional relationship between approval and disapproval was undertaken to determine whether an increase in approval was accompanied by a decrease in disapproval or vice versa. A phase by phase analysis in the present study failed to demonstrate such a relationship. These results are somewhat contrary to Dickerman (1974) who reported a decrease in disapproval as teachers under the program of self-observation of approval began to approve students more frequently. The variance in these outcomes may be due to the amount of approval given across teachers during treatment phases. The approximate number of approvals per class during treatment conditions in Dickerman's

study was seven approvals per day as compared to only two per day in the present study. It may be that in order for teacher disapproval to be reduced, the frequency of teacher approval should be substantially increased. Then as student appropriate behavior increases, the opportunity for the teacher to disapprove would be reduced. Dickerman reported significant ($p < .05$) student behavior change, whereas in the present study in only one phase (self-monitoring approval) did student appropriate behavior increase.

During one phase, self-monitoring disapproval, teacher approval and disapproval were both reduced. It may be that the switch in self-recording from approval to disapproval made it difficult for the teachers to focus additionally on the positive student behaviors.

Effectiveness of Treatments

The instruction phase did not result in desirable changes across teachers or students, though individual teachers varied widely in their responses. This is consistent with the view that teacher training through classroom education, in-service or consultation is generally not effective unless applied opportunities and feedback are provided for the teacher. The instructional phase in the present study did not include these provisions.

Self-monitoring of approval had no consistent effect on teacher approval or disapproval. These findings are in disagreement with studies by Buckley and Walker (1971), Dickerman (1972) and Hendricks (1974). These studies report significant increases in teacher approval through self-observation. Comparison of the Dickerman study with the present

study reveals several differences which may account for the variation in outcomes. First, the student population in Dickerman's experiment were primary and elementary school age; hence four to five years younger than the subjects in the present study. Teachers may find it easier to respond positively to misbehaving children than to misbehaving adolescents. The level of maturation of a student may, in part, determine the feelings the teacher has for a student who disrupts the classroom. Young students are probably assigned less responsibility for behavior than older students. Teachers may feel that misbehavior is by choice in adolescents, thus leading to feelings of resentment which may be overcome before praise and approval can be given the student. Second, Dickerman's target students had a much higher mean rate of appropriate behavior during a pretreatment phase (77 percent) than the students of the present study (44 percent). High levels of disruptive or inappropriate behavior perhaps probably distracted the teacher and made it more difficult to administer approval to target students than in classes with less disruption. Third, Dickerman specifically requested the teachers to attend to target students "10 to 15 times per hour." No specific goals were requested in the present study. Further investigation of such variables as age, behavior types, and teacher expectancy on self-monitoring would be helpful.

Two apparent differences also exist between the present study and that of Buckley and Walker (1971). The teachers in the Buckley and Walker experiment had a class of only six children plus the assistance of an aide. The teachers in the present study taught in regular

classrooms without teaching aids. One other interstudy difference was the presence of other classroom management processes in the classroom. Buckley and Walker's study was conducted in a class in which group token, time-out, and response cost procedures were in effect.

Probably the most significant difference between the other three studies and the present study is in the amount of teacher training or consultation. Dickerman's teachers were trained in three sessions of 15 minutes each with three days of "practice" following each step.¹ The experimenter met with the teachers weekly to review their progress thereafter. As previously mentioned, Hendricks' study involved extensive training and practice in "counting, charting, and analysis" of classroom self-observation. Buckley and Walker (1971) used teachers who were extensively trained in theory and application of classroom behavior management techniques. A greater amount of time, therefore, was spent in instructing and consulting with teachers in the use of self-monitoring procedures.

However, as in both Dickerman's and Hendricks' studies, student appropriate behavior in the present study increased during teacher self-recording. It is difficult to explain this effect as neither teacher frequency of approval nor disapproval was modified.

It should be noted that, while one teacher found the counting device helpful, most teachers found it of little value. It seemed to be

¹Step 1 was observing and classifying student behaviors, step 2 was recording of student appropriate or inappropriate behaviors, step 3 was self-recording of both teacher approval and student behaviors.

more convenient for the teachers to either carry a card or paper with their grade book and record immediately or return to their desk and record shortly after the contact with the student. The teachers occasionally forgot to self-record and made later estimates of their responses to the students. Graphs were not consistently plotted nor used by the teachers to evaluate their progress. Dickerman (1972) similarly reported teacher disinterest in graphing their responses. It would seem that the convenience of recording and record keeping devices is more important in self-observation than the accuracy of the data received by the device.

Self-recording disapproval was generally effective in reducing teacher disapproval of target students, thus supporting the prediction of Johnson and White (1971) that self-monitoring of an undesirable behavior would result in a decrease in that behavior.² Hendricks (1974), however, reported that self-observation of "negative commands" had little effect on teacher disapproval. A possible explanation for the difference between Hendricks' finding and that of the present study is teacher experience. The teachers of Hendricks' study were more experienced than the teachers in the current study. Perhaps experienced teachers respond less to attempts aimed at modifying their disapproval than less experienced teachers.

Self-reinforcement of approval was marginally effective in increasing teacher approval of target students; however, this did not

²Teachers with the highest rates for disapproval indicated that ignoring inappropriate behaviors was the most difficult behavior to change.

result in an increase in student appropriate behavior. One possible explanation for the lack of desirable student behavior change was that the self-reinforcement phase was in effect within two weeks of the close of the school year. Students commonly exhibit less task relevant or appropriate classroom behaviors preceding holidays or summer vacations. Teachers themselves often exert less effort in controlling classroom behavior during the closing days. This may have been the case with teacher A who had the lowest rate for approval and whose students accounted for most of the reduction in appropriate behavior during self-reinforcement.

The teachers indicated that self-recording of approval was helpful; but not as much as self-reinforcement. It is interesting to note that teachers A, B, and C expressed difficulty in identifying appropriate reinforcers. Teacher A, for example, simply appropriated one of the E's suggestions as a reward; but later failed to administer it. For teacher B, identification of an initial reinforcer was easy. This reward was a lobster dinner and was not "earned" for three weeks. No interim reward was used, but her rate of approval was increased accordingly. Thereafter she attempted to identify a short term reward (daily) and her approval rate fell considerably. Teacher C was reluctant to seek a reward and rejected many experimenter suggestions. It is uncertain whether she actually established a self-reinforcement program, though her rate of approval increased substantially during the self-reinforcement phase. Further investigation of the process of selection and administration of rewards would seem beneficial.

Though the techniques of self-observation and self-reinforcement were the focus of the present study, the type and characteristics of the consultation or training procedures should also be considered. The method of consultation was designed to minimize the amount of consultant time, minimize teacher expectancy, and discuss only self-monitored data.

1. Minimize the amount of consultant time. With the efficient use of consultant time as a desirable goal, training sessions were intentionally brief. In the present study, the techniques of self-reinforcement and self-monitoring disapproval were more effective than straightforward instruction in contingent teacher attention. An interesting question would be whether these differences would occur if a method of consultation were designed which demanded a greater amount of consultant/teacher interaction.

2. Minimize teacher expectancy. An effort was made to present the teachers with a minimum amount of consultant assurance and structure. Thoresen and Mahoney (1974) have previously recognized the issue of expectancy in self-management research. They note that just about any technique can be effective if it is presented with generous professional assurance. Additionally, teachers in the present study were not requested to achieve any specific goal. This contrasts with Dickerman's research in that he asked his teacher to approve target student a designated number of times per class.

3. Discuss only self-monitored data. Previous studies have investigated the role of knowledge of results or independent feedback in training teachers in the use of contingent attention. To avoid

confounding the treatment effects in the present study, the experimenter discussed only self-monitored data with the teachers during consultation.

It was hoped that by using the above guidelines the results of the study would more clearly define the role of the treatment techniques and not be confounded by the consultation methods. However, it seems that the approach used in training or consulting with teachers and the behavioral techniques themselves are inextricably involved in the total process of intervention. Undoubtedly, extending the consultation period and frequency, providing the teacher with independent feedback and praise, and maximizing teacher expectancy would have produced greater behavior change in both teachers and students.

Other issues may explain the lack of overall treatment effects and differential effectiveness among teachers. Bandura (1969) expressed concern for the lack of influence that experimentally derived principles of learning were having on psychotherapy. He noted that manipulation and control of the patient was seen as antihumanistic and, therefore, bad. Because of this, Bandura remarks, "the methods of clinical treatment are isolated from research in learning and motivation." This same isolation may also exist between operant research and applications in the public schools. Teachers, like psychotherapists, may view the technology of behavior modification as requiring too much structure and denying spontaneous expression in children. A promising area for future study would be to correlate the effectiveness of classroom management systems with the expressed ethical commitments of teachers to those systems. In this way, more precise and idiosyncratic approaches to

teacher consultation and more effective classroom management could result.

The motivation of the individual teacher also seems to be a significant factor in successful application of behavior management programs. Teacher E, from the present study, responded most dramatically to the treatment. A comparison of his situation with the other teachers may help explain his behavior change. First, he was a first year teacher. Often beginning teachers find themselves without the skills to effectively manage classroom behaviors. The disappointment of not being able to get the students to behave appropriately may be an impetus to carefully apply the experimental treatment. Second, his classes had a proportionately greater number of disruptive students than the other teachers in the study. One or two disruptive students may not be as effective a motivator for the teacher to learn new classroom skills as would a higher number of misbehaving students. Apparently a beginning teacher with a high level of disruption in the class would be more predictably successful in implementation of treatments than teachers with several years experience and fewer problem students.

II. CONCLUSIONS

The major conclusions to be drawn from the present study are:

1. Agreement between teacher self-recorded data and classroom observer data was low for both teacher approval and disapproval. It does not seem to be necessary for teachers to be able to accurately

record their disapproval before a reduction in their disapprovals occurs.

2. Under the limitations of the study, an increase in the rate of teacher approval was not accompanied by a decrease in the rate of disapproval or vice versa. It would seem that similar self-observation or self-reinforcement programs could be expected to affect only the specific behavior under consideration. Teachers self-monitoring their frequency of disapproval also reduced their frequency of approval. This effect occurred, however, only for a short period of observation, and the long term effect of self-observation of disapproval and approval rates was not determined.

3. Brief teacher instruction on contingent teacher attention is not a practical method for substantially modifying classroom behavior of disruptive students. Teachers were unable to demonstrate effective use of this technique after instruction.

4. Though student behavior improved when the teachers were recording their own approvals, it is not expected that instruction using the procedures described herein would increase the teacher approval rates or decrease disapproval rates. Methods described by Dickerman (1972) and Hendricks (1974) which involve greater amounts of instruction in a self-observation technique would seem to be more effective.

5. Self-monitoring of disapproval was an effective way of temporarily reducing the frequency of teacher attention to inappropriate student behaviors.

6. Teachers using a self-reinforcement program to reward themselves contingent upon increasing their rates of approval were able to slightly increase the amount of approval to disruptive children.

7. The method of consultation in the present study in which the amount of consultation and teacher expectancy was minimized and only self-monitored data were discussed was not effective in substantially improving the behavior of disruptive or nonparticipating students. For student behavior to be affected, modifications in the nature of the consultation process for self-observation and self-reinforcement would be desirable.

III. SUGGESTIONS FOR FURTHER STUDY

1. A systematic investigation of teacher and student variables upon the effect of self-observation and self-reinforcement processes should be undertaken. Teacher experience, age, and sex, and student behavior types (i.e., disruptive, nonparticipating), age, and sex could be studied separately. It would also be beneficial to investigate comparative treatment effects among self-referred, volunteer, and assigned teachers as subjects.

2. Consultation and training processes should be varied in further experimentation. These variables would include the amount of time spent in instruction, high or low expectancy, instructions, and the use of feedback from independent observers. The development of classroom courses with opportunities for application and follow-up could also be experimentally compared with other instructional methods.

3. Comparative studies of aspects of the self-recording process should be undertaken. Experiments could be conducted to determine the optimum length for self-observation period and the differential influence of the types of recording devices and charting procedures. The effects of simultaneous self-recording of approval and disapproval could also be investigated.

4. Other studies should be conducted which investigate various aspects of self-reinforcement. Comparisons of groups using various survey schedules to assist in the identification of reinforcers may define more clearly the role of reward selection. Another suggestion would be to study the behavior changes of teachers and students and when teachers made their rewards contingent upon a change in the behavior of a student.

5. Classroom setting events such as the proximity of the student's chair or desk to the teacher and the arrangement of the chairs or tables in the classroom could be studied for the effects upon reliability and rates of teacher attending behaviors.

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APPENDICES

APPENDIX A

TABLE 7

EXPERIMENTER AND CLASSROOM OBSERVER BEHAVIOR
RATING AGREEMENT FOR EACH TEACHER^a

Treatment	Teacher				
	A	B	C	D	E
Baseline	1.00	--	.75	1.00	1.00
Instruction	1.00	1.00	.00	1.00	1.00, 1.00, 1.00
Self-Monitoring					
Approval	1.00	.50	1.00	1.00	
Self-Monitoring					
Disapproval	.50	1.00	--	--	
Self-Reinforcement	1.00	.88	.75	1.00	

^aEach reliability check was based on 24 minutes of observation.

TABLE 8

EXPERIMENTER AND CLASSROOM OBSERVER RATING
AGREEMENT FOR STUDENT BEHAVIORS^a

Treatment	Classroom				
	A	B	C	D	E
Baseline	.94	--	.96	.99	.89
Instruction	.88	.92	.99	.96	.93, .90, .90
Self-Monitoring					
Approval	.94	.88	.90	.93	
Self-Monitoring					
Disapproval	.85	.90	--	--	
Self-Reinforcement	.83	.92	.90	.94	

^aEach reliability check was based on 24 minutes of observation.

APPENDIX B

TEACHER ATTENDING STRATEGIES

The following instructions are designed to increase the amount of appropriate behaviors in your classroom. While they may be used with any of your students, I would like for you to focus especially on the target students we identified a few weeks ago. In the event of an absence it is important to remember to redirect your attention to the alternate or alternates previously identified.

Praising or attending to appropriate behaviors. (The following conditions should be used simultaneously with the ignore conditions.) Teachers are inclined to take good behavior for granted and pay attention only when a child acts up or misbehaves. I am now asking you to try something different. This procedure is characterized as "catching the student being good," and making a comment when the student is doing what is expected. The praise should always be directed to individuals, not to the group as a whole. Inappropriate behavior would not be a problem if all students were engaged in a great deal of study and school behavior. Shape by successive approximations the behavior desired by using praise and attention. Start "small" by giving praise and attention at the first signs of appropriate behavior and work toward greater goals. Watch carefully and when the student begins to behave appropriately, make a comment such as, "You're doing a fine job, (name)." It is very important during the first few days to catch as many good behaviors as possible. Even though the student has just thrown an eraser at you (one minute ago) and is now studying, you should praise the study behavior. I am assuming that your commendation and praise are important to the student. This is generally the case, but sometimes it takes a while for praise to become effective. Persistence in catching the students being good and delivering praise and attention should eventually pay off in a better classroom. Some examples of praise comments are as follows: "I like the way you are doing your work, Alice." "That's the way I like to see you work, Pat." "That's a good job, Jan." "You are acting so nicely today, Joe." "Thank you for behaving so well in class today."

In general give praise for achievement and prosocial behavior. Specifically, you can praise for concentrating on individual work, raising hand when appropriate, responding to questions, paying attention to directions and following through, sitting at desk and studying, sitting quietly if noise has been a problem. Try to use variety and expression in your comments. Stay away from sarcasm. Attempt to become spontaneous in your praise. At first you will probably get the feeling that you are praising a great deal and it sounds a little phony to your ears. This is a typical reaction and it becomes more natural with the passage of time.

A child is "praised" not only by verbal attention. A genuine smile, a touch or a pat on the back can serve to let the child know you approve, just as a verbal message can. A combination of the two approaches might be especially effective.

Ignoring inappropriate behavior. During this phase of the study you should learn to ignore (not attend to) behaviors which interfere with learning, unless of course, a student is being hurt by another or some important material is being destroyed. Learning to ignore is difficult. Most of us pay attention to the violations. For example, instead of ignoring we often say such things as the following: "Johnny, you are supposed to be working"; "Sue, will you stop bothering your neighbors"; "Jack, can you keep your hands off Bill"; "Alex, stop running around and do your work"; "Henry, you have been at that window a long time"; "Jane, will you please stop rocking on your chair."

Behaviors which are to be ignored include motor behaviors such as getting out of seat, standing up, running, walking around the room, moving chairs, or sitting in a contorted manner. Any verbal comment or noise not connected with the assignments should be ignored, such as: carrying on conversations with other children when it is not permitted, answering questions without raising hands or being called on, making remarks when no questions have been asked, calling your name to get attention, and extraneous noises such as crying, whistling, laughing loudly, blowing nose, or coughing. An additional important group of behaviors to be ignored are those which the student engages in when he is supposed to be doing other things, e.g., when the child ignores your instructions, you are to ignore him. Any noise made with objects, playing with pencils or other materials should be ignored, as well as taking things from or disturbing another student by turning around and touching or grabbing him.

APPENDIX C

SELF-REINFORCEMENT

As we have discussed previously, reinforcing events which follow specific behaviors increases the likelihood that these behaviors will occur again. The process of systematically reinforcing yourself for behaving in a specific way is called self-reinforcement. Many people have successfully used self-reinforcement procedures to help themselves modify a variety of behaviors including smoking, being on time for work, overeating, and studying. I would like for you to develop your own self-reinforcement program to increase your rate of attending to appropriate behaviors of target students.

Reinforcers can be material rewards or activities. A material reward might be a five dollar bill, new shoes, new slacks, a bottle of wine, a record album, or many other consumer rewards. Activity reinforcers may be either events which one enjoys alone such as reading, writing a letter, working crossword puzzles, or with others such as dating, partying, talking on the phone, or shopping. There are a couple of important points to remember in choosing a reinforcer: (1) The reward should be accessible to you. A \$1,000 raise or attending the Bolshoi Ballet would obviously be beyond the accessibility of most of us. (2) You should find that the item or activity chosen as a reward is actually reinforcing. Some have chosen rewards which had very little reinforcing value in reality but were thought to be proper or "socially impressive." For example, reading a philosophical treatise might be a goodie for some, but most would rather read Mad or Cosmopolitan. To determine the potency of a reinforcer, ask yourself: "Do I really think that I will increase my approval of my students in order to get this reward?"

You should always try to reinforce yourself quickly after praising a child. The ideal situation is one in which the reward occurs immediately following your response. (This may be possible if you love jelly beans and are able to eat them unobtrusively in the classroom.) But if your reward cannot be delivered immediately, then you may wish to administer token reinforcers. A token reward is symbolic in that it can be exchanged for more basic rewards. Points, checkmarks, money or poker chips are examples of tokens. For example, you may "present" yourself with points recorded on a tally sheet following your approving remark to your student which at the end of the hour, day, or week can be cashed in for a cigarette, gourmet meal, or weekend trip.

Your last consideration is the development of a schedule for reinforcement. It is necessary for you to experience success early and

frequently, so set your criterion only slightly above your present level of functioning. Use your self-recorded data as a starting point to determine this level. By very gradually raising your criterion, your ability to approve student behaviors will correspondingly increase. Self-reinforcement operates to provide support for your immediate behavior until the benefits that eventually accrue take over the reinforcing function. In this case the improved student behavior and academic performance would be the future rewards.

APPENDIX D

SELF-REINFORCEMENT OF APPROVAL

Teacher _____ School _____

- I. What rewards were identified?
- II. How did you schedule your rewards--how many points or approvals were required before receiving your reward?
- III. What parts of your project did you find beneficial or difficult? Were any modifications of your project necessary?

	Day				
Goals					
Approvals					
Points					
Reward					

APPENDIX E

TABLE 9
EXPERIMENTER VERBAL BEHAVIOR RATING
AGREEMENT BETWEEN OBSERVER PAIRS

Treatment	Observer Pair				
	A	B	C	D	E
Instruction	.84	1.00	.92	1.00	.99
Self-Monitoring Approval	-- ^a	.98	.88	.98	--
Self-Monitoring Disapproval	.89	.95	--	--	--
Self-Reinforcement	.95	.95	.88	1.00	--
Contact	--	--	.89	.93	.89, .99, .97

^aNot recorded. (Mean = .94.)

VITA

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