# ROLE PLAYING TO TRAIN ELEMENTARY TEACHERS TO USE A CLASSROOM MANAGEMENT "SKILL PACKAGE"[1]

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Two teachers who led regular third-grade classrooms in a suburban elementary school were trained via role-playing to use a broad range of social skills in dealing with group behavioral management in the classroom. Teacher training reduced disruptive student behavior during both seat work and group discussions in both classrooms. A measure of student productivity during arithmetic period in one classroom showed significant gains in arithmetic problems correct per day for the middle and bottom thirds of the class, with the bottom third increasing by 76%.

DESCRIPTORS: classroom management, role playing, disruptive behavior, academic behavior, teacher training

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The present study is part of a research program aimed at developing inexpensive and effective classroom-management procedures. The major impetus for this research has been the relatively high cost of implementing behavioral interventions that focus on the individual child and/or entail complex reinforcement exchange systems. The authors have reduced cost in three ways: by focusing on the management of group behavior, by relying primarily upon social contingencies to control disruptive and on-task behavior, and by developing performance-oriented teacher-training procedures.

To achieve these objectives, two separate technologies have been developed in parallel. The first involves pinpointing social skills critical to classroom behavior management and integrating them into a "skill package". The second concerns development of an efficient method for imparting these skills to teachers.

Our previous work has pinpointed teaching skills that maximize the effect of teacher disapproval in enforcing classroom rules (*i.e.*, "setting limits") during a group discussion period (Jones and Miller, 1971, 1974). This work is part of a body of research that has assessed the value of a wide variety of individual component skills useful for classroom management. Much of this literature has focused on the systematic use of teacher approval as a means of replacing disruptiveness with on-task behavior (Broden, Bruce, Mitchell, Carter, and Hall, 1970; Hall, Lund, and Jackson, 1968; Hall, Panyon, Rabon, and Broden, 1968; Madsen, Becker, and Thomas, 1968; McAllister, Stachowiak, Baer, and Conderman, 1969; Shutte and Hopkins, 1970) as well as the use of teacher disapproval to reduce inappropriate classroom behavior (Hall, Axelrod, Foundopoulos, Shellman, Campbell, and Cranston, 1971; Jones and Miller, 1974, McAllister *et al.*, 1969; O'Leary, Kaufman, Kass, and Drabman, 1970). In addition, there has been a

growing body of literature examining such variables as the redistribution of teacher attention (Sanders and Hanson, 1971), prompting skills (Knapczyk and Livingston, 1974), rules (Herman and Tramontana, 1971; Madsen, Becker, and Thomas, 1968; O'Leary, Becker, Evans, and Saudargas, 1969), nonverbal teacher approval (Kazdin and Klock, 1973), and vicarious social reinforcement (Broden *et al.,* 1970; Kounin and Gump, 1958; Kazdin, 1973). Although the results of research on the systematic application of a variety of social skills by teachers in the classroom have been encouraging, it is apparent that a shift of emphasis from component analysis to the integration of these components into a useful "skill package" is needed.

In addition to developing the present "skill package", attempts to train teachers in its use have forced the development of training procedures that facilitate the rapid integration of the component skills into the teacher's behavior repertoire. The method utilized has been that of role-playing (Jones and Miller, 1971, 1974), because it permits massed practice of performance skills with corrective feedback in a situation that is a close analogue of the natural setting. This method contrasts with other teacher-training procedures reported in the literature, such as informal instruction in principles of behavior modification (O'Leary and Becker, 1968; Packard, 1970) and, more recently, such innovations as formal practicum training in observational and experimental techniques (Hall, Fox, Goldsmith, Emerson, Owen, Davis, and Procia, 1971), feedback from the experimenter (Cooper, Thomson, and Baer, 1970; Hall *et al.,* 1968), experimenter's instructions and feedback coupled with social praise (Cossairt, Hall, and Hopkins, 1973), and modelling via a "token helper" (Ringer, 1973). This emphasis on performance-oriented training has been supported by the work of Gardner (1972), who found role-playing to be significantly more effective than lectures and demonstrations in teaching behavior modification performance skills to institutional attendants.

The present study elaborates an earlier study (Jones and Miller, 1971, 1974) that employed role-playing to train teachers to "set limits" during a group discussion lesson. This intervention reduced disruptiveness in two special elementary classes in which the teachers had reported an inability to conduct group discussions due to high rates of student misbehavior. Total training time during this study, using a "skill package" that focused only on skills employed in "limit setting", was six sessions of 1.5 hr each. The "skill package" in the present study was expanded to include both limit-setting and the prompting and reinforcement of on-task behavior during seat work and during group discussions. In addition, the present study was carried out in regular elementary classrooms to determine the appropriateness of the intervention for typical public classrooms having a larger number of children.

## METHOD

### Subjects and Setting

Teachers and students of two classrooms in the third grade of a suburban elementary school in the Rush-Henrietta School District near Rochester, N.Y. served as subjects. Two teachers who reported a higher level of classroom disruption than during previous years were asked to participate. Both teachers had over 5 yr experience, and Teacher 1 had a reputation, according to the principal, for dealing effectively with behavior problems. Hence, she was given most of them. The students were mostly white, middle-class children with a median I.Q. of 105 (range, 80 to 135). There were approximately 28 students per class throughout the study, and of these, about a third were characterized by teachers as having marked learning and/or behavior problems. Classrooms used a traditional rather than an open format for "core" subjects with students either studying at their seats or participating in group exercises led by the teacher.

*Behavioral Scoring and Reliability*

Group behavior was scored in each classroom during a daily half-hour discussion period and a 45-min seat-work period. Data were taken during both group discussion and seat-work periods to assess the effect of the intervention across two of the lesson formats most typically employed at the elementary level. Within these general rubrics, however, there was some variation between the two classrooms. In Classroom 1 (Teacher 1), seat work was arithmetic; in Classroom 2 (Teacher 2) it was reading. Also, in Classroom 1 the discussion covered a wide range of interesting topics within an informal format with the students seated on the floor. In Classroom 2, the discussion covered the day's reading assignment and was conducted with the students at their desks.

Disruptive student behaviors scored during seat work due to their high base rates were (1) talking to neighbors and (2) out of seat. To maximize reliability of scoring, these two behaviors were scored sequentially, rather than simultaneously. Data were taken during a 17-min segment of seat work beginning approximately 5 min after the teacher had given the class the assignment. "Out of seat" was scored during minutes 1, 5, 9, 13, and 17 and "talking to neighbors" was scored during the 3-min segments separated by the scoring of "out of seat" (*i.e.*, minutes 2 to 4, 6 to 8, 10 to 12, and 14 to 16). The definitions of "talking to neighbors" and "out of seat" contained in the observer's scoring manual are presented in Table 1.

A modified event recording system was used for tallying "talking to neighbors". Each day, the observer divided the room roughly in half and scored behavior occurring only in a given half of the room during any 3-min segment, with the observed half being alternated in each of the four successive 3-min segments. This convention was employed to reduce the size of the field to be scanned by the observer. In addition, a 10-sec time frame was imposed on the observation so that the observer scanned half of the

classroom in a standard fashion for 5 sec beginning each 10 sec (*i.e.*, six scans per minute). During each scan, the observer tallied the number of students who were "talking to neighbors"

Table 1

Definitions of Scoring Categories

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A. *Seat Work*
1. Talking to Neighbors. This behavior will be scored whenever a student whispers or talks to another child nearby or makes an audible remark to no one in particular. This behavior must be directly observed and not inferred.

   Certain kinds of conversation will not be scored since they may represent productive classroom behavior.
   a. Conferring with teacher
   b. Conferring with another student concerning the assignment. To qualify as academically oriented (*i.e.*, acceptable) talking to neighbors, both students must be seated at a desk talking softly and have an assignment in front of them. If no materials are evident or if there is laughing, loud talking, or other evidence of "goofing off", score "talking to neighbor".
2. Out-of-Seat. Score every child who is not planted firmly in a chair unless the student is conferring with the teacher or an aide. Do not score kneeling on a chair if the student is "on-task" at the time.

B. *Group Discussion*
Inappropriate talk. The behavior to be scored is similar to "talking to neighbor" scored during seat work with the exception that certain kinds of intrusive verbalizations unique to group discussions will also be scored. "Inappropriate talk" includes both (a) talking to a neighbor and/or (b) interrupting a classmate who has the floor and is appropriately participating in the discussion.

Audible verbalizations will not be counted when they are addressed to the teacher or the class as a whole as a form of participation in the discussion. The student will be given the benefit of the doubt so that the student's speaking out loud will be scored only if it is either intrusive, directed privately to a neighbor or consists of yelling, laughing, name calling, *etc.* Verbalizations by students that will not be scored include expletives as children seek to gain the floor such as "Oh" or "Hey" or the teacher's name. Longer verbalizations of approximately one sentence in length such as "I know the answer" will be scored as "inappropriate talk" if made while another child has the floor.

for the designated half of the room at that time. Periodic scanning simplified the scoring of "talking to neighbors" by rendering the duration of a given event irrelevant (as with time sampling and interval recording), and the use of a tally in each 10-sec interval produced a system maximally sensitive to change in the classroom (pilot data showed that simple interval recording or time sampling missed the majority of critical events, especially during baseline when rates were high). Using this system, the theoretical maximum for a given day's tally would be: class $n/2 \times$ number of intervals $(N = 72)$; or in these classrooms, about 1008 $(14 \times 72)$.

"Out of seat" was tallied during a single 5-sec scan of the whole room at the beginning of minutes 1, 5, 9, 13, and 17. Any child not in his seat was counted at this time (see Table 1). Using this system, the theoretical maximum for a given day's tally would be: class $n \times 5$ or, in this study, approximately 140.

The disruptive student behavior scored during group discussion was entitled "inappropriate talk". This category included both talking to neighbors, as it was scored during seat work, and interrupting a classmate who was talking as part of the discussion (see Table 1). A modified event recording system was used that was analogous to that employed with "talking to neighbors" during seat work. Alternate halves of the classroom were scored during consecutive 3-min blocks for a total of 12 min of data. Tallies were made of the number of students engaging in inappropriate talk during a 5-sec scan of a given half of the classroom at the beginning of each 10-sec interval. Scoring was begun approximately 2 min after the discussion began.

Five volunteer scorers who were rotated between classrooms served as primary observers. Training was done *"in vivo"* to a criterion of 90% correct for all dependent variables, and typically took approximately one-half of a school day. Reliability for all dependent variables was checked at least once weekly in each room, and reliability assessment was evenly distributed across scorers. Booster training sessions

for the scorers were not needed. Reliability scoring was performed by an independent scorer (R.E.) standing at least 3 m from the volunteer scorer at the back of the classroom (after the classroom was divided in half for scoring purposes and stopwatches were calibrated).

The reliability index used was the percentage of agreement between the primary observer's and independent observer's frequency totals for each dependent variable for a given class on a given day (dividing the smaller total by the larger total). The median and ranges of these per cents were as follows: (1) talking to neighbors (seat work): median 96%, range 85 to 100%; (2) out of seat (seat work): median 100%, range 84 to 100%; (3) inappropriate talk (group discussion): median 93%, range 69 to 100%.

*Productivity Assessment*

To assess the effect of the teacher training on academic productivity, permanent product records of arithmetic problems correct and incorrect per day per child were kept by Teacher 1. No productivity records were available for reading in Classroom 2.

*Procedures*

A multiple-baseline design was employed using the two teachers as multiple subjects. Baseline was terminated by a role-playing procedure in which teachers were trained in the effective use of the "skill package". Classroom observations took place approximately three times per week for 14 weeks in each classroom on days in which both seat work and group discussions were scheduled to occur. Group discussions covered a wide range of topics in Classroom 1, except that discussions of discipline problems were avoided. Previous work had shown this topic to yield atypically high rates of disruptiveness (Jones and Miller, 1974).

*Experimental Conditions*

*Baseline.* Baseline data were collected starting at the beginning of April for 4.5 weeks in Class-

room 1 and for 9.5 weeks in Classroom 2. The teachers were instructed to ignore the scorers in conducting their classes. Scorers were present in the classroom for two weeks before baseline to allow teachers and students to adapt to their presence.

*Teacher training.* Intervention consisted of training the teachers in the effective use of the "skill package" through the medium of role-playing. The basic role-playing paradigm has been outlined elsewhere (Jones and Miller, 1974), but was extended and modified for the present study. Teacher training sessions took place after school once or twice per week (see figures) during successive weeks and lasted 90 min. Six sessions were given to Teacher 1 and seven to Teacher 2.

Training required three or more participants who needed no special preparation and a "trainer" (F. J.) who served as coach. The vehicle for role-playing was a mock classroom lesson in which participants alternated playing the roles of "teacher", "good student", and "bad student". In this role-playing situation or game, affectionately referred to as "Get The Teacher", one person played "teacher" and attempted to conduct a lesson against all odds, one person played "good student" to serve as a "straight man", and the remaining participants played the part of "bad student". "Bad students" were instructed to engage in misbehavior typical of school children such as talking to neighbors, passing notes, getting out of seat, "hassling" each other, making "wise" or "smart" remarks, throwing objects or, in short, anything to gain peer attention at the "teacher's" expense.

During role-playing, the trainer explained the components of the skill package and how they followed each other in sequence, modelled the skills, and directed the feedback process to the "teacher". Positive feedback was given systematically by the trainer and spontaneously by the other participants. Negative feedback was given by the trainer and was more complicated in cases where the "teacher" was at a loss in dealing with the "bad students". First, the "teacher" was

praised for the things he or she had done right. Second, the "teacher" was asked to critique himself or herself. Experience showed the "teachers" could do this quite well on the basis of the explanation of component skills. Third, the "students" were asked to report how they experienced or perceived the "teacher's" behavior during the disruptive sequence. Experience showed that "bad students" could gauge quite accurately the level of disruptiveness that they could "get away with" in a given situation and could describe the behavior on the "teacher's" part that accounted for this. Fourth, the trainer led the group in devising an effective strategy for dealing with the preceding disruptive behaviors. And, finally, the preceding sequence of events was faithfully re-enacted by the "students" to provide the "teacher" with as many "instant replays" as were necessary until the teacher and trainer agreed that mastery had been achieved. Feedback concerning the "teacher's" failure to implement a component skill during a role-playing sequence was given by the trainer as a request for an increase in that behavior during the following sequence, with modelling provided as needed.

Skill training focused on the integration of a broad range of specific skills within the context of both group discussion and seat-work lesson formats. Training may be conceptualized as having had two major parts. The first focused upon "limit-setting" within the context of a group discussion (Training Sessions 1 to 3) and the second focused on the prompting and differential reinforcement of on-task behavior within the context of a seat-work lesson (Training Sessions 4 to 6/7). The sequence of training is presented below in conjunction with brief descriptions of the skills employed and other accompanying instructions and rationales.

*Session 1.* This session began with a brief discussion by participants of the kinds of problem behaviors typically found in elementary classrooms and an explanation by the trainer of basic skills employed in dispensing mild disapproval during a discussion (see Jones and Miller,

1974). These skills included (a) early identification of potentially disruptive behavior, (b) a repertoire of brief, low-intensity, nonpejorative verbalizations and gestures signifying that the student was out of order, such as "just a second"; "wait", "that's enough", or simply the child's name; (c) physical proximity to and orientation toward the offending student; (d) quickness of responding following the onset of disruption so that the disruptive behavior was interrupted if possible, and (e) facial expression and tone of voice consistent with disapproval. Since physical proximity had been found to be important in reinforcement and critical in giving mild social punishment (Jones and Miller, 1974), desks in the practice room were arranged in a tight "horseshoe" configuration near to and facing the blackboard with the teacher's desk, interest centers, and large study tables behind the horseshoe at the end of the room opposite the main blackboard. Teachers 1 and 2 were helped to rearrange their rooms in this same fashion at the beginning of their respective training periods. Following this rearrangement, one of the fundamental skills practised was "cruising", *i.e.*, continually moving in the area within the horseshoe so that the teacher walked past each student on the average of one or two times per minute and was never more than three steps away from any student should disruption break out. The objective of cruising was to have the teacher dispense both approval and disapproval at arm's length. These skills were practised within the context of a group discussion at the beginning of training because approval of appropriate student behavior is relatively simple in this format (calling on students, putting ideas on the board, *etc.*) thereby requiring the integration of relatively few skills at the outset of training.

*Session 2.* This session continued the practice of limit-setting skills introduced in Session 1 and introduced two new elements. The first was the introduction of "timeout", the selection of a "timeout" area in each teacher's classroom (*e.g.*, a chair in the rear of the room that was somewhat screened from the rest of the room), and

instructions to arrange with the principal adequate back-up in cases of extreme provocation by students. (This latter step involved one or two joint planning sessions with the principal and vice principals or counsellors in which effective back-up was arranged and even role-played). The use of "timeout" was then practised in a context in which "bad students" were instructed for the first time to be highly disruptive and provocative on occasion. Teachers practised the giving of brief warnings, brief dismissals of "wheedling" by students, composure in the face of provocation, how to take a student to "timeout", and how and when to summon back-up help if physically resisted or threatened. The second skill introduced was the sequencing of disapproval for disruption and approval for appropriate class participation in relation to the offending student, so that an optimal discrimination learning trial was provided. Subsequently during practice, the trainer never permitted disapproval to be given by itself, but required that disapproval be followed by immediate approval or recognition of a "good" student followed by approval of the offending student as soon as he or she exhibited appropriate class participation (with prompting if necessary).

*Session 3.* In this session, practice of previous skills was continued, with two new elements added. The first was structuring the transition into the discussion period, which stressed explication by the teacher of the behavior desired during transition and the "rules" in effect during the subsequent lesson. The second new set of skills focused on prompting the participation of students who were typically quiet during discussions. Prompts were practised for the quiet, timid student and for the uninvolved student, which specified the piece of information wanted by the teacher, pointed out to the student where to find it, and told the student when he or she would be asked to respond.

*Session 4.* The focus shifted from a group discussion format to seat work and from "limit setting" to differential reinforcement of "on-task" behavior. Arithmetic seat work was chosen as

the vehicle for training because Teachers 1 and 2 reported having the most trouble during this period. Both reported frequent disruptions while attempting to give individual help, and both complained of a lack of motivation on the part of many students. This session was spent in practising transitions into arithmetic class and positive attention to "on-task" behavior during cruising. Core skills of limit-setting were implemented exactly as during discussion while the teacher was cruising, but the "teachers" were instructed, in addition, to praise at least four students who were on-task each time they walked around the inside of the U-shaped seating arrangement during cruising. Various statements that indicate praise or approval were practised in conjunction with physical contact with the students (hugs, pats on the back, a hand on the shoulder), since several participants reported feeling awkward with these responses.

*Session 5.* This session was spent in mastering the skills required to respond to children's questions during arithmetic without relinquishing limit-setting and approval of "on-task" behavior for the rest of the class. Both teachers noted that they were spending most of the time in class giving individual attention to relatively few students, and usually to the same students every day. Many of the students seemed to engage in "helpless" behavior during arithmetic, in that they would repeatedly seek help before having made a serious attempt to solve a problem, and while waiting for help, they would sit with hand raised or stand near the teacher, rather than work. Such behavior seemed to be inadvertently reinforced by the teacher's attempts to individualize instruction, during which time they spent several minutes explaining a problem to each student who was "stuck". This process was re-enacted during role-playing, and the "teacher" was instructed to structure the class period during transition so that students would be required to stay in their seats and to try to do the problems even if they encountered difficulty. Then, teachers were coached to spend only 2 to 5 sec helping students who were "stuck" at any given

time. During this brief period, the teacher would explain the next step in the problem to the student (*i.e.*, take the 2 times the 4 and put the answer here) and would then tell the student: "Now try it yourself, and I will be back in a minute to see how well you have done". If students failed at this, the next step of the problem was reduced to a simpler component part of the problem, and the teacher repeated her exhortation. Praise was dispensed for each completed step, and additional time and attention were given to the student upon completion of the problem. Teachers' questions about how to explain principles to the children were deferred until the following week.

*Session 6.* This session focused on methods of giving prolonged attention to an individual child without relinquishing approval and limit-setting for the rest of the class. Such prolonged individual attention was typically 2 to 4 min in length during arithmetic and reading and usually centered around the explanation of some principle to the child. "Teachers" were instructed to place their bodies so that they could "cruise with their eyes" continually while instructing. Limit setting was done at a greater distance at these times, and to compensate for the accompanying loss of control, "timeout" was used more quickly for moderate-intensity disruptions.

*Session 7.* A seventh training session was offered to Teacher 2 because classroom observations indicated that her frequency of approval was low and because she expressed the need for more practice in skills of reinforcement. The session was spent in practice aimed at integrating the components of prompting and approval with the components of limit-setting, while at the same time increasing the frequency of approval for on-task behavior.

Throughout training, one of the investigators visited the classrooms of Teacher 1 and Teacher 2 at least once per week to assess the extent to which the teachers were implementing the skills that had been taught up to that point. The criteria used during observations were roughly the same as those used by the trainer during role-

playing to determine the need for corrective feed-back, *i.e.,* that the basic elements be present in the proper order. Particular attention was given to the effective use by the teacher of cruising (in motion more than stationary), approval (no fewer than two per "cruise"), and disapproval (low intensity with quickness, assertiveness, and physical proximity). When skill deficits were observed during these classroom observations, a note was made so that these skills could be stressed during the next training session. Systematic assessment within the classroom of the extent of the teachers' mastery and integration of the many component skills is an extremely complex undertaking and was beyond the scope of the present study. However, previous research (Jones and Miller, 1974) has documented changes in

patterns of teacher responding to disruptive student behavior in the natural setting following training in limit-setting.

## RESULTS

### Disruptive Student Behavior

Figure 1 shows the decrease in "talking to neighbors" for the two classrooms during seat work, with the ordinate representing daily frequency of "talking to neighbors" for the class as a whole and the abscissa representing weeks of the program. "Talking to neighbors" decreased in Classroom 1 from a baseline average of 137.9 per day to a posttraining average of 51.9 per day (38% of baseline), and Classroom 2 decreased from 147 per day to 25.4 (17% of baseline).
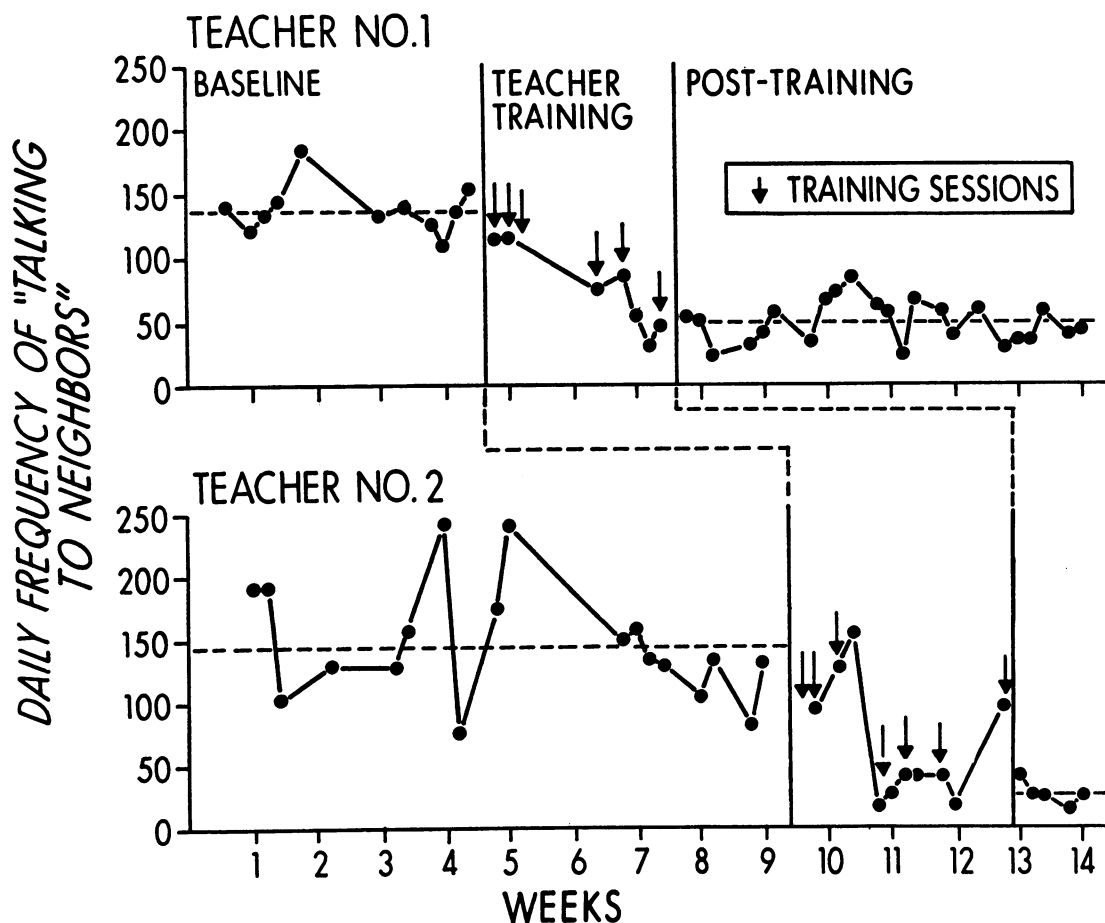


Fig. 1. Incidence of children talking to neighbors during seat work (tallied in each of 72 intervals per day).
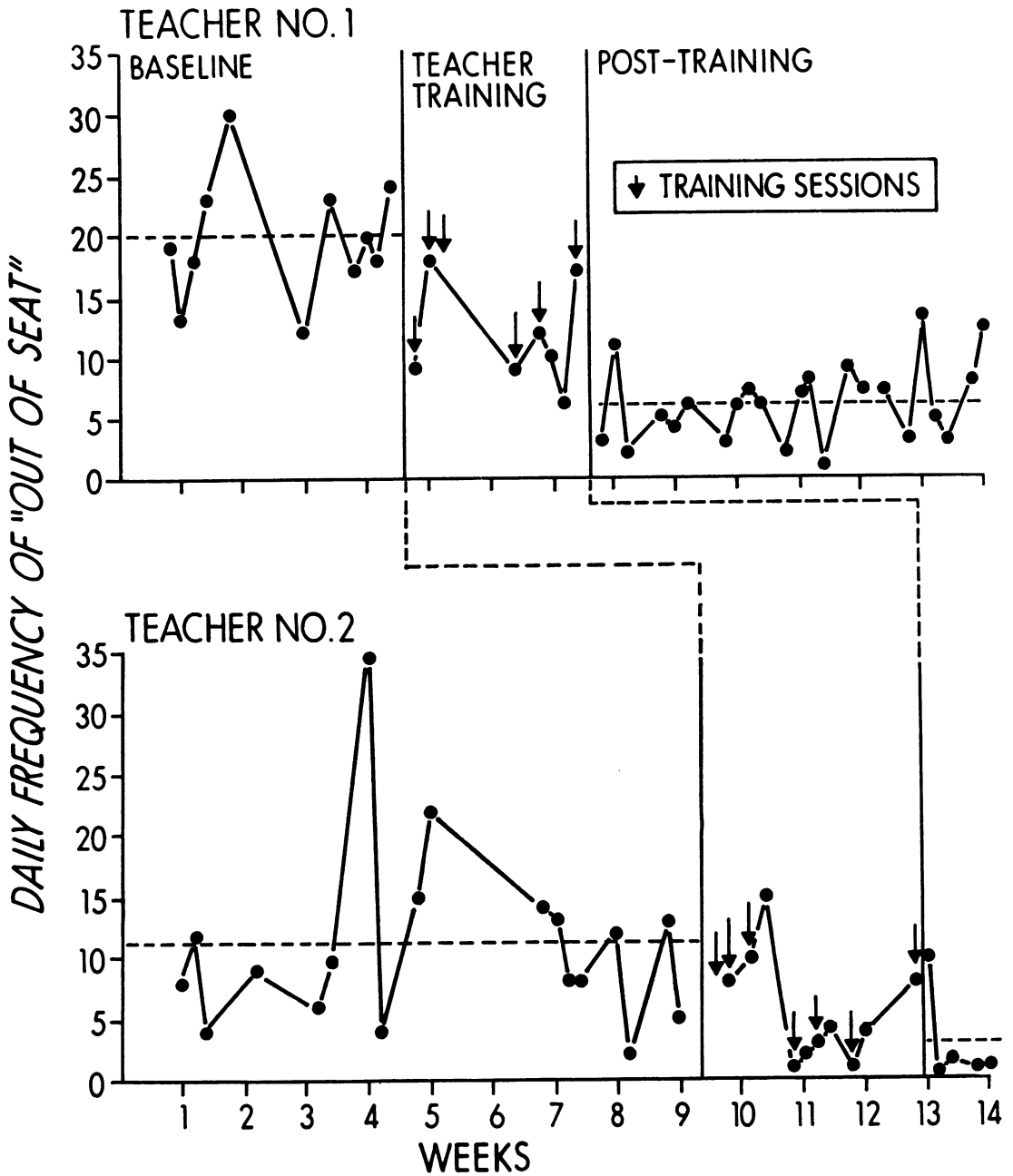
Fig. 2. Incidence of children out of seat during seat work (tallied in each of five intervals per day).

Figure 2 shows the decrease in "out of seat" during seat work with the ordinate representing daily frequency of "out of seat" for the class as a whole tallied during five scans of the classroom and the abscissa representing weeks of the program. "Out of seat" decreased in Classroom 1 from a baseline average of 20 per day to a posttraining average of 6.0 per day (30% of baseline); Classroom 2 decreased from 11 per day to 2.8 per day (25% of baseline).

Figure 3 shows the decrease in "inappropriate talk" during group discussions, with the ordinate representing daily frequency of "inappropriate talk" for the class as a whole during 12 min of
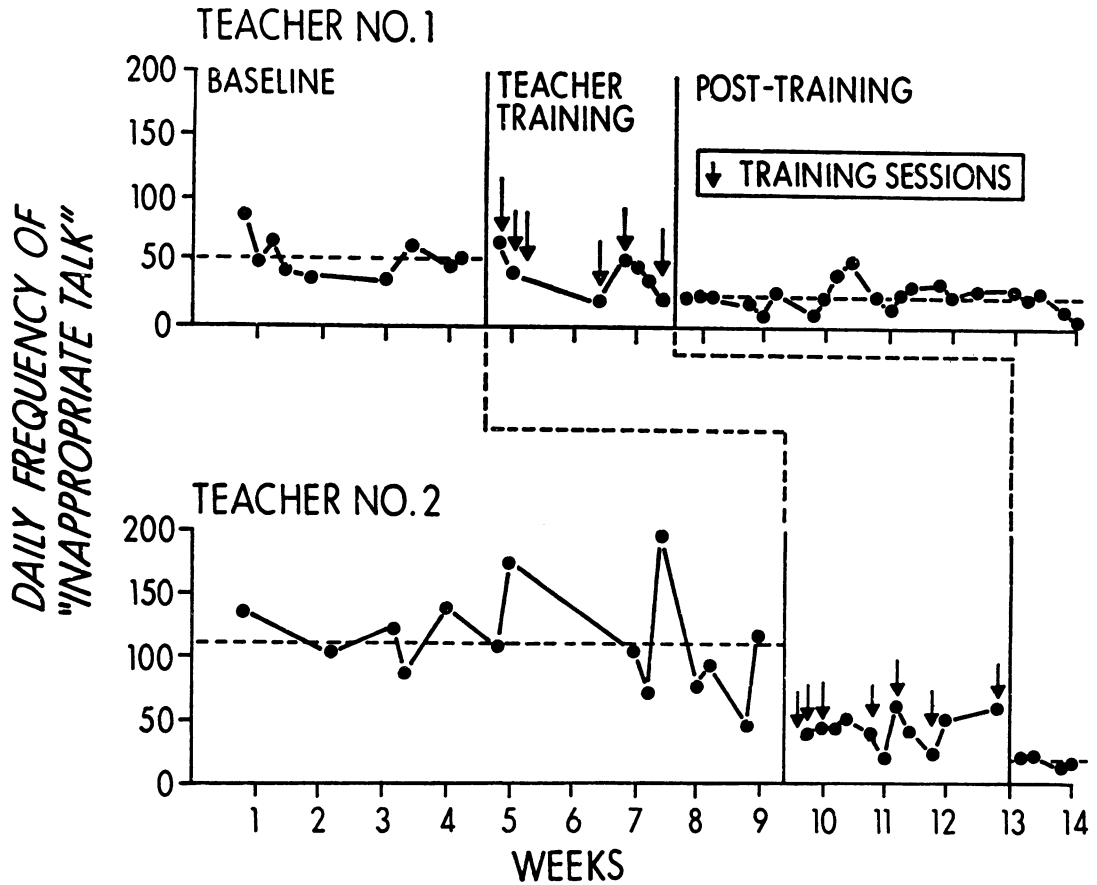
Fig. 3. Incidence of children engaged in inappropriate talk (interrupting plus talking to neighbors) during group discussions (tallied in each of 72 intervals per day).

discussion (scanning one-half of the room at any given time) and with the abscissa representing weeks of the program. "Inappropriate talk" decreased in Classroom 1 from a relatively low baseline of 51.3 per day to a posttraining level of 23.8 per day (46% of baseline), and Classroom 2 decreased from 111.9 per day to 20.8 per day (19% of baseline).

*Student Productivity*

Assessment of student productivity was limited to seat work (arithmetic) in Classroom 1. Two indices of productivity employed were (a) the mean number of arithmetic problems correct per day for each child during baseline and during the period of intervention beginning from the onset of training and, (b) the mean number of arithmetic problems correct for the

high, middle, and low thirds of the class during baseline and intervention (the class being divided in terms of the number of problems correct during baseline for each student). Comparing individual baseline averages with averages during intervention, 67% of the students increased the number of problems completed correctly per day. Perhaps more important is the breakdown in change in arithmetic problems correct for the high, middle, and low thirds of the class. Table 2 shows that both the middle and low thirds of the class improved significantly in arithmetic productivity (one-tailed "t" test) with the lower third increasing by 76% and the middle third increasing by 29%. Lack of control classrooms as a check against regression toward the mean renders these data suggestive only, but the increase of the middle third

from approximately 20 to 26 problems correct per day, well beyond the grand mean of 22.5, strongly suggests a substantial real increase in classroom productivity as a result of the training program. Significant as well is the fact that the children in the lowest third of the class, the ones who needed help the most, showed the greatest improvement.

Table 2

Effect of intervention on number of arithmetic problems correct per day per child for Teacher 1 for the high, middle, and low one-third of the class (class divided in terms of number correct per day during baseline).

| Group | Mean during Baseline | Mean during Inter-vention | Mean Difference | % Change |
|-------|------|------|------|------|
| High ⅓ | 38.43 | 33.83 | −4.60 n.s. | −12% |
| Middle ⅓ | 20.10 | 25.97 | +5.87* | +29% |
| Low ⅓ | 9.01 | 15.84 | +6.83** | +76% |
| Class Totals | 22.51 | 25.21 | 2.70 n.s. | +12% |

*p = <0.05.
**p = <0.025.

## DISCUSSION

Two experienced regular elementary school teachers were taught to use a classroom management "skill package" via role-playing in a simulated classroom environment. Results indicated that this procedure enabled these teachers to reduce disruptiveness in classes of approximately 28 children each across a broad range of lesson formats. In addition, an increase in the number of arithmetic problems correct per day suggested that student academic productivity may be favorably affected by this intervention.

One implication of these findings is that a broad and integrated package of teaching skills can be readily taught that is flexible enough to accommodate much of the daily variability among classroom instructional formats. Furthermore, the present findings support those of Gardner (1972), who found role-playing to be a particularly effective means of imparting performance competency when it involved the simultaneous implementation of a variety of specific skills.

Of particular interest were the posttraining increases in academic productivity reported for the arithmetic class. Previous research using student output as a dependent variable had yielded mixed results. Whereas a number of studies had cited significant improvements using only behavioral contingencies (O'Leary, Becker, Evans, and Saudargas, 1969; Schmidt and Ulrich, 1969; Surratt, Ulrich, and Hawkins, 1969), other data suggested that only specific contingencies imposed on academic performance could guarantee increased student productivity (Ferritor, Buckholdt, Hamblin, and Smith, 1972). The present training approach combined a variety of behavioral and performance contingencies into a single package. Replication and further analysis are needed, however, to determine whether the increase in student productivity was due to reduced number of distractions, reduced peer reinforcement for disruption, increased teacher reinforcement to the less-involved students, increased time per student spent on task, or some combination of these factors.

The design of the present study did not permit analysis of the differential effectiveness of each of the component skills featured in this training package. However, many of these components have been reported to be effective in the literature (see introduction). Rather, priority was assigned to developing a low-cost means of training teachers in the integration and use of a variety of social skills to achieve group management of children in the classroom. This "skill package" should not be thought of as a final or static product, but rather as one that is enlarged and enriched as trainees present novel management dilemmas and offer imaginative solutions. Experience with the training package has indicated that many components may be added to such a package without proportionately increasing the length and cost of training. For example, the entire second half of the training package, which focused on the prompting and differential reinforcement of on-task behavior during seat-

work, was grafted onto the skill package of the previous study (Jones and Miller, 1971, 1974), which focused upon limit-setting during group discussions. Skill training in the Jones and Miller study took six 1.5-hr role-playing sessions; skill training in the present study took the same amount of time for Teacher 1 and one additional session for Teacher 2. Replications presently underway have also completed training in seven sessions with a larger group of teachers.

A primary consideration in evaluating the usefulness of any behavior modification program for schools is cost. The intervention of the present study focused on developing economical management and teacher training procedures and, as a means to this end, focused on upgrading the social skills of the teacher in dealing with the class as a group. Its implementation represented no increase in work for the teacher in terms of the management of individualized programs, the management of a complex reinforcement exchange system, or extra consultant time once the necessary skills had been mastered. In addition, this broad range of teaching techniques was integrated into the teacher's behavioral repertoire in a relatively short period of time (from six to seven 1.5 hr role-playing sessions). Consequently, this intervention seems especially suitable for "in-service" training of experienced teachers and practicum training of student teachers. With several states considering legislation designed to eliminate special education classes, specialized teacher training in the management of behavior problems within the context of a regular classroom becomes increasingly relevant. A behaviorally oriented teacher training package, such as the one outlined in the present study, holds great promise for meeting these anticipated future training needs.

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