AN ANALYSIS OF DAILY REPORT CARDS AND
PARENT-MANAGED PRIVILEGES IN THE IMPROVEMENT
OF ADOLESCENTS' CLASSROOM PERFORMANCE

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A daily report-card system, involving home privileges administered by parents, was developed for use with "problem" junior-high students. In Experiment I, when home privileges and parent praise were contingent on improved school conduct, classwork, daily grades, and teacher satisfaction, the school performance of three students improved considerably. In Experiment II, a similar report-card system was employed with two additional students, except only parent praise was contingent on improved school performance. Under these conditions, one of the students did not bring the report card home, and class performance did not improve until contingent home privileges were added. The school performance of the second student improved with the card and praise alone. However, there appeared to be a slow decline of classwork performance over time. For Experiment III, an instructional manual, describing the report-card program, was written for school guidance counsellors. Two guidance counsellors read the program, used it with one student each, and found that the school performance of both students improved. These results suggest that the daily report-card program with home consequences administered by parents can improve the school performance of, and teacher satisfaction about, students having considerable difficulty in school.

DESCRIPTORS: academic behavior, classroom behavior, disruptive behavior, point economy, home-based reinforcement, teacher satisfaction, counsellors, parents, adolescents

A number of studies have demonstrated various ways of improving the deportment and academic performance of students in public-school classrooms (*e.g.*, Barrish, Saunders, and Wolf, 1969; Broden, Hall, Dunlap, and Clark, 1970; Harris and Sherman, 1973*a, b*; Maloney and Hopkins, 1973; McAllister, Stachowiak,

Baer, and Conderman, 1969). Most of these have involved rearrangement of the classroom situation for all students, either by changing the conditions that set the occasion for various behaviors and/or by modifying the kinds of consequences that follow various behaviors. However, because the amount of time and effort required to rearrange the classroom situation is often large, many teachers may be reluctant to use such procedures. This may be true particularly when the teacher is satisfied with the deportment and academic performance of most of the students in class, or when the teacher does not teach a single group of students, but instead is responsible for teaching a particular subject to successive groups of students, as is common in junior- and senior-high schools. Also, it may be that effective consequences for controlling adolescent's behavior are not readily available to plan major re-

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arrangements in the classroom situation simply to deal with these students.

Bailey, Wolf, and Phillips (1970) described procedures that may circumvent some of these problems. They looked at the school behaviors of predelinquent boys living in a group home. The home operated on a token economy in which youths earned points by engaging in desirable behavior and lost points for engaging in inappropriate behavior. These points were exchanged for privileges available in the group home, such as permission to watch TV, permission to go to town, and allowances. These privileges and a daily report from school were used to improve school behaviors. Each day, the teacher indicated on each boy's report card whether or not he had followed the classroom rules and studied during the whole period. Depending on the teacher's report, the boys received or lost privileges in the group home.

Initially, the report-card procedure was used in a special summer class and later in a regular public-school class. In both situations, the procedure was effective in improving the boys' study behavior and the extent to which they followed classroom rules. In a later study, Harris, Finfrock, Giles, Hart, and Tsosie (1975) used similar procedures to improve the number of school assignments completed by high-school students living in a treatment facility for delinquent youths. Their study also showed that increased assignment completion was correlated with improved grades. In both of these studies, the boys resided in group homes that used a well-developed system of privileges for appropriate behavior and were administered by trained professionals who could be expected to deliver the privileges consistently. Whether a similar privilege system could be administered effectively by natural parents of adolescents was not examined.

Several studies suggest that parents can be instructed to use home privileges consistently enough to improve the school performance of their elementary school children in isolated segments of the school day—ranging in length

from 15 min to 2 hr a day (*e.g.*, Ayllon, Darker, and Pisor, 1975; Colman, 1973; Karraker, 1972). Further, two studies report use of a daily report-card program with junior-high youths and their natural parents. However, one (Edlund, 1969) did not supply any experimental data and the other (Kroth, Whelan, and Stables, 1970) found no statistically significant differences between class performances for which the students received praise and those for which they received no praise.

EXPERIMENT I: THE EFFECTS OF A DAILY REPORT CARD AND HOME-BASED CONTINGENCIES

The cumulative available evidence suggests that it may be possible to teach natural parents to use a contingency system to improve the school behavior of their adolescent children. Experiment I tested this suggestion by evaluating the effects of a daily report card and parent-administered consequences on the deportment and academic performance of students having difficulty in school.

METHOD

Subjects

Three male students (Joe, Chuck, and Mike), who attended seventh grade in a public junior-high school participated. Each was identified by principals, guidance counsellors, and teachers as disruptive in classes, occasionally truant, usually tardy, and completing little or no classwork or homework. They were described as behind in basic academic skills (*e.g.*, reading at or below the third-grade level). Although they were receiving remedial help in some subjects, it was reported to be ineffective due to the students' disruptiveness. Their disruptive behavior included talking to students while the teacher was conducting discussions, leaving their seats without permission, refusing to follow instructions, speaking discourteously, and

physically bothering others. Often, these students were sent to the principal for discipline.

Procedures

A student's parents were contacted by a guidance counsellor; his problems were described and the parents asked if they would be interested in participating in an experimental program to improve their child's school behavior. For interested parents, an experimenter explained the goals and procedures of the program, and the parents and student agreed to participate—orally and in writing—under the condition that they could withdraw from the program at any time.

A multiple-baseline design (Baer, Wolf, and Risley, 1968) was employed across the three students. The target behaviors were: (1) rule-following behaviors (*e.g.*, coming to class on time, staying seated, speaking courteously, *etc.*), (2) classwork performance, and (3) semester grades. In addition, to yield a general measure of consumer satisfaction, the teachers were asked to indicate if they were pleased with the student's daily performance.

All of the student's teachers (six per student) participated, with the exception of the physical education teacher who reported no problems. Each teacher was contacted by the experimenters, and rules for appropriate student conduct and criteria for acceptable academic work were discussed. From these discussions, a report card (see Figure 1) was designed. It included a rules section, a classwork section, a grades section, and a teacher-satisfaction section. In the rules section, 10 conduct rules that teachers reported as appropriate for their classes were listed. Next to each rule was a box where the teacher could indicate whether or not a student had followed that rule each day. In the classwork section, teachers could indicate how much classwork the student had completed by writing a number from 0 to 4 in the appropriate box. Teachers reported grades (A, B, C, D, or F) on assignments, homework, and tests in the grades section. In the teacher-satisfaction section, the

teachers could indicate whether or not they were generally satisfied with a student's performance on a given day.

Baseline. The report card was explained to the teachers. They were given several cards and were asked to fill in a card for each student daily. Teachers were instructed to place a check mark in the "yes" column if a student followed a rule throughout the class period or to place a check in the "no" column if a student broke a particular rule one or more times during a period. The teachers also awarded 0 to 4 points for classwork according to criteria agreed in advance (see Table 1). Finally, teachers were asked to record in the "grade box" grades that were to be entered in their grade book and averaged into semester grades. (These daily grades were collected to give the parents and student some indication of the student's semester grades. They are not reported as a dependent variable in this study.) If a student was truant from class or was sent to the principal's office for disciplinary reasons, the teachers were asked to check all the "no" boxes and to record a "0" in the classwork box. Teachers were requested not to discuss the card with the students, but to return it to the experimenters at the end of the day. Since a multiple-baseline design was used, baseline conditions were in effect for different lengths of time for the three boys and were terminated only after a stable or declining trend was apparent.

The home-based contingency program. On completion of the baseline condition, an experimenter visited a student's home to set up the home-based contingency program. The program involved the parents praising the student and providing privileges for improved school performance. Initially, the student and his parents were asked to list the privileges that were available and which the student enjoyed. This list was divided into daily activities called "basic privileges" and weekly or monthly activities called "special privileges". Example basic privileges were snacks, TV time, and staying up an extra half-hour before bed. Special

NAME: _____
DATE: _____
TEACHER: _____

Did the student . . .

	YES	NO	
Come on time?			Rules Section
Bring supplies?			
Stay in seat?			
Not talk inappropriately?			
Follow directions?			
Raise his hand?			
Not physically disturb others?			
Clean up?			
Pay attention?			
Speak courteously?			
Were you pleased with his performance today?			Teacher Satisfaction Section
Points on today's classwork			Classwork Section
Grade on test assignment			Grades Section
Teacher's initials			

Fig. 1. Example daily report card used during baseline conditions.

Table 1
One Teacher's Criteria for Classwork Points

When discussion held:

- 4 pts. Student listens and contributes* three times to discussion.
- 3 pts. Student listens and contributes twice to discussion.
- 2 pts. Student listens and contributes one time to discussion.
- 1 pt. Student pays attention and listens to discussion.
- 0 pt. Student does not listen to discussion.

When in-class assignment given:

- 4 pts. Student works all of class time on assignment.
- 3 pts. Student works $\frac{3}{4}$ of class time on assignment.
- 2 pts. Student works $\frac{1}{2}$ of class time on assignment.
- 1 pt. Student starts work on assignment.
- 0 pt. Student does no work on assignment.

In classes where there is no opportunity for participation (reading on own, movie, lecture, etc.):

- 4 pts. Student is extremely attentive to subject (movie, teacher, guest lecturer) throughout the class.
 - 2 pts. Student is generally attentive to subject.
 - 0 pt. Student does not attend to subject.
-

*Contributing to discussion was defined as raising one's hand, being called on by the teacher, and answering a question appropriately or asking an appropriate question.

privileges included such activities as visiting friends, going fishing with a parent, and going to sports events, movies, skating, and bowling. The number of points a student needed to exchange for each privilege was negotiated and written next to that privilege on an activity sheet.

Parents were taught basic rules to exchange points for privileges. For instance, if the student received all "yes" checks on his card for one class, he earned two points. Only one point was earned if he broke a single rule in a class, and no points were earned if more than one rule was broken. Points earned on classwork were the same number as those reported by teachers in the classwork box. For grades, the student could earn four points for an "A", three points for a "B", two for a "C", and one for a "D". Students had to earn enough points to purchase all basic privileges before special privileges could be obtained. Extra points could be saved. Example cards were used in role-playing situations with the parents to teach them how to praise, record points, and exchange points for privileges. The report card (which now in-

cluded six columns of boxes—one column for each of the student's teachers), each rule, and the teachers' classwork criteria were discussed with the student. The student was instructed to put his card on the teacher's desk at the beginning of class and pick it up at the end.

During the first week of program implementation, the family was contacted twice by telephone to determine whether there were any problems, and thereafter, an experimenter visited the home once a week. Each visit lasted 15 to 30 min. Its purpose was to collect the previous week's cards and go over point transactions and problems that might have occurred. Each week, the records of point transactions were reviewed with the families to determine whether the youths received the privileges they had earned and were restricted from privileges they had not earned. The youths were asked whether they had received earned privileges and in all cases, the youths reported they had. Occasionally, a youth reported receiving a privilege he had not earned. In such cases, the parents were reminded to supervise the youths more closely. Although the experimenters observed

the parents to praise their child's school performance during these visits, no record was kept by the parents as to whether they had praised their child throughout the week. Each of the students' teachers were contacted weekly to determine whether any problems had occurred in school and to encourage teachers to continue grading the cards daily.

Semester grade comparisons. To assess whether differences in students' semester grade-point averages were a function of the daily report-card system, the semester grades for Joe, Mike, and Chuck were compared to semester grades received by similar students who had not carried a daily report card. School personnel referred a group of students to the experimenters and indicated that they would be likely candidates for the school report-card program. After written consent was obtained from all the students' parents, 12 students' grades were made available for comparison with the experimental subjects' grades. These comparison students were the same age and sex, in the same grade, from the same school, and presented similar academic and conduct problems as the experimental youths. Their grades were from the same two semesters that Joe, Chuck, and Mike were involved in the daily report-card program.

The grades for each boy's academic classes (excluding physical education) were obtained from official school transcripts, assigned a grade point value (F = 0, D- = 0.66, D = 1, D+ = 1.33, C- = 1.66, C = 2, *etc.*), and mean grade point averages were calculated for each semester.

To determine whether the official semester grades accurately reflected the youths' performance, their semester grades were checked against the averages for the youths' daily assignment and test grades as recorded in the teachers' grade books. It was found that during the first semester, the teachers were lenient, assigning passing semester grades when daily averages indicated failing grades. During the second semester, however, the daily grade aver-

ages accurately reflected the official semester grades. The teachers said their initial leniency was to give the students the "benefit of the doubt" in adjusting to junior high school. Thus, students who normally would have failed during the first semester received passing grades—a bias that may reduce the actual magnitude of differences in grades between semesters.

Reliability

At least once in each condition, an experimenter attended each of the students' classes and independently recorded his behavior on a report card, exactly as the teachers were asked to score the students' performance. The teacher's and observer's cards were compared. Point-by-point comparisons were made on the rules. An agreement was counted when both the teacher and observer recorded a "yes" or a "no" for the same rule. Reliability was calculated by dividing the number of agreements by the number of agreements plus disagreements for a given child and multiplying by 100. There was 82% agreement on rules for Joe, 89% agreement for Mike, and 78% agreement for Chuck during the baseline and 83% agreement on rules for Joe, 90% agreement for Mike, and 81% agreement for Chuck throughout the home-based contingency condition.

Reliability on the points assigned for classwork was calculated using the procedure employed by Quilitch (1975). During baseline, the observer's number agreed exactly with the teacher's number for Joe, Chuck, and Mike 18 times (72%). They varied by one number five times (20%), two numbers once (4%), and three numbers once (4%). For treatment, the observers agreed exactly 14 times (67%), varied by one number six times (23%), and by two numbers three times (14%). Thus, agreement within a range of one number was 92% for baseline (100% for Joe, 86% for Chuck, and 90% for Mike) and 86% during treatment (71% for Joe, 100% for Chuck, and 88% for Mike).

RESULTS AND DISCUSSION

Figure 2 shows the percentage of rules followed daily by each of the three boys. These were calculated by counting the number of rules followed ("yes" checks) per day in all of a student's classes and dividing this number by the total number of rules on which the student was graded (total "yes" and "no" checks). During baseline, the daily average of rules followed was relatively low. When the home-based contingency program was implemented, at different times for each youth, the percentage of rules followed increased sharply. The missing dots in Mike's graph indicate days on which he failed to bring his card home. On these days, he received no privileges and his access to privileges on the following weekend was withdrawn. The open circles represent the average number of rules followed by each boy for the

remaining days of the school year (12 days for Joe, 29 for Mike, and 19 for Chuck).

Figure 3 shows the percentage of classwork points earned daily by each boy. These percentages were calculated by adding all numbers appearing in the "classwork" boxes on a card and dividing this total by 24 (the total number of points available in those boxes—four points $\times$ six teachers). Again, a substantial improvement in each boy's performance occurred when the home-based contingency program was implemented.

Figure 4 shows the percentage of teachers who were satisfied daily with each student's general performance. These were calculated by dividing the total number of "yes" checks in the teacher-satisfaction boxes on a report card by a student's total number of teachers. The graphs show substantial increases in teacher satisfaction for each student concomitant with

Fig. 2. Percentage of rules followed by Joe, Mike, and Chuck daily. Missing dots indicate days when Mike failed to carry the card. The open circles represent the average number of rules followed for the remaining days of the school year.

Fig. 3. Daily percentage of classwork points earned by Joe, Mike, and Chuck. The open circles represent the average number of classwork points earned for the remaining days of the school year.

Fig. 4. Daily percentage of teachers who were pleased with Joe, Mike, and Chuck's classroom behavior. The open circles represent the average number of teachers pleased over the remaining days of the school year.

Fig. 5. Semester grade point averages for Joe, Mike, and Chuck.

the implementation of the contingency program.

Figure 5 shows the semester grade point averages for each youth during the semester before and during implementation of the program. The data show positive grade changes of roughly half a grade improvement (D+ up to C).

Figure 6 depicts the semester grade point averages for Joe, Chuck, and Mike (experimental group) and 12 similar boys (comparison group) who did not receive the program. During the first semester (before the report card program began), each group achieved roughly a D+ grade average (exp. = 1.46, comp. = 1.39). When the experimental group carried daily report cards during the second semester, their grade point average was 1.99. The com-

Fig. 6. Semester grade point averages for the experimental group (Joe, Mike, and Chuck) and a comparison group (N = 12). Neither group received the daily report-card program during the first semester, and only the experimental group received the program during the second semester.

parison group's second semester grade point average remained essentially the same (1.43).

Thus, Experiment I extended earlier findings on the use of home contingencies for school behavior by showing that a report-card and home-based privilege program managed by natural parents can be effective in improving adolescent's classroom conduct, classwork performance, semester grades, and teacher satisfaction with student performance. In addition, the study demonstrates that several target behaviors can be monitored across a number of teachers in a variety of subject areas. This was accomplished through the use of 10 common "classroom rules" and classwork grading criteria devised by each teacher.

EXPERIMENT II: TESTING THE NECESSITY OF HOME-BASED CONTINGENT PRIVILEGES

Experiment II evaluated whether contingent privileges are a necessary component of the daily report-card program. Since some parents were reluctant to use consequences other than praise, it seemed critical to determine whether the teachers' daily feedback (the report card) and parental praise might improve and maintain school behaviors.

METHOD

Subjects

Two seventh-grade boys, Ron and Fred, similar in all respects to the youths referred for Experiment I, took part. Their parents were notified of the program and the parents and students agreed to participate.

Procedure

The procedures followed by Ron and Fred were identical to those described in Experiment I, with one exception. In some conditions (praise-alone conditions), each boy took a report card to school, had it scored by the teachers, showed the card to his parents, and received praise from his parents for improved school

performance. No home privileges were contingent on school performance; all home privileges were given according to each family's normal routine. The parents were asked to choose at least three things to praise in the students' daily performance. The experimenters showed the parents how to praise by providing instructions, models, and feedback for practicing praise.

The experimental design used for Ron was a reversal design with two types of conditions: baseline conditions, where the teachers filled in the cards without Ron's knowledge; and praise-alone conditions, where Ron received only praise contingent on his school performance. The experimental design for Fred was similar, with the addition of one condition where home privileges and praise were contingent on school performance. Thus, the sequence of conditions for Fred was baseline, praise alone, praise and privileges, and praise alone.

The dependent variables were the same as in Experiment I, except that official quarterly grades were used instead of semester grades.

Reliability

Reliability data were collected and agreement was calculated as in Experiment I. For Fred, agreement on rules was 84% during baseline conditions, 82% during praise-alone conditions, and 82% during the praise and privileges condition. For Ron, agreement on rules during both the baseline conditions and praise-alone conditions was 83%.

Reliability on classwork points for Fred and Ron during baseline showed exact agreement 14 times (74%) and variations of one number twice (10.5%), two numbers twice (10.5%), and three numbers once (5%). For the report-card and praise conditions, exact agreement occurred 14 times (78%), and varied within one number four times (22%). Thus, agreement within a range of one number was 84% for baseline (100% for Fred and 75% for Ron) and 100% during the praise-alone conditions. When the privileges contingency was insti-

tuted with Fred, exact agreement occurred three times (43%), and varied by one number four times (57%). Thus, agreement for this condition within a range of one number was 100%.

RESULTS AND DISCUSSION

Figure 7 shows the results for Fred. The top set of axes shows the percentage of rules followed by Fred, the middle set shows the percentage of classwork points earned, and the bottom set shows the percentage of teachers pleased. Percentages were calculated as described previously. The dotted vertical line inside the baseline condition indicates the time of Fred's transfer to new classes.

During baseline, Fred followed an average of 59% of the rules, earned an average of 39% of the classwork points available, and an average of 68% of the teachers were pleased with

his performance. Note that when he was transferred to new classes (in an attempt by the school to change his performance), he followed more rules, but his performance on classwork was lower than the original baseline.

When the report card with praise-alone condition was instituted, Fred did not bring his card home on all 15 days of this condition, and his teachers verbally reported no change in his performance. For the last two days of the condition, his teachers were asked to fill out cards and to give them to the experimenter to ensure the retrieval of some data for that condition. Compared to baseline, these data showed lower teacher satisfaction and fewer classwork points earned. The per cent of rules followed was comparable to baseline. When the report-card, praise, and privilege condition began, Fred followed an average of 93% of the rules, earned an average of 64% of the classwork

Fig. 7. Fred's daily percentage of rules followed (top axes), classwork points earned (middle axes), and teachers pleased with his classroom behavior (bottom axes). The dashed vertical line represents when Fred was transferred to new classes and teachers. Omitted points indicate days Fred failed to carry the card. Open circles represent Fred's performance as reported by his teachers on special cards returned directly to the experimenters.

points, and an average of 95% of his teachers were pleased. When the report-card with praise-alone condition was re-instituted, Fred neglected to bring his card home on 10 of 18 days. Average performance on the eight days that he did take his card home was 80% for rule following, 44% for classwork points, and an average of 75% of his teachers were pleased. It was not possible to obtain adequate duplicate data from teachers in the final days of this condition, since it took place in the closing weeks of school and teachers were busy completing the year's work.

Figure 8 shows the results for Ron. Again, each set of axes shows the results for one of the three dependent variables. Performance on all three measures was higher in the report-card with praise-alone conditions than during base-

line. However, it is important to note that Ron's performance on classwork during the last praise-alone condition did not equal that in the first praise-alone condition. His classwork points appeared to be decreasing slowly, resembling baseline performance on one-third of the days in this final condition.

Figure 9 shows the two boys' quarterly grade point averages for the periods preceding and during intervention conditions. These grades were obtained from official transcripts. Fred achieved a grade point average of 1.2 during the first quarter, which preceded baseline conditions. He again achieved a 1.2 average during the second quarter, which preceded and included the two baseline conditions and initial report-card with praise-alone conditions. The report card with contingent privileges was

Fig. 8. Ron's daily percentage of rules followed (top axes), classwork points earned (middle axes), and teachers pleased (bottom axes).

Fig. 9. Fred and Ron's quarterly grade averages (GPA) corresponding to periods preceding and during the use of the daily report cards.

started on the first day of the third quarter. Fred achieved a grade point average of 1.5 for this period. The fourth quarter included both the final portion of the report-card with privileges condition and the final report-card with praise-alone condition; Fred's grade point average was 1.1 for this period and reflects his performance on the final assignments and tests of this period.

Ron achieved a grade point average of 0.9 and 0.7 respectively for the first two quarters preceding intervention. During the third quarter, the initial baseline and report-card with praise-alone conditions were implemented and Ron achieved an average of 1.8. During the fourth quarter, the second baseline and report-card with praise-alone conditions were conducted, and Ron achieved a grade point average of 1.4.

Thus, Experiment II provided useful information concerning the necessity of contingent privileges. The results suggest that contingent privileges may be an important component of the program. One student failed to bring his card home on days when only praise was to be provided, and his classroom performance ap-

parently failed to improve. However, his school performance improved substantially when home privileges were made contingent on the daily reports. The other student initially improved relative to baseline when praise was contingent on his school performance, but his classwork performance appeared to decline somewhat over time. Subsequently, additional students have received the program without contingent privileges. Although most have shown initial improvement, their performances also have declined over time. In contrast, others who have received the program with contingent home-based privileges have shown maintained improvements similar to those demonstrated by Chuck, Joe, and Mike. Thus, it seems that the report-card program can be most effective when privileges are provided contingent on performance.

It is possible that the greater effectiveness of the program with contingent privileges was due to an almost "automatic" shaping effect of the privilege system. The program provided students with a number of activities, and these activities were ranked so that privileges of greater and greater reinforcing potential could be earned. The program included a point system in which a given number of points corresponded to a given number and/or type of privilege; the greater the point earnings (improved performance) the more reinforcing were the consequences. In contrast, when the report card with praise alone was used, parents were instructed to provide praise when their child returned from school with improved scores. Although the parents were instructed to provide a "greater amount" of praise for reports reflecting improvement, there was not the same "automatic" degree of correspondence between the parents' praise and student improvement, and parents may not have been sufficiently skilled (without extensive training) to shape improvement with praise alone. Further, the possible reinforcing effects of praise may simply be more limited than those of privileges, at least for adolescents.

EXPERIMENT III:
EVALUATING THE USE OF THE
DAILY REPORT-CARD PROGRAM
BY SCHOOL PERSONNEL

Experiments I and II entailed supervision of the program by persons experienced in behavior-modification procedures. If a report-card system were to be used widely in the schools, it must be determined whether these procedures can be implemented by people indigenous to the schools, without the direct supervision of experienced behavioral researchers. Thus, the last part of this research evaluated whether school guidance counsellors relatively inexperienced in the use of behavior-modification procedures could be instructed, through a written manual, to implement the report-card system.

METHOD

Subjects

Two public-school counsellors from different schools volunteered to participate. Each chose an eighth-grade student (Ed and Cindy) who had been having considerable difficulty in school, including excessive disruptiveness and truancy.

Procedure

A manual (Schumaker, Hovell, and Sherman, 1977) was written that describes, in a step-by-step manner, the daily report-card program procedures used in Experiment I. For example, the manual instructs how to describe the program to families and obtain their informed consent, how to present the program to teachers and devise grading criteria, how to negotiate privileges with families, teach parents to praise, and exchange the student's point earnings for privileges, and how to monitor a student's progress through frequent family contact and graphs.

The counsellors were asked to read the manual, complete the study guide, and proceed as the manual directed. To determine how success-

ful the program would be independent of the experimenters' direct input, it was emphasized that the counsellors were to proceed as if no one in the vicinity was familiar with the program. The only other instructions given the counsellors concerned the approximate length of the baseline condition for each student in order to meet the requirements of a multiple-baseline design. Both counsellors returned the students' report cards to the experimenters. Data reported were calculated from these cards. The target behaviors were rule-following behaviors and classwork performance. Grades for Cindy were collected from her school transcript. Permission for the release of Ed's grades was not obtained, so his grades cannot be reported. In an effort to simplify the program as much as possible, the counsellors were not instructed to collect teacher-satisfaction data.

Reliability

Although the manual instructed the counsellors to collect reliability measures, only one counsellor (Ed's) followed this instruction. Observations were conducted only once with each teacher during each condition, with the counsellor seated at the back of the classroom independently marking a report card. Agreement was calculated as before, and agreements on rules equalled or exceeded 80% in each class. The counsellor and teachers never disagreed by more than one point on classwork performance (100% agreement within a range of one number).

RESULTS AND DISCUSSION

Figure 10 shows the percentage of rules followed by Ed and Cindy and Figure 11 the percentage of class points earned. On both measures, performance improved when the report-card procedure was implemented.

Cindy's grade point average for the quarter immediately preceding intervention was 1.07, and for the quarter during intervention was 2.16. Thus, these results suggest that guidance counsellors (after reading written instructions),

Fig. 10. Daily percentage of rules followed by Ed and Cindy.

can institute the card program and obtain considerable student improvement. The counsellors obtained improvements in their students comparable to those obtained by research psychologists with Chuck, Joe, and Mike. Further, the counsellors indicated that they were pleased with the program and planned to use it with similar students in the future. Thus, it seems that the daily report-card program is a practical and effective tool for improving student behavior and could be adopted by a school with a minimum of expense.

GENERAL DISCUSSION

Several aspects of the program warrant further discussion. Most students in these analyses were a number of years behind grade level in reading, writing, and mathematics skills. The report-card program was not designed to move students to grade level in these skill areas. To

do this, some form of remedial curriculum and instruction probably would be required. However, the report-card program has been used in conjunction with remedial help to facilitate such change for a few students.

Another important consideration concerns the program's effectiveness in sustaining improved student behavior when the student no longer carries a card. A fading procedure has been devised, whereby students carry a shortened version of the card daily, then twice a week, weekly, and finally not at all. A few students have gone through this fading procedure and are now maintaining adequate school performance and grades in the absence of the report card and contingent privileges. Most students had to repeat some of the initial fading steps a few times before they were faded completely from the card system. Others have remained on various fading steps of the card system indefinitely because of repeated failures on

Fig. 11. Daily percentage of classwork points earned by Ed and Cindy.

more advanced steps. This has occurred most often when a student was behind grade level in academic skills.

Another more practical question remains to be answered. It is not clear how many students a school employee can handle simultaneously with such a program. Each counsellor spent roughly 1 hr per week to work with each of their students' parents and teachers in order to keep the program running smoothly. This is considerably more time than usually is available from many school counsellors or teachers. Conceivably, the time requirements per student might decrease as school personnel become more proficient with the program. Also, with families who are very cooperative and programs that are running smoothly, it may be possible gradually to decrease the number of meetings held with a given family per month. From our experience, short phone calls can be substituted for some weekly meetings as a student progresses. In addition, meetings might be

held with more than one family at a time to reduce the time requirement per student. A number of these procedures have been helpful and have enabled a graduate student to work with as many as four students simultaneously, in addition to other academic responsibilities. Perhaps school personnel, who have easier access to both teachers and students, could employ similar tactics to work with even more students at the same time.

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