**DELAYED TIMEOUT AS A PROCEDURE FOR
REDUCING DISRUPTIVE CLASSROOM BEHAVIOR:
A CASE STUDY¹**

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The disruptive behavior of a 9-yr-old boy was eliminated by the illumination of a light on the subject's desk, which represented the loss of free time later in the day. Instructions alone failed to reduce the frequency of disruptive behavior. When the light was removed and disruptive behavior no longer resulted in a loss of free time, disruptive behavior returned to its previous level.

Public education has long lacked an effective set of principles designed to aid the teacher. Gained through experience, many teachers eventually make their own discoveries and devise their own principles. The techniques formulated by the good teacher are surprisingly similar to those recommended by the operant conditioner who specializes in behavior modification. As experimentation and application of the principles of operant conditioning and contingency management increase in educational design, the techniques that currently distinguish the good teacher from the mediocre will soon be common knowledge.

Unfortunately, many approaches to the alleviation of behavior problems are financially impractical or difficult to implement in the classroom. For example, a token economy might aid in classroom noise control, but might require more time to administer than the teacher feels she can spare without an aide.

The technique used in the present study has been demonstrated to be effective in modify-

ing human behavior (Wolf, Risley, and Mees, 1964; Bostow and Bailey, 1969). The technique (timeout from positive reinforcement) involves removing the subject for a pre-determined amount of time from a situation (*i.e.*, an activity and/or environment) in which he could obtain reinforcement. In this study, a new dimension was added; a light, when turned on, represented timeout from positive reinforcement later in the day.

METHOD

Subject

A 9-yr-old male elementary student had progressed to third-grade status along with his classmates but both the teacher and other students reported verbally that the subject had been a disciplinary problem since the first grade.

A number of attempts to control his disruptive behavior had been unsuccessful. The parents had been told about their child's conduct in class, and had at one time procured tranquilizing drugs from their physician for the child. The prescribed drugs did not seem to produce any favorable changes in the subject's behavior and were discontinued.

According to the teacher, staying after school, staying in the classroom at noon free time, not being allowed to go to the gym, calling the boy's parents, sending him to the principal, and a host of other approaches had apparently failed to decrease the frequency of disruptive behavior. The teacher reported that disruptive behavior actually seemed to increase during or immediately after such punishment. The teacher noted that the ad-

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ministration of these punishments was not systematic or consistent.

Near the end of the school year, when the present experiment was begun, the teacher still reported that she was unable to control the child's classroom behavior effectively.

Setting

The study was conducted in a third-grade public school classroom. The room itself measured 27 by 27 ft and was equipped with desks for 31 students and one teacher. Also present in the room before and throughout the course of the study was a college student who functioned as an observer.

Procedure

Definition of the response. During the study, two specific responses were considered: being out of the seat, and talking. Although other behaviors can also be considered disruptive in a classroom setting, the teacher reported these two behaviors were the most troublesome and the most conspicuous. Being out of the seat was defined as having no contact between the subject's seat and his chair. Talking was defined as any unauthorized verbalization audible to the observer. Throughout the study, if the subject first raised his hand and was granted permission by the teacher to leave his seat or talk, these responses were not recorded as disruptive.

Recording procedure. To obtain a quantifiable measure of the child's behavior, each session was divided into 10-sec intervals. The observer held a watch with a sweep second hand and recorded whether the subject talked without permission or was out of his seat at any time during the interval. Using this method of recording behavior, during 1 min it was possible for a response to be recorded six times. During the entire 15-min session, it was therefore possible for a maximum of 90 intervals containing the responses to be recorded.

Throughout the study, recording was done during the same class activity (Social Studies) regardless of when it occurred during the day.

Baseline procedure. The observer recorded the number of unauthorized talking and out-of-seat intervals. Intervals were not recorded as disruptive if the subject first received per-

mission from the teacher. This phase lasted 18 days.

Instructions procedure. At the start of the first experimental session, the teacher read the following instructions to the subject: "If you want to get out of your seat, or if you have something to say, please raise your hand and ask permission." Except for these initial instructions, all conditions were the same as baseline conditions.

Delayed timeout procedure. Before the first session of this phase (Session 27), a 7-w red light bulb was mounted on the subject's desk. During this and subsequent sessions, the light remained on the subject's desk only for the session duration and was removed the rest of the day. At the start of Session 27, the teacher read the following new instructions to the subject: "Every time you are out of your seat, and every time you talk, this light will go on. Each time this light goes on, you must lose 5 min of gym time or recess, which must be spent in the booth." Each time the subject got out of his seat or talked without permission within one of the 10-sec intervals, the observer pressed a button that briefly (from 1 to 3 sec) turned on the light. After each session, the number of intervals containing disruptive behavior were counted, and for each such interval he was required to spend 5 min in the timeout booth later in the day during time usually allotted for recess or gym. The timeout booth was outside the classroom in the hallway. It measured 4 by 3 by 5 ft high, and contained only a chair and a table. It was painted a light gray and had no top. The construction of the booth was such that it provided normal light and air yet prevented the subject from any contact with the surrounding environment. Although the subject was never reported to have cried or yelled upon being placed in the booth, there were a few occasions that a loud thud was heard, as though he may have hit or kicked the side of the timeout booth. The subject was not allowed to take any materials into the booth with him.

Contingencies removed. The reversal was procedurally equivalent to the baseline procedure. Before the first session of the phase (Session 50), the red light was taken from the subject's desk. No instructions were given. As in the baseline, data were taken of the subject's out-of-seat and talking behavior, and no consequences were levied.

RESULTS

Each point in Fig. 1 represents one session and indicates the number of intervals in which the subject was out of his seat (top) or talking without permission (bottom).

During baseline conditions (Sessions 1 to 18) the subject averaged 23.7 out-of-seat intervals per 15-min session. Total out-of-seat behavior ranged from 7 to 37 intervals per session. Talking during the baseline averaged 17.1 intervals per session and ranged from 9 to 34.

At the start of Session 19, the teacher instructed the subject to raise his hand before talking or leaving his seat. The results can be seen in the Instructions phase (Sessions 19 to 26). Although there was no significant differ-

ence from the previous phase, the average number of disruptive intervals (both out-of-seat and talking) increased over the baseline phase. The mean number of out-of-seat intervals rose to 29.6 per session and ranged from 10 to 52. Talking averaged 22 intervals per session and ranged from 13 to 31.

In the third phase, new instructions were read and a red light was installed on the subject's desk, which signalled the loss of free time later in the day. In the first session of this phase (Session 27) the subject talked without permission once and left his seat twice, resulting in a total of 15 min in the timeout booth. During the rest of the phase, the subject did not leave his seat without permission and talked without permission on five separate occasions. During the entire phase (Sessions 27

Fig. 1. Each point represents one session and indicates the number of intervals in which the subject was out of his seat (top) or talking without permission (bottom). A total of 90 such intervals were possible within a 15-min session. Asterisks over points indicate sessions that resulted in time being spent in the booth.

to 49), the subject left his seat a total of two times, and talked without permission a total of six times, and thus spent a total of only 40 min in the timeout booth.

The removal of the light from the desk and the return to baseline conditions in Session 50 resulted in an increase in disruptive intervals. During Session 50, the observer recorded six out-of-seat intervals and 21 talking intervals. Throughout the reversal phase (Sessions 50 to 67), out-of-seat intervals ranged from 4 to 64 and averaged 25.4 per session.

Reliability checks made at the conclusion of the study showed 99% agreement in recording out-of-seat-behaviors (56/57) and 100% agreement in recording talking behavior (13/13). This was accomplished by giving a second observer the response definitions and having him independently score those intervals in which a response occurred. The total number of intervals in which both observers agreed that a response had occurred were then divided—the larger into the smaller—and the result multiplied by 100.

DISCUSSION

In this study, a discriminative stimulus (a red light) represented a mild punishment (timeout from positive reinforcement) that followed at some later time. Although timeout periods usually immediately follow the response to be modified, it was not feasible to do so in this case. The classroom teacher explained that to remove the subject from the class for 5 min each time he spoke or left his seat would probably cause him to fail his classes. There were other experimental considerations as well. First of all, if the subject was removed during the session for 5 min of timeout during a 15-min session, the subject could make a maximum of three responses. In such a situation it might be possible that the behavior modification procedure involved nothing more than physical restraint. Secondly, it was possible that the subject might have found the timeout booth less aversive than the classroom situation. In view of these considerations, a discriminative stimulus for punishment was used.

From the data in Fig. 1, it is obvious that the red light followed by punishment was very effective in immediately eliminating the subject's disruptive classroom behavior. The

exact time between the onset of the light and when the 5 min were spent in the timeout booth varied. It was usually determined by the classroom teacher. The time of the day during which the session was conducted was also a determining factor. If the session was conducted in the morning (before 10 a.m.), he would spend his time in the booth at the 10 a.m. recess. If the session was conducted after recess and before the noon hour, the time was taken from lunch hour free time. There were two occasions when the timeout was not enforced for more than a 24-hr period after the onset of the light. On one occasion, the subject's mother picked him up from school for a doctor's appointment; on the other, the teacher said that she had forgotten to tell the subject to go into the booth. On a third occasion the teacher forgot to tell the subject, at which time he reminded her that his light had gone on once.

The contingent light had dramatic effects on the subject's behavior. Its effect on the recorded behavior was obvious; less obvious and unrecorded was its effect on what might be termed emotional behavior. For example, it was reported that when he talked without permission (usually by "accident"), before the observer could flash the light, he would jump, slap his hand to his mouth, and often his face would flush and he would become motionless for a short period of time.

Instructions alone with no systematic consequences for the behavior in Session 19 had no favorable effect on the child's behavior, however, the instructions given on Session 27 had a much more obvious effect. Upon hearing the teacher's instructions explaining the light and its function, disruptive behavior was dramatically reduced in spite of the fact that the subject had not as yet come in contact with the actual timeout contingency. The presence of the light in Session 27 may have functioned as physical evidence that the teacher's threat of punishment would indeed be enforced. In the past, threats had not been consistently followed with the necessary remedial action and might have held some possible reinforcement value through social interaction with the teacher; no such interaction was forthcoming from the light bulb.

Such data are further evidence in support of the need for the consistent use of consequences. In the present experiment, punishers

such as staying after school, staying in during recess, *etc.*, reportedly had been tried previously and seemed to have been ineffective in controlling the child's behavior. If public school systems are presently unequipped to discontinue the use of threats and aversive control techniques in the classroom, then consistent application of behavior principles should be used that can help to reduce classroom disciplinary problems while ultimately being less aversive for the child and less time consuming for the teacher.

Although the red light was not used in the classroom after the conclusion of this study, the teacher reported to the author that she was impressed with the results of the delayed timeout procedure and planned to use it in a modified fashion. Rather than a light, the teacher would write a child's name on the board and place a mark beside it. If the child

"misbehaved" a second time the teacher could place another mark after the name and so on for all of the children in the classroom. No follow-up study has been made to determine the effectiveness of the teacher's use of the procedure. It was reported however, that the teacher was still using the delayed timeout procedure during the next school year.

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