REDUCING AND MEASURING INAPPROPRIATE VERBALIZATIONS IN A TOKEN CLASSROOM¹

THOMAS McLAUGHLIN² AND JOHN MALABY

SPOKANE SCHOOL DISTRICT #81 AND EASTERN WASHINGTON STATE COLLEGE

A procedure was employed that enabled a teacher to bring inappropriate verbalizations under control in a classroom of approximately 25 fifth- and sixth-grade students. Contingent point loss for inappropriate verbalizations was correlated with a low but steady rate of such verbalizations. Point gain contingent upon quiet behavior produced a marked decrease in inappropriate verbalizations. A return to contingent point loss was accompanied by an increasing rate of inappropriate verbalizations. Verbalizations decreased when quiet behavior was reinforced again. A noteworthy feature of the study was the utilization of students from within the class to act as data recorders. A reliability check indicated satisfactory agreement between the recorders.

Behavior modification techniques have been found successful in changing a variety of inappropriate classroom behaviors (*e.g.*, Hall, Lund, and Jackson, 1968; Surratt, Ulrich, and Hawkins, 1969). Many studies have applied treatment procedures to individual class members (*e.g.*, Reynolds and Risley, 1968; Patterson and Brodsky, 1966). Other studies have applied a common set of modification techniques to the whole class (*e.g.*, Bushell, Wrobel, and Michaelis, 1968; Osborne, 1969). Also, the use of sophisticated equipment and trained university students to record classroom behavior has been widespread (*e.g.*, McAllister, Stachowiak, Baer, and Conderman, 1969; Schmidt and Ulrich, 1969). These studies have been impressive but they are difficult to implement in a regular classroom by a single teacher. Practical problems arise because disruptions may sometimes be created by outside observers being in the

room and recording equipment is expensive and often unavailable for use by the teacher.

A need exists to develop methods that a single teacher can employ to establish contingencies, to measure selected response categories, and to determine whether the contingencies applied to the total classroom affect those response categories. The present paper represents an attempt to deal with such problems.

METHOD

Subjects and Setting

The subjects were in a combined fifth- and sixth-grade classroom located in a low socioeconomic area of Spokane, Washington. The class size ranged from 25 to 27 for the duration of the study.

The subjects were already performing under a token economy before the present research began. Students earned points for desirable behaviors and lost points for undesirable behaviors. Students kept records of their own points on a point chart. Points could be exchanged on various days for privileges that had previously been chosen by the class (*e.g.*, coming into classroom early, school sports, taking out playground

¹The authors wish to thank Miss Maxine Davidson, Principal, Columbia Elementary School for her support of the present study. They also wish to thank Miss Janet Dempsey and Miss Nancy Hamilton, student observers.

²Reprints may be obtained from Thomas F. McLaughlin, Spokane School District #81, W825 Trent, Spokane, Washington 99201.

equipment, etc.) The mean time between point exchanges was four days.

Observers and Observation Procedures

The observers were two fifth-grade girls who were members of the class. They were chosen as students who, in the teacher's opinion, would be able to perform the task accurately without it interfering with their own work. Each observer memorized the categories of inappropriate verbalizations used by O'Leary and Becker (1967), and was trained to record them. The observers were instructed not to reveal the nature of their duties to anyone in the room. At no time did the data they collected affect another students. Their only relationship to the token economy was as record keepers.

Inappropriate verbalizations were recorded on a 3 by 6 in. (7.5 by 15 cm) sheets of paper located in the observer's desk. Each observer placed his name and the date at the top of each sheet. Hatch marks were used to record responses. Each observer sat at his own desk, which was situated so that he could not watch the other observer record responses. Observation periods were held daily. Morning observations ran from 8:55 to 9:15 and 11:00 to 11:45. Afternoon observations were made from 12:55 to 1:40. These were the only times that the fifth- and sixth-graders were in the room as a total group and the presence of the total group served to cue the observers when to record. Observation periods varied somewhat due to unavoidable circumstances such as special art classes and assemblies. Nonetheless, on most days observations were made for the full 1 hr and 55 min. No days with total observation lasting less than 1 hr and 30 min were included in the analysis. The per cent of observer agreement was calculated daily.

Inappropriate Verbalization: The Dependent Variable

The data for the study were the relative frequencies of inappropriate verbalizations in relation to various teacher-applied contingencies in a token setting. Inappropriate verbalizations

were defined identically to the response classes used by O'Leary and Becker (1967), *i.e.*, carrying on conversations with other children when it is not permitted; answering teacher without raising hand or being called on; making comments or calling out remarks when no questions have been asked; calling teacher's name to get her attention; crying, screaming, singing, whistling; laughing, coughing or blowing loudly. The responses may be directed to teacher or children.

No attempt was made to have the observers note special sub-classes within this definition. The observers were simply asked to make a tally when any type of inappropriate verbalizations occurred.

Teacher Applied Contingencies: The Independent Variable

Point Loss I. In this phase, the teacher removed points from subjects who engaged in inappropriate verbalization. Whenever the teacher observed an inappropriate verbalization he informed the subject to remove 15 points from his point-chart total. A row checker in the subject's row also made a notation of the fine on a special form to ensure accurate removal of points. This fine of 15 points amounted to approximately 8% of the total points an average student could earn before points were exchanged for privileges. This procedure of point removal was used by the teacher because of past success with the same technique with another class the year before. This condition was in effect 90 days before the collection of data reported herein was begun.

Quiet Behavior Points I. In this condition, the teacher informed the class that quiet behavior points were going to be given after each academic or study period. Changes were made in the charts to allow for this new contingency. An individual who behaved appropriately earned one point per 5-min period, although points were awarded on an "all or none" basis for the study period. If an academic or study period lasted 30 min, a student could earn either six points or no points. At the end of an academic

or study period, the teacher circulated about the room and noted points on the point charts of students who had behaved appropriately and passed by students who had verbalized inappropriately. Students did not lose any points for inappropriate verbalizations, they simply did not earn any. This procedure was in effect for each study or academic period of the day, although data were recorded for only 1 hr and 55 min.

The teacher relied upon memory and did not use a record form to note inappropriate verbalizations. This procedure was not taxing for the teacher with the low rates of inappropriate verbalizations that occurred.

Point Loss II. The teacher again interacted with students who engaged in inappropriate verbalizations as he had during the first Point Loss phase.

Quiet Behavior Points II. This was a replication of Quiet Behavior Points I.

RESULTS

Figure 1 shows the extent to which inappropriate verbalizations were influenced by the four

experimental conditions. During Point Loss I, the number of verbalizations ranged from 38 to 56, with a mean of 46.14 per day. Figure 1 shows that when quiet behavior points were given and inappropriate verbalizations ignored, a decline in inappropriate verbalization occurred. By Day 27, inappropriate verbalizations had decreased to eight per day. The daily range of responses was from 8 to 82 with a mean of 22.24 during Quiet Behavior Points I. A return to the point-loss contingency (Point Loss II) resulted in an increase of inappropriate responses after Day 34, the sixth day of the replication. By Day 38, inappropriate verbalizations had risen sharply to 32. When quiet behavior points were reinstated at Day 39 (Quiet Behavior Points II) a sharp decrease in undesirable responses occurred. This low rate was maintained for the final five days of regular classes. The range of inappropriate verbalizations was from 8 to 10 with a mean of 9.00 per day.

Figure 2 plots the percent of observer agreement. Observer agreement ranged from 70 to 100%. The mean agreement for all observations was 89%.

Fig. 1. Mean number of verbalizations per day for each experimental classroom condition. Dotted horizontal lines indicate mean for each condition.

DISCUSSION

Reducing the frequency of behavior that is incompatible with a good learning environment was influenced by the teacher-applied contingencies. Inappropriate verbalizations decreased by making points and teacher attention contingent on remaining quiet.

Although one may speculate concerning explanations that might account for the effectiveness of quiet behavior points, no procedures were employed that would confirm any one explanation. However, if adult attention does function as a reinforcer for some children (Lovaas, Freitag, Kinder, Rubenstein, Schaffer, and Simmons, *unpublished*), then the removal of points at the teacher's request may have served to reinforce and maintain the occurrence of inappropriate verbalizations in the classroom rather than eliminate them, because when the teacher ignored verbalizations and reinforced quiet behavior, the rate of inappropriate verbalizations decreased. Further, when point removal was again made contingent upon inappropriate verbalizations, the rate of such verbalizations increased. Not only did reapplying previous contingencies result in an increased rate of such responding, but the repetition of the second condition again reduced inappropriate verbalizations.

To support fully such a conclusion, however, would demand a condition in which no consequences followed inappropriate verbalizations. The present study is weak in that respect. Even

so, one must conclude that some feature of the quiet behavior points procedure produced the greater suppression of the dependent variable.

The use of elementary students as observers provides a reliable technique available to most teachers. The use of observers already in the classroom has many practical advantages (a) there are no disruptions caused by outside personnel coming into the room, (b) elementary students can observe selected response categories with high agreement over an extended period of time, (c) the techniques used are free of cost (observer payments were in the natural school environment), and (d) the teacher is made more aware of selected behaviors and their relative frequencies in the classroom. A survey taken the last day of school revealed that only the observers were aware of data being taken in the room. Although it was not attempted in this study, one could train students to record teacher behavior as well.

The present study illustrates a cost-free procedure for managing and recording classroom behavior by a single teacher. The management of the token system of which control of inappropriate verbalizations was a part required only 15 min of time a week.

REFERENCES

- Bushell, D., Wrobel, P. A., and Michaelis, M. L. Applying "group" contingencies to the classroom study behavior of preschool children. *Journal of Applied Behavior Analysis*, 1968, 1, 55-61.
- Hall, R. V., Lund, D., and Jackson, D. Effects of teacher attention on study behavior. *Journal of Applied Behavior Analysis*, 1968, 1, 1-12.
- Lovaas, O. I., Freitag, G., Kinder, M. I., Rubenstein, D. B., Schaeffer, B., and Simmons, J. B. *Experimental studies in childhood schizophrenia: Establishment of social reinforcers*. Unpublished paper delivered at Western Psychological Association, Portland, April, 1964.
- McAllister, L. W., Stachowiak, J. G., Baer, D. M., and Conderman, L. The application of operant conditioning techniques in a secondary classroom. *Journal of Applied Behavior Analysis*, 1969, 2, 255-263.
- O'Leary, K. D. and Becker, W. C. Behavior modification of an adjustment class: A token rein-

Fig. 2. Percentage of inter-observer agreement for inappropriate verbalizations observed each day. The dotted line represents the mean per cent of agreement.

- forcement program. *Exceptional Children*, 1967, 33, 637-642.
- Osborne, J. G. Free-time as a reinforcer in the management of classroom behavior. *Journal of Applied Behavior Analysis*, 1969, 2, 113-118.
- Patterson, G. H. and Brodsky, G. D. A behavior modification programme for a boy with multiple problems. *Journal of Child Psychology and Psychiatry*, 1966, 7, 277-295.
- Reynolds, N. J. and Risley, T. R. The role of social and material reinforcers in increasing talking of a disadvantaged preschool child. *Journal of Applied Behavior Analysis*, 1968, 1, 253-262.
- Schmidt, G. W. and Ulrich, R. E. Effects of group contingent events upon classroom noise. *Journal of Applied Behavior Analysis*, 1969, 2, 171-179.
- Surratt, P. R., Ulrich, R. E., and Hawkins, R. P. An elementary student as a behavioral engineer. *Journal of Applied Behavior Analysis*, 1969, 2, 85-92.
- Thomas, D. R., Becker, W. C., and Armstrong, M. Production and elimination of disruptive classroom behavior by systematically varying teacher's behavior. *Journal of Applied Behavior Analysis*, 1968, 1, 35-45.

Received 17 July 1970.

(Revised 4 February 1972.)