Improving Primary School Classroom Climate with a Version of the Good Behavior Game

Rosario Ruiz-Olivares*, M. José Pino and Antonio F. Raya

Department of Psychology, Faculty of Education Sciences, University of Cordoba, Avd. San Alberto Magno, S/N, 14071, Córdoba, Spain

Abstract: The aims of this study were to improve classroom climate reducing the incidence of disruptive behavior in a primary school classroom by replicating a procedure that combined the Good Behavior Game (GBG) and the Say not-not Do-Request not (Sn-nD-Rn) Correspondence training to verify whether or not the results may be generalized to another similar context and to observe if the results were maintained over the subsequent months. The intervention took place with 25 children in a third-grade classroom of a public primary school in Andalusia (Spain). A multiple baseline design was used across two conditions: A condition 1 and condition 2. Results are found to be satisfactory because the frequency of disruptive behavior decreased and the good behavior was generalized to another similar context. This study serves to expand upon current research on the GBG, replicating the procedure with the Say not-not Do-Request not (Sn-nD-Rn) Correspondence training and offering data on generalization.

Keywords: Good Behavior Game, Disruptive behavior, Group contingencies, School.

1. INTRODUCTION

Disruptive classroom behavior is a widespread phenomenon, occurring regardless of student age and the tasks being performed [1]. The most frequently identified disruptive classroom behaviors include interrupting the teacher or other classmates, talking to other students, moving around without permission, yelling, fighting, etc. Potential consequences of such disruptive behavior include the failure to complete academic tasks, disorganized work, and poor performance on standardized tests [1-3]. Furthermore, these disruptive behaviors may become a major cause of stress for teachers and an on-going distraction to their teaching work, leading to anxiety, frustration, and possibly quitting their profession [1,4-7].

Disruptive behavior is considered to be those actions that are not socially adaptive because they reduce the possibility of integrating the student in a specific context such as the adaptive behaviors are socially reinforcement [8]. The effectiveness of procedures that reduce the frequency of these types of behaviors in the classroom has been documented in scientific literature, with group contingencies tending to be more effective [2]. The Good Behavior Game (GBG), [2] is one of the most noteworthy of these techniques. It attempts to decrease the frequency of disruptive behaviors that may jeopardize the teaching-learning process in different educational contexts through the creation of small groups. Generally speaking, it consists of dividing a classroom of students into various teams, with rules based on the very disruptive behaviors that are the focus of change. Empirical literature reveals that variations have been introduced in the original process in attempts to improve its effectiveness and to adapt it to distinct contexts. Some studies have varied the type and/or number of contingencies for a group winning a game a group wins a game [9-12]; or variations in the rules of the game, comparing rule violation to rule following [13,14]; other studies have included the coaching of teachers to improve GBG implementation [15]; and finally, certain studies have combined different procedures, [2,3,16] Coronado [16], which combined the GBG with the Good Behavior Time technique or [3], who combined the GBG with the Say-Do-Report Correspondence (S-D-R). This procedure focuses on whether the participants have understood the correspondence between what is said and done, in other words it includes differential consequences for the participants depending on the correspondence between what they said they were going to do and what they actually did. For this procedure is used to prevent a certain form of behaviour from taking place, the children are taught to verbalize that they will not do something and the procedure involves training in the correspondence between saying they are not going to do something, not doing it, and then reporting that they did not do it (Sn-nD-Rn) [8]. The latter is of special importance because its results were maintained over a one-year period. The study was conducted with first graders in a public primary school in Andalusia (Spain). A multiple baseline design was used across conditions, introducing the GBG + the Say not- not Do- Request not (Sn-nD-Rn) Correspondence training and obtaining very positive results.
In order for a psychological treatment to be considered effective and efficient, it must be replicated at least twice [17]. Therefore, the objectives of this study were 1) to reduce the frequency of disruptive behaviors such as standing up without the teacher’s permission, interrupting the teacher when he/she is speaking, and talking to other classmates (creating a constant murmur) [3]; 2) to determine whether or not the results may be generalized to another similar context where there is no intervention, such as the English classes that are led by a different teacher; 3) to observe if the results were maintained for at least two months following the intervention in distinct conditions.

2. METHODS

2.1. Participants and Settings

Study participants consisted of 18 boys and 7 seven girls between the ages of 8 and 9. They were third graders in a public primary school in an Andalusian (Spain) city having approximately 22,000 inhabitants. The teaching staff included 41 teachers between the ages of 25 and 60. The developmental level of the participating students was normal, with the exception of one female student who had Down syndrome and a mild intellectual disability, according to the center’s psycho-educational records. The socio-economic level of the students was medium-high. The teacher condition 1 was 29 years of age and had eight years of teaching experience. She was responsible for teaching the majority of classroom hours of the classroom group. The teacher condition 2 who has 48 years old and 15 years of teaching experience also participated in the intervention.

2.2. Target Responses, Data Collection, and Inter-rater Agreement

The following behaviors were targeted: (C1) Standing up without permission; (C2) Interrupting: when the teacher is speaking, bothering other students by making loud noises or talking when other students are working independently, interrupting when the teacher is speaking to another classmate, when another classmate is correcting an exercise, and when another teacher enters the classroom for any reason, failing to respect the order of speaking when asking the teacher a question or requesting something; (C3) Talking to other students (constant murmur) or turning around and talking to classmates: during independent work, talking to other students and thereby contributing to the “loud murmur” in the classroom that is noticed by all.

The context for the two conditions was the same: The classroom, however, different teachers interacted with the children. The materials used included: record sheets; card stock and markers for making different panels; and, for reinforcement materials: candy, gum, etc. as well as school materials such as erasers, colored pencils, colored pens, clips, drawings made with foam, etc. Several observers recorded student behavior during the different stages of the intervention process: Teacher 1, English Teacher, and two external observers, who collected data without interacting with the participants. All observers reached a level of 90% inter-rater agreement prior to the start of the study. The external observers were situated at the rear of the classroom, behind the children, making sure that they were not noticed. Initially, disruptive behavior was recorded over ten-minute intervals. The inter-rater reliability (IRR) was assessed for 30% of the sessions across all conditions, except the intervention phase that was assessed for 22% of the sessions. An average IRR was calculated at the sessions, sampled from each of the procedure’s phases. The mean IRR baseline-teacher was 94% (ranging from 94% to 96%); intervention-teacher was 88% (ranging from 75%-100%) and follow-up-teacher was 96% (ranging from 92%-100%).

2.3. Design and Conditions

The effects of the intervention (GBG + Sn-nD-Rn Correspondence) were assessed using a multiple baseline design across two conditions: condition 1 (experimental) “Teacher” and condition 2 “English Teacher” (control). The independent variable was the combination of the Good Behavior Game and the Sn-nD-Rn Correspondence training, and the dependent variable was the rate of disruptive behaviors (C1, C2 and C3) per hour.

Preparation Phase: the class group was observed and together with the teacher, they decided upon the disruptive behaviors to be treated. Observation forms (previously explained) were created and groups of 5 students were formed, distributing the most disruptive students in each of these groups.

Baseline (BL): During the BL, the target behaviors were observed during an hour at day in both conditions. Students were not told anything about the observation records and the observers did not offer them any kind of interaction. This continued during 12 days.

Good Behavior Game (GBG): Prior to the intervention, it was assessed whether or not the students
understood the correspondence between what the adult said and what he/she did. This evaluation was carried out by the researcher outside of the classroom and on an individual basis. We considered that the children understood the say-do correspondence (DH) if they performed correctly on three consecutive trials in which an adult displayed correspondence and the child was able to identify it. For the absence of DH correspondence, the criterion was performing correctly on at least five consecutive trials in which the child identified a lack of correspondence between what the adult said and did [8]. All of the students reached the established criteria.

Bearing in mind the results of the other empirical literature [3] we decided to increase the number of game sessions carried out in a school day. So, instead of carrying out one ten-minute game session a day, four or five game sessions would be conducted a day depending on the classroom dynamics and the activities planned. In line with this process, on the first day of intervention, teacher 1 (condition 1) explained to his students that they were going to play a game several times over the course of the morning, while they did their regular school work, and that for this game they would have to divide into teams. They were encouraged to give themselves a team name, which was written on a piece of cardboard and placed in an area visible to everyone. They were then told the rules of the game (disruptive behaviors), which were also printed on a piece of cardboard displayed in plain view of all the pupils. Upon the advice of previous work [3], the criterion to win the game was to accumulate no more than four crosses; in other words, each team was allowed to perform a maximum of four of the disruptive behaviors described to them previously. Every time a team won a game, a small material reinforcement was given to each member of the winning team (marbles, balloons, paperclips, etc.) and on a panel a token was displayed by way of a collective reinforcement together with other social reinforcements. If, at the end of the school day, they had only lost one game or none, each member of the team would get a medium-sized material reinforcement (stick of glue, felt-tip pen, etc.) and on another panel, a ‘smiling face’ token would be displayed, which meant that they were the winners of the day. At the end of the week, on Friday, the numbers of strawberries were counted and if there was just one day or no days on which they had not been a winner, on another panel, a large ‘sun’ token would be displayed with the name of each team. This meant that they were the winners of the week and each of the team members received a large material reinforcement (Watching a movie, more free time, etc.). All the teams could win the game sessions, and could also be the winners of the day and the week. A major objective in terms of maintenance was to gradually eliminate material reinforcements so that only the symbolic reinforcements remained (tokens) together with social reinforcements, such as praise and congratulations, etc. The procedure followed in each of the game sessions corresponded to the typical Sn-nD-Rn Correspondence training sequence. In other words, first, each team was asked what they were going to do, and social reinforcements were provided if children said they would not behave disruptively. They were then given the opportunity to do and then provided with differential consequences for the Sn-nD-Rn Correspondence, while the teachers asked them questions to facilitate their understanding of the relationship between verbal and non-verbal conduct [3]. They began with the saying part of the Sn-nD-Rn correspondence training. Then the ‘doing’ period began, in which the teacher taught his class as normal, noting down on the board the crosses earned by each team, as feedback. The teacher could ask the observers for help to carry out this task, since during this period two observers were recording disruptive behaviors. At the end of each game, the teacher carried out the third part of the training process, in other words the differential reinforcement of the Sn-nD-Rn Correspondence. This continued over 16 days. During this phase, three or four sessions of the game were carried out every day, depending on the classroom dynamics and the activities programmed by the teacher-tutor. While the intervention phase was being conducted, the “English-teacher” (condition 2) followed the baseline [3].

Withdrawal: The lasted 4 days the intervention was done withdrawal of the intervention [3]. Condition 2 followed the baseline.

Follow-Up Phase: this phase was carried out over the 2 months prior to the summer vacations (June) and the months of September and October. During this phase, the disruptive behaviors of the students were recorded during the class activity time, without carrying out any prior intervention sessions for the day, both for condition 1 (Teacher) and condition 2 (English Teacher).

3. RESULTS AND DISCUSSION

Figure 1 presents the average number of disruptive behaviors recorded in condition 1 and 2 over every hour, both for the baseline (BL), the intervention and
the follow up phases. After initiating the intervention phase with the teacher condition 1, there was decrease in the rate of disruptive behavior. This change was also observed in condition 2, where only the baseline condition was collected.

Table 1: ANOVA Within Phases

<table>
<thead>
<tr>
<th>Phases</th>
<th>F (3.46)</th>
<th>P</th>
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<tbody>
<tr>
<td>Base Line condition 1</td>
<td></td>
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<tr>
<td>Base Line condition 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GBG condition 1</td>
<td>58.632</td>
<td>0.000*</td>
</tr>
<tr>
<td>Base Line condition 2 during GBG</td>
<td></td>
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*P<0.05.

These visual data are compared with the results obtained from the analysis of variance (ANOVA). There are statistically significant differences [F(3.46)=58.632;p<0.05:]. Post-Hoc (Dunnet) analysis indicates that there are not statistically significant difference between the baseline of the condition 1 and the baseline of the condition n 2, and there are significant differences between the baseline of the condition 1 and the GBG phases and the baseline of the condition 2 during the GBG.

Considering the aims of this study, it may be affirmed that, based on the use of the GBG + Sn-nD-Rn, there has been a significant reduction in the incidence of disruptive behavior in a group of third grade

Figure 1: Mean per hour of Disruptive behaviors in the contexts teacher and English teacher.
primary school students. Thus, the empirical literature on the effectiveness of this procedure has been expanded, because once again this procedure has been found to be effective with a different student group (a larger city; students of distinct socio-cultural levels, students of distinct ages) [3,6,10-16,18].

As for the second objective, which refers to the generalizability of the intervention to distinct conditions (condition 1: teacher-tutor and condition 2: English teacher), this objective has also been reached, because, although no intervention took place in condition 2, the incidence of disruptive behavior also decreased.

As for the third objective, the targeted behavior was found to be maintained over time, even without intervention, as other studies have demonstrated over even longer periods of time [3,11,19]. Progressive change may occur from the intervention conditions to the natural conditions of the c. promoting generation [20]. Thus, these results may be generalized to other situations that have similar characteristics promoting generalization over time. Similarly, the self-instructions used in the Say not-not Do- Request not (Sn-nD-Rn) Correspondence procedure are of considerable significance, because children verbalize that they are not going to carry out each of the behaviors and then later reinforced for not carrying them out; to facilitate the creation of the relationship between that which is said and that which is done and the contingencies for the S-D-R (Say-Do-Report) correspondence, when asking if there was correspondence between what they said and what they did. As in other studies (3) it has been confirmed that this process facilitated the maintenance and generalization of the obtained results. One of the advantages of verifying whether or not the intervention may be generalized to other contexts is the return that these types of techniques may offer to the classroom. In other words, thanks to the effort made in applying this technique to a specific context with a specific teacher, these behaviors may be facilitated in other similar contexts, with different teachers.

3.1. Limitations

Some of the limitations of this research as include the observation made by the very teacher herself. She reported that participating in the intervention was a challenge, because the teacher was the one to implement the game, make observations while also carrying out her regular work. However, both teachers ultimately concluded that the results were worth the effort. Informal comments made by other teachers interacting with this class group are also of special interest as these teachers reporting being surprised by the changes occurring in this group. Also, the students themselves expressed their satisfaction with the positive working climate that was established in the classroom. Based on all of this, we should highlight the importance of the intervention described for, because it not only decreases the incidence of disruptive behavior but may also provide conditions for improved coexistence in the classroom and in the school itself. Another interesting aspect to highlight was the teacher’s perception regarding the academic improvement occurring in the students. It would have been very interesting to have included this aspect in the study objectives, in order to confirm that a good classroom climate may lead to improved student academic performance.

3.2. Future Research

Future research may wish to compare the traditional GBG with this procedure (GBG + Sn-nD-Rn Correspondence) in order to determine, which of these offers the greatest advantages. It may also be interesting to conduct interventions using positive rules, since it is unclear if we are punishing disruptive behavior or reinforcing appropriate behavior (18). Finally, we may propose manners for educators to improve the behavior of their students without the need for intervention from other external agents such as guidance counselors or school directors. Being that this is a simple, easy-to-use intervention technique that may be applied over a short period of time and have very rapid effects, it may provide teachers with an excellent tool to improve student behavior.

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