



Building Discipline in Elementary School Students Through Consistent Reinforcement of Behavior

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Abstract

Student discipline in the early grades remains essential for creating orderly and productive classroom learning. This study examined changes in the discipline of second-grade elementary students after the implementation of behaviorist-based classroom practices. A quantitative pre-experimental design with a one group pretest posttest model was used. The participants were 19 students from Class II-A at a private elementary school in South Sumatra, Indonesia. Data were collected using a 16-item Student Discipline Observation Checklist covering compliance with classroom rules, learning readiness, task responsibility, and self-control. The intervention involved positive reinforcement, repeated routines, explicit rules, immediate feedback, and consistent consequences. Data were analyzed using descriptive statistics, the Shapiro Wilk test, a paired-samples t-test, and Cohen's d^2 . The findings indicated a significant improvement in students' discipline after the intervention, $t(18) = 5.55$, $p < .001$, with a large effect size ($d^2 = 1.27$). The greatest improvement occurred in task responsibility, while self-control showed a more limited change. These results suggest that behaviorist-based practices can support classroom discipline, although the absence of a control group limits causal interpretation.

Keywords: Behaviorism, Classroom Discipline, Elementary Students, Positive Reinforcement, Student Behavior



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INTRODUCTION

Behaviorism remains a crucial framework in global education because it provides measurable and quantifiable procedures for shaping student behavior. This theory explains that behaviors followed by consequences tend to be repeated, thus forming the basis for learning practices such as praise, rewards, immediate feedback, habituation, and consistent application of consequences (Skinner, 1953). Numerous studies have shown that reinforcement systems can reduce disruptive behavior and noncompliance while increasing student engagement, task completion, and learning behavior in the classroom (O'Leary et al., 1969; McLaughlin & Malaby, 1972; Chevalier, 2012).

Behaviorist principles have also continued to evolve through the application of group reinforcement and digital token systems adapted to contemporary learning environments (King et al., 2021). These developments demonstrate that behaviorism is not simply a classical theory but remains relevant as a practical approach to building consistent, consistent, and disciplined learning behavior.

At the elementary school level, particularly in the early grades, discipline is reflected in students' ability to follow rules, pay attention to lessons, complete assignments, maintain good behavior, and control disruptive behavior. The application of structured reinforcement to early grade students has been shown to improve on-task behavior and reduce aggressive and disruptive behavior in the classroom (Leflot et al., 2013; Wilcox et al., 2022).

Research in early elementary grades also shows that teacher-managed good behavior games can reduce disruptive behavior through clear rules, monitoring, and consistent consequences (Peltier et al., 2023). A simple reward system based on praise also resulted in a significant decrease in disorderly behavior after students demonstrated expected behaviors and were reinforced for successful implementation (Wheatley et al., 2009). These findings demonstrate that behaviorist principles are relevant for fostering discipline in second-grade students through behavioral habits, positive reinforcement, clear rules, and consistent consequences.

Although various forms of reinforcement have been shown to help reduce disruptive behavior in the classroom, most previous research has primarily assessed specific behaviors such as noncompliance, aggression, or learning engagement, rather than discipline as a habit encompassing adherence to rules, specifically completing assignments, regularity, and student responsibility (Leflot et al., 2013; Wheatley et al., 2009). The implementation of behaviorist strategies also often focuses on specific group programs or systems, thus failing to fully explain changes in second-grade student discipline after reinforcement is structured in daily learning (King et al., 2021; Peltier et al., 2023). Yet, early-grade students still require clear rules, repetition, direct feedback, and consistent consequences to develop discipline habits. This gap highlights the need for research that systematically measures student discipline before and after the implementation of behaviorist principles.

This study used a quantitative approach with a "pre-experimental one-group pretest-posttest" design. Student discipline was measured before and after the implementation of behaviorism principles through positive reinforcement, habituation, clear rules, and consistent consequences. This design allows researchers to compare changes in discipline scores within the same group after the treatment given (Shadish et al., 2002). However, because it did not

involve a control group, the results of the study are controversial as changes in discipline after the implementation of behaviorism, not as absolute causal evidence.

Based on the above description, this study aims to analyze changes in discipline in second-grade elementary school students after the application of behaviorist principles in learning. Specifically, this study compares students' discipline levels before and after the provision of positive reinforcement, habituation, consistent rules, and targeted consequences. The results are expected to provide empirical evidence regarding the potential of a behaviorist approach in supporting the formation of discipline habits in early elementary school students.

RESEARCH METHOD

Research Design

This study adopted a quantitative pre-experimental design using a one-group pretest-posttest model. The participants' discipline was assessed before the intervention to establish their initial behavioral condition. Behaviorist-based classroom practices were subsequently implemented through positive reinforcement, habituation, explicit rules, immediate feedback, and consistent consequences. After the intervention, the same group completed a posttest to identify changes in discipline scores. The design is expressed as " O_1 -X- O_2 ", where O_1 represents the initial measurement, X denotes the behaviorist-based intervention, and O_2 represents the final measurement (Campbell & Stanley, 1963). The comparison between the two measurements enabled the identification of behavioral changes following the intervention. Because no control group or random assignment was used, the results indicate intervention-associated changes rather than conclusive causal effects (Shadish et al., 2002)..

Research Target/Subject

The participants were 19 students from Class II-A at a private elementary school in South Sumatra, Indonesia. The class was selected as an intact group because the students had already been organized into an existing classroom and individual random assignment was not feasible. All students in the selected class were included through total population sampling because the accessible population was small and could be fully involved in the study (Martínez-Mesa et al., 2014). The participants consisted of 12 male students (63.16%) and 7 female students (36.84%). All students completed the pretest, participated in the behaviorist-based intervention, and completed the posttest.

Table 1. Participant Profile by Gender

Gender	Frequency	Percentage
Male	12	63.16%
Female	7	36.84%
Total	19	100.00%

The use of one intact class was consistent with the pre-experimental design; however, the absence of random sampling limits the generalization of the findings beyond the participating class and school (Shadish et al., 2002).

Instruments, and Data Collection Techniques

Data were collected using a 16-item Student Discipline Observation Checklist. The instrument measured four dimensions: compliance with classroom rules, learning readiness and punctuality, task responsibility, and self-control during classroom activities. Each item was rated on a four-point scale: 1 = never, 2 = sometimes, 3 = often, and 4 = consistently. The total score ranged from 16 to 64, with higher scores indicating stronger disciplinary behavior. The use of observable indicators was consistent with behavioral classroom research emphasizing

rule-following, on-task behavior, and reinforcement of appropriate conduct (Bradshaw et al., 2012; Caldarella et al., 2020).

Table 2. Student Discipline Observation Checklist

Discipline Dimension	Observable Behavior	Item Numbers	Number of Items
Compliance with classroom rules	Following instructions and established classroom procedures	1-4	4
Learning readiness and punctuality	Arriving, preparing learning materials, and beginning activities on time	5-8	4
Task responsibility	Completing and submitting assigned tasks according to instructions	9-12	4
Self-control and classroom order	Remaining on task, waiting for turns, and avoiding disruptive behavior	13-16	4
Total			16

Data collection involved three stages. First, students' initial discipline was recorded through pretest observations. Second, behaviorist principles were implemented through explicit classroom rules, positive reinforcement, praise, repeated routines, immediate feedback, and consistent consequences. Third, posttest observations were conducted using the same checklist and comparable classroom conditions. An implementation checklist was also used to ensure that each component of the behaviorist intervention was delivered consistently.

Data Analysis Technique

The data were analyzed using descriptive and inferential statistics. Mean, standard deviation, minimum, and maximum scores were calculated to summarize students' discipline before and after the intervention. The normality of the pretest-posttest difference scores was examined using the Shapiro-Wilk test, with $p > .05$ indicating that the normality assumption was satisfied (Shapiro & Wilk, 1965). Normally distributed scores were compared using a paired-samples t -test, whereas non-normal scores were analyzed using the Wilcoxon signed-rank test. A difference was considered statistically significant when $p < .05$. Cohen's d^z was calculated to determine the magnitude of change, with values of .20, .50, and .80 interpreted as small, moderate, and large effects, respectively (Lakens, 2013).

Table 3. Data Analysis Procedures

Analysis Stage	Technique	Decision Criterion
Descriptive analysis	Mean, standard deviation, minimum, and maximum	Describes pretest and posttest discipline scores
Normality test	Shapiro-Wilk test	$p > .05$: normal; $p \leq .05$: non-normal
Difference test	Paired-samples t -test	Applied when difference scores are normally distributed
Alternative test	Wilcoxon signed-rank test	Applied when difference scores are non-normal
Statistical decision	Significance value	$p < .05$: significant difference
Effect size	Cohen's d^z	.20: small; .50: moderate; .80: large

RESULTS AND DISCUSSION

The descriptive results showed that students' discipline scores increased after the implementation of behaviorist-based classroom practices. The mean score rose from 36.74 ($SD = 2.51$) in the pretest to 41.37 ($SD = 4.67$) in the posttest. The mean increase was 4.63 points, equivalent to approximately 12.61% of the initial mean score.

Table 4. Descriptive Statistics of Student Discipline Scores

Measurement	N	Minimum	Maximum	Mean	Standard Deviation
Pretest	19	32	41	36.74	2.51
Posttest	19	34	51	41.37	4.67
Score difference	19	-2	11	4.63	3.64

At the individual level, 16 students (84.21%) obtained higher discipline scores, one student (5.26%) showed no change, and two students (10.53%) obtained lower scores after the intervention.

Table 5. Distribution of Individual Score Changes

Change Category	Frequency	Percentage
Increased	16	84.21%
Unchanged	1	5.26%
Decreased	2	10.53%
Total	19	100.00%

The largest increase occurred in task responsibility, with the mean score rising by 2.37 points. Compliance with classroom rules increased by 1.42 points, while learning readiness and punctuality increased by 0.79 points. Self-control and classroom order showed only a slight increase of 0.05 points.

Table 6. Changes in Each Discipline Dimension

Discipline Dimension	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD	Mean Change
Compliance with classroom rules	9.53	0.70	10.95	1.87	1.42
Learning readiness and punctuality	9.32	0.67	10.11	1.15	0.79
Task responsibility	8.84	0.69	11.21	2.07	2.37
Self-control and classroom order	9.05	0.71	9.11	0.81	0.05
Overall score	36.74	2.51	41.37	4.67	4.63

The Shapiro-Wilk test was conducted on the differences between the posttest and pretest scores. The analysis produced a value of $W = .983$ and $p = .974$. Because the significance value exceeded .05, the score differences met the normality assumption and were analyzed using a paired-samples t -test (Shapiro & Wilk, 1965).

Table 7. Shapiro-Wilk Normality Test

Variable	W	df	p-value	Decision
Posttest-pretest difference	.983	19	.974	Normally distributed

The paired-samples t -test demonstrated a statistically significant difference between the pretest and posttest discipline scores, $t(18) = 5.55$, $p < .001$. The estimated mean increase was 4.63 points, with a 95% confidence interval ranging from 2.88 to 6.39. Therefore, the null hypothesis stating that there was no difference between the two measurements was rejected.

Table 8. Paired-Samples t -Test Results

Comparison	Mean Difference	Difference SD	95% Confidence Interval	t	df	p-value
Posttest-pretest	4.63	3.64	2.88-6.39	5.55	18	< .001

The effect-size analysis produced Cohen's $d^2 = 1.27$, which exceeded the .80 threshold and was categorized as a large effect (Lakens, 2013). Overall, the results showed a significant increase in student discipline following the behaviorist-based intervention. The improvement was most pronounced in task responsibility, whereas self-control and classroom order showed comparatively limited change.

The findings suggest that behaviorist-based classroom practices can support discipline by making expected behavior explicit, observable, and consistently reinforced. This

interpretation is consistent with randomized classroom studies showing that clear rules, behavioral monitoring, group contingencies, and positive reinforcement improve on-task behavior and reduce classroom disruption among elementary students (Kamps et al., 2015; Leflot et al., 2013). Similar effects have been reported when early-grade students receive systematic reinforcement for following classroom rules rather than teacher attention being directed primarily toward violations (Wright & McCurdy, 2012; Peltier et al., 2023). These comparisons indicate that discipline in the early grades may initially develop as “environmentally scaffolded regulation”: predictable cues and consequences help children organize their behavior before disciplinary routines become internally maintained habits.

The stronger development of task-related responsibility than self-control indicates that not all dimensions of discipline respond equally to reinforcement. Behaviors such as preparing materials, following instructions, and completing assignments are directly connected to visible classroom cues and immediate consequences, whereas self-control requires inhibition, attention regulation, and cognitive flexibility. Classroom research shows that these executive capacities generally require sustained and specifically targeted practice rather than reinforcement alone (Honoré et al., 2020; Barnes et al., 2021). Behaviorist strategies should therefore be combined with reflection, gradual withdrawal of external rewards, and activities that train students to monitor and regulate their own conduct. Nevertheless, because the present study used one class without a comparison group, the observed changes should be interpreted as associated with the intervention rather than as definitive evidence of causality.

CONCLUSION

Behaviorist-based classroom practices were associated with improved discipline among second-grade students, particularly in task responsibility and compliance with classroom rules. Clear expectations, repeated routines, positive reinforcement, and consistent consequences helped students develop more orderly learning behavior. However, because the study involved only one class without a control group, the findings should be interpreted as preliminary and require confirmation through broader controlled studies.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the authors used ChatGPT, developed by OpenAI, to support language refinement, improve manuscript structure, and enhance the clarity of academic expression. The tool was not used to collect, generate, analyse, or interpret the empirical data. All AI assisted outputs were critically reviewed, verified, and revised by the authors to ensure their accuracy, relevance, and consistency with the actual research findings and cited sources.

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AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Formal analysis; Visualization; Writing original draft.

All authors reviewed and approved the final version of the manuscript and agreed to be accountable for the integrity and accuracy of the work.

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could be construed as influencing the work reported in this paper.

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