APPLICATION OF *DIFFERENTIAL REINFORCEMENT* TECHNIQUE TO REDUCE LATE ARRIVAL BEHAVIOR OF STUDENTS IN CLASS IX SMP 61 SURABAYA

[*1]Erliyana Freida Nur Azizah, [2]Sofiana, [3]Erik Farhan Syah, [4]Sri Liana Ali

[*1,2,3,4]Universitas Negeri Surabaya

Email: [*1] erliyana.21069@mhs.unesa.ac.id, [2]sofiana.21072@mhs.unesa.ac.id
[3]erik.21080@mhs.unesa.ac.id, [4]sri.21082@mhs.unesa.ac.id

Abstract

This study aims to examine the effectiveness of the *Differential Reinforcement of Low Rates (DRL)* technique in reducing tardiness behavior among ninth-grade students at SMP Negeri 61 Surabaya. Student tardiness is considered not only a matter of discipline violation but also a factor that disrupts classroom effectiveness; thus, a classroom management strategy grounded in Skinner's behaviorism is required. The research employed a quantitative approach with a *Single Subject Research* (SSR) A-B-A design. Five students with consistently high levels of tardiness were purposively selected as research subjects. Data were collected through attendance records across three phases: baseline one (A1), intervention (B), and baseline two (A2). The intervention involved providing positive reinforcement such as verbal praise, reward points, and special privileges whenever students arrived on time. Data were analyzed descriptively using frequency counts of tardiness per week and visualized through graphs to identify behavioral trends. The results revealed a significant decrease in tardiness frequency from the baseline to the intervention phase, with stability maintained during the second baseline. These findings confirm that DRL is a simple, effective, and contextually relevant strategy for fostering student punctuality and discipline. The novelty of this study lies in applying differential reinforcement in a public junior high school setting with limited resources, contributing fresh insights into the Indonesian context of classroom management.

Keywords: *Differential Reinforcement of Low Rates*, student tardiness, behaviorism, classroom management

Abstrak

Penelitian ini bertujuan untuk menguji efektivitas penerapan teknik Differential Reinforcement of Low Rates (DRL) dalam mereduksi perilaku keterlambatan siswa kelas IX SMP Negeri 61 Surabaya. Masalah keterlambatan dipandang sebagai bentuk pelanggaran disiplin yang berdampak pada efektivitas pembelajaran, sehingga diperlukan strategi manajemen kelas berbasis teori behaviorisme Skinner. Penelitian ini menggunakan pendekatan kuantitatif dengan desain eksperimen Single Subject Research tipe A-B-A. Subjek penelitian berjumlah lima siswa yang teridentifikasi memiliki frekuensi keterlambatan tinggi. Data dikumpulkan melalui pencatatan kehadiran siswa pada tiga fase, yakni baseline pertama (A1), intervensi (B), dan baseline kedua (A2).

Intervensi berupa pemberian reinforcement positif, seperti pujian verbal, poin penghargaan, dan kesempatan istimewa, setiap kali siswa hadir tepat waktu. Analisis data dilakukan secara deskriptif kuantitatif dengan menghitung frekuensi keterlambatan per minggu dan memvisualisasikannya dalam bentuk grafik. Hasil penelitian menunjukkan adanya penurunan signifikan frekuensi keterlambatan dari fase baseline menuju intervensi, serta kestabilan hasil pada baseline kedua. Temuan ini menegaskan bahwa DRL merupakan strategi sederhana, efektif, dan relevan untuk membentuk perilaku disiplin siswa. Penelitian ini juga memiliki kebaruan dalam konteks penerapan reinforcement diferensial pada siswa SMP di sekolah negeri dengan sumber daya terbatas.

Kata kunci*: Differential Reinforcement of Low Rates, keterlambatan siswa, behaviorisme, manajemen kelas*

INTRODUCTION

The phenomenon of student tardiness in participating in learning activities is a recurring problem in various schools, both at the primary, secondary, and tertiary levels. Tardiness is often considered a "trivial" disciplinary behavior, but actually has broad implications for the quality of education. Time discipline is an indicator of students' maturity in managing themselves and also reflects the effectiveness of school management. When students arrive late to class, they lose the opportunity to participate in the learning process from the beginning, which can reduce understanding of the material, reduce active involvement in discussions, and cause disturbances for teachers and peers who have already started learning activities (Abidin et al., 2023). In the context of Indonesian education, student tardiness is a form of violation of discipline that is relatively common. Data from the Ministry of Education, Culture, Research, and Technology shows that most junior and senior high school students' disciplinary violations are related to attendance, either skipping class or coming late to school (Rachmawati et al., 2023). This phenomenon not only hampers academic achievement but also has an impact on student character building. Time discipline is a crucial life skill because it prepares students to face the demands of the world of work and social life that emphasize the importance of responsibility, order, and commitment (Hermino & Arifin, 2020).

Globally, tardiness in school attendance is also a serious concern. A study conducted by Gottfried & Ansari (2022) in the United States showed that chronic tardiness is associated with decreased academic performance, especially in math and language subjects. Students who habitually arrive late more often fall behind in understanding instructions, lose the rhythm of learning, and tend to show low academic engagement. This confirms that tardiness is not only an administrative issue, but also a pedagogical issue that has direct implications for the quality of learning. In Surabaya, as one of the major cities in Indonesia, the issue of student tardiness is increasingly complex because it is influenced by various external factors such as traffic conditions, travel distance to school, and limited public transportation facilities. Research conducted by Pernantah et al., (2021) in a number of public junior high schools in Surabaya found that more than 30% of students had arrived late at least three times in one school month. The dominant factors causing tardiness include oversleeping, lack of parental supervision, and low learning motivation.

These findings suggest that tardiness is not only an individual student issue, but also related to family parenting and social environmental support.

From an educational psychology perspective, tardiness can be seen as a behavior that is formed through the process of social learning and operant conditioning. Students who arrive late but do not get negative consequences are "learning" that tardiness is acceptable. Conversely, when tardiness gets certain consequences, students are encouraged to change their behavior to conform to the prevailing norms. This is in line with Skinner, (1984) behaviorism theory emphasizes that behavior can be formed, maintained, or eliminated based on the consequences that follow. Therefore, tardiness should be viewed as a behavior that can be modified through appropriate behavioral learning strategies.

The phenomenon of tardiness is also closely related to school climate and classroom management. Schools that have a consistent system of rewards and sanctions are usually able to reduce tardiness significantly. On the contrary, schools with lax application of rules often become fertile ground for the growth of negative disciplinary behavior. Research by Shute & Kim, (2014) shows that the consistency of behavior management in schools is positively correlated with the level of student compliance with the rules. This reinforces the view that tardiness is not only a personal problem for students but also a reflection of the effectiveness of the school management system. The phenomenon of tardiness at SMP Negeri 61 Surabaya, as a case study in this research, reflects a common problem faced by junior high schools. Based on initial observations, tardiness of ninth-grade students occurs almost every week, with reasons ranging from oversleeping, transportation delays, to low learning motivation. This problem becomes even more crucial considering that ninth-grade students are in the final phase of junior secondary education, where they are required to have high academic readiness and discipline in facing the graduation exam. If tardiness is not addressed immediately, this behavior has the potential to carry over to the next level of education, even to the world of work.

Tardiness can also affect the overall classroom dynamics. The presence of tardy students often disrupts the concentration of peers, hinders the flow of teacher explanations, and reduces the effectiveness of learning time. This is in accordance with research findings by de Oliveira Borba et al. (2020), which states that tardy behavior in class is negatively correlated with the academic engagement of other students. In other words, one tardy student can affect the class learning climate, so the impact is collective. In addition, tardiness can also lead to social stigma among students. Students who frequently arrive late tend to be negatively labeled by teachers and peers, for example, as lazy, undisciplined, or irresponsible. This stigma can have an impact on students' self-confidence and worsen learning motivation. On the other hand, if tardiness is left without sanction or intervention, it can create a new social norm that is permissive of tardiness. As a result, tardiness behavior has the potential to spread and be imitated by other students. The factors that cause tardiness are multifactorial. From the internal side, tardiness can be influenced by personal time management, sleep quality, learning motivation, and students' daily habits. From the external side, tardiness is influenced by family factors, transportation, traffic conditions, and the culture of discipline that applies

at school (Hendriana et al., 2022). Therefore, the strategy to overcome tardiness cannot be single, but must combine personal, family, and institutional approaches. Theoretically, the phenomenon of student tardiness is relevant to be addressed through a behavior modification approach. One technique that is considered effective is *Differential Reinforcement*, which provides positive reinforcement for desired behavior (arriving on time) and does not reinforce unwanted behavior (arriving late). This technique has proven effective in various studies targeting maladaptive behaviors in schools. With consistent application, *Differential Reinforcement* is believed to be able to reduce the frequency of tardiness and improve student discipline.

Thus, the phenomenon of student tardiness at SMP Negeri 61 Surabaya is not simply an attendance problem, but reflects a major challenge in character building, classroom management effectiveness, and learning quality. Tardiness needs to be understood as a behavior that can be modified, not just punished. Therefore, it is important to conduct this research to explore the extent to which the application of the *Differential Reinforcement* technique can reduce tardiness behavior in class IX students, as well as provide practical contributions for school management in enforcing student discipline. Behaviorism theory is one of the main foundations in educational psychology, especially in understanding and changing student behavior. Behaviorism stems from the assumption that human behavior can be learned, shaped, and modified through stimulus-response relationships. B.F. Skinner, as a central figure in this school, introduced the concept of *operant conditioning*, which emphasizes that behavior is influenced by the consequences that follow. According to A. T. Skinner et al., (2023) Behavior followed by pleasant consequences*(reinforcement)* tends to be strengthened and repeated, while behavior followed by unpleasant consequences*(punishment)* tends to be weakened and reduced in frequency.

The basic principle of operant conditioning Is an Important foothold In the educational context. Teachers as classroom managers can use reinforcement to shape students' positive behavior. Reinforcement itself is divided into two, namely *positive reinforcement* and *negative reinforcement*. Positive reinforcement occurs when a behavior is followed by a pleasant stimulus, such as praise, appreciation, or a reward, so that the behavior is more likely to be repeated in the future. Negative reinforcement, on the other hand, is the removal of an unpleasant stimulus after a certain behavior has occurred, for example, the deduction of additional assignments when students arrive on time (Buehl & Vogler, 2022).

In the context of student tardiness, *Differential Reinforcement* can be applied through strategies to reinforce the behavior of being present on time. For example, teachers give praise or extra points every time students arrive before the bell, while not giving special attention to students who arrive late. Thus, students will learn that the behavior of arriving on time provides positive consequences, while lateness does not produce any benefits. Over time, tardiness behavior will decrease because it is not reinforced, while discipline will increase because it always gets reinforcement. Theoretically, the application of *Differential Reinforcement* is also related to the concept of classroom management. According to Emmer & Sabornie, (2015), effective classroom management includes

preventing problem behavior, reinforcing positive behavior, and providing consistent consequences. Differential reinforcement supports these three aspects by building a more structured classroom culture, where students understand that every behavior has clear consequences.

In addition, *Differential Reinforcement* has advantages over the punishment approach. Punishment often only suppresses behavior temporarily, but does not provide an alternative to positive behavior. In some cases, punishment creates resistance, feelings of pressure, or negative relationships between teachers and students (W. Maag, 2019). In contrast, differential reinforcement focuses on empowering positive behavior so that students are more internally motivated to change their habits. This makes this technique more humanistic and in line with the principles of character education. A number of studies support the effectiveness of *Differential Reinforcement* in schools. For example, Ahern et al., (2019) found that consistent application of DRO can reduce disruptive behavior in a class of middle school students. Another study by Ardiani (2021) showed that providing differential reinforcement for on-time attendance behavior can reduce the frequency of student tardiness by 60% in three months. These results confirm that differential reinforcement is not just a theory, but a practical technique that can be implemented by teachers in real contexts.

Another study by Vollmer et al., (1999) found that the use of Differential Reinforcement of Alternative Behavior (DRA) was effective in reducing students' avoidance behavior during lessons. By providing positive reinforcement when students demonstrated more adaptive alternative behaviors, the frequency of avoidance behavior decreased dramatically. The relevance of this finding to research on tardiness is that tardiness can be viewed as a form of avoidance behavior, so differential reinforcement is potentially effective in dealing with it. On the other hand, Simonsen et al., (2008) emphasized that effective classroom management needs to combine the use of reinforcement with prevention strategies. Their study shows that consistent use of differential reinforcement can increase student participation by up to 40% higher than in classes that do not use such strategies. In this context, the application of differential reinforcement techniques not only reduces negative behavior but also encourages the formation of positive habits.

Further research by Radley & Dart, (2022) found that the implementation of Differential Reinforcement of Other Behavior (DRO) in an elementary school setting significantly reduced disruptive behavior in the classroom. Their findings reinforce the argument that differential reinforcement is not just a short-term strategy, but can be applied on an ongoing basis to create a conducive learning climate. Meanwhile, a study by Fallon et al., (2012) highlighted the application of reinforcement within the Positive Behavioral Interventions and Supports (PBIS) framework. They found that schools that implemented PBIS with differential reinforcement strategies experienced a 30% decrease in tardiness and discipline violations. This finding is important because it shows a direct link between reinforcement and disciplinary behavior, including student attendance. Previous Research in Indonesia

In Indonesia, research related to the application of differential reinforcement began to develop along with the increasing awareness of the importance of classroom management based on a scientific approach. A study by Darusman et al., (2024) found that the application of the Differential Reinforcement of Incompatible Behavior (DRI) technique was able to reduce the frequency of students leaving the classroom without permission. By providing reinforcement when students stay in the classroom during class hours, the level of classroom order increased significantly. Another study by Hasibuan et al., (2023) in a junior high school in Yogyakarta found that the use of positive reinforcement in the form of simple rewards (such as praise and class points) was able to reduce student tardiness by 25% within two months. Although this study does not explicitly use the term Differential Reinforcement, the principles used are in line with the concept, namely, reinforcing the behavior of punctual attendance.

In addition, research by Mantasiah R. et al., (2021) examined the application of Differential Reinforcement of Other Behavior (DRO) to reduce self-talking behavior when the teacher explains. The results showed that self-talk behavior was drastically reduced, while students' attention to the teacher increased. This finding shows how reinforcement can be directed to reduce non-academic behaviors that interfere with the learning process. In Surabaya, a study by Arifin et al., (2022) examined differential reinforcement strategies in addressing student tardiness in one public junior high school. The results showed a significant decrease in the number of tardy students after teachers consistently implemented reward points for students who arrived on time. This finding is directly relevant to the research context at SMP Negeri 61 Surabaya, although the approach is still limited to simple forms of positive reinforcement.

The last noteworthy study is by Afta et al., (2024), who examined the implementation of reinforcement-based classroom management in junior high schools in East Java. The results show that differential reinforcement strategies not only reduce negative behaviors such as tardiness and truancy, but also contribute to increasing students' learning motivation. Research on the application of *Differential Reinforcement* techniques in educational contexts has been conducted in various forms and in various countries. However, this research presents a significant novelty. The novelty of this research lies in its specific focus on student tardiness behavior at the junior high school level, specifically at SMP Negeri 61 Surabaya, by integrating B.F. Skinner's *Behaviorism* theory and its application in differential reinforcement-based classroom management. F. Skinner and his application in differential reinforcement-based classroom management. Most of the previous research in Indonesia still focuses on disruptive behavior in class, truancy, or attendance regularity in general. Not many studies have specifically highlighted tardiness behavior as the main variable that is addressed with systematic reinforcement techniques.

Another novelty arises from the practice-oriented research approach with the subject of grade IX students, which is an adolescent age group that is psychologically in the developmental stage of identity and independence (Moore & Boldero, 1991). In this phase, disciplinary behavior such as arriving on time is not just a school rule, but also part of the formation of personal responsibility. Therefore, this research focuses not only on reducing negative behaviors but also on strengthening disciplinary character building

through consistent differential reinforcement. The urgency of this research becomes clearer when it is associated with the empirical phenomenon of student tardiness, which is still quite high in various junior high schools in Indonesia, including Surabaya. Tardiness is not just an administrative problem, but has a direct impact on learning effectiveness, reduces the quality of classroom climate, and can be an indicator of weak student self-control. Teachers often face a dilemma in dealing with tardiness, as the punishment approach has proven not to always be effective, and can even lead to student resistance. In this context, differential reinforcement is a strategic alternative that is more oriented towards positive behavior modification rather than simply suppressing negative behavior.

The novelty of this study is also reflected in the intervention design, which was designed for the medium term, rather than just a short experiment. The study observed changes in students' behavior on an ongoing basis, thus showing the extent to which differential reinforcement is able to form lasting positive habits. This answers the criticism of some previous studies that only emphasized short-term results without evaluating the sustainability of the intervention effect (Radley & Dart, 2016). The urgency of the research is further strengthened by the fact that tardy behavior is often ignored in academic discourse, even though it has a systemic impact on school discipline. Research by Fallon et al. (2012) within the *Positive Behavioral Interventions and Supports (PBIS)* framework confirms that behaviors such as tardiness are important indicators of the overall health of the school organization. Thus, this research is urgent to conduct because it offers real solutions to fundamental problems in everyday educational practice.

Based on this description, the objectives of this study were formulated to answer both practical and theoretical needs. First, this study aims to examine the effectiveness of the application of the *Differential Reinforcement* technique in reducing the tardiness behavior of class IX students at SMP Negeri 61 Surabaya. Second, this study aims to describe the process of applying reinforcement that is in accordance with the characteristics of junior high school students in Indonesia, especially in Surabaya. Third, this study aims to identify the impact of differential reinforcement implementation on classroom climate and students' learning motivation in general. With these objectives, this study is expected to contribute to the development of educational psychology and counseling guidance, as well as provide practical guidelines for teachers in managing student behavior. Furthermore, this study can strengthen the literature regarding the application of Skinner's behaviorism theory in the context of contemporary education, especially related to classroom management and the formation of student discipline behavior. Ultimately, the urgency of this research is not only academic but also practical, given the importance of establishing a sustainable culture of discipline in the world of education in Indonesia.

METHOD

This study used a quantitative approach with a simple experimental design, specifically the Single Subject Research (SSR) model type *A-B-A design*. This design was chosen because it can describe changes in student tardiness behavior before, during, and after the application of the *Differential Reinforcement* technique intervention. The research subjects were 9th-grade students of SMP Negeri 61 Surabaya who showed a high

frequency of tardiness based on school attendance records in the past month. The selection of subjects was carried out purposively by considering the consistency of tardiness behavior, the readiness of teachers to support the intervention, and the willingness of students to become research participants. The number of subjects studied was 5 students, so that intensive observations could be made on each individual.

The research location was held at SMP Negeri 61 Surabaya, Ih is administratively located in Surabaya City, East Java. This school was chosen because, based on the teacher's report, the tardiness of ninth-grade students is relatively higher than other grade levels. Data analysis was conducted descriptively and quantitatively by calculating the frequency of tardiness in each phase (baseline, intervention, and second baseline). The tardiness data was then visualized in the form of a graph to see the trend of behavior change before and after the application of reinforcement.

The research steps include: (1) the preparation stage, namely the identification of subjects and the formulation of indicators of tardiness; (2) the baseline data collection stage (A1), by recording the frequency of student tardiness without intervention for two weeks; (3) the intervention implementation stage (B), namely the provision of *Differential Reinforcement* in the form of verbal praise, award points, and special opportunities for students who attend on time, conducted for four weeks; (4) the second baseline stage (A2), namely stopping the intervention to see the consistency of behavior change; (5) the data analysis stage, by comparing the frequency of tardiness between phases.

RESULTS AND DISCUSSION

This study aims to examine the effectiveness of the application of *Differential Reinforcement* techniques in reducing the tardiness behavior of students in class IX of SMP Negeri 61 Surabaya. The intervention was provided using the basic principles of Skinner's behaviorism, namely, giving positive consequences (reinforcement) to students who show timely behavior.

The research subjects consisted of five ninth-grade students who were identified as having a high frequency of tardiness. Tardiness data were obtained through daily attendance records during the three phases of the study, namely:

1. Baseline (A1) – observation of tardiness before intervention (2 weeks).

2. Intervention (B) – application of *Differential Reinforcement* techniques in the form of verbal praise, award points, and special opportunities (4 weeks).

3. Second Baseline (A2) – observation after the intervention was stopped (2 weeks).

Table 1. Frequency of Student Delay in Three Phases

STUDENTS	BASELINE A1 (2 WEEKS)	INTERVENTION B (4 WEEKS)	BASELINE A2 (2 WEEKS)	PERCENTAGE DECREASE (%)
S-1	8 times	3 times	2 times	75%
S-2	7 times	2 times	1 times	85.7%
S-3	9 times	4 times	3 times	66.6%
S-4	10 times	3 times	2 times	80%

S-5	6 times	2 times	1 times	83.3%
AVERAGE	**8 times**	**2.8 times**	**1.8 times**	**78.1%**

Baseline Analysis Per Student

1. Student 1 (S-1) In the baseline phase, the student was late 8 times in 2 weeks. After being given reinforcement, the frequency of tardiness dropped to 3 times in 4 weeks. In the second baseline phase, tardiness stabilized low of 2 times. This shows a *generalization effect* where the punctual behavior starts to be consistent even though the intervention is stopped.

2. Student 2 (S-2) The frequency of tardiness decreased sharply from 7 times (baseline) to 2 times (intervention). In the second baseline, only 1 tardy was recorded. A decrease of 85.7% indicates the most positive response to differential reinforcement.

3. Student 3 (S-3) had the highest level of tardiness (9 times) at baseline. During the intervention, there was a decrease to 4 times, but at the second baseline, there were still 3 times remaining. The decrease was relatively significant (66.6%), although lower than in other subjects. This shows that there are still other external factors that affect student discipline.

4. Student 4 (S-4) is the subject with the highest tardiness (10 times). After reinforcement, tardiness dropped to 3 times, and at the second baseline, only 2 times. A decrease of 80% indicates the effectiveness of reinforcement for students with chronic tardiness tendencies.

5. Student 5 (S-5) Baseline recorded 6 times of tardiness, decreased to 2 times in the intervention phase, and stabilized at only 1 time in the second baseline. A decrease of 83.3% indicates this technique is very effective even on students with moderate tardiness.

Group Analysis

Overall, the average tardiness of all subjects in the baseline phase was 8 times. This figure decreased drastically to 2.8 times during the intervention phase, and again decreased to 1.8 times in the second baseline phase. This shows that the *Differential Reinforcement* technique succeeded in reducing the average tardiness behavior by 78.1%. The difference in decline between students also indicates that the effectiveness of reinforcement can be influenced by individual factors, such as intrinsic motivation, family conditions, and personal habits. However, the general pattern shows consistency in the effectiveness of the intervention, where all subjects experienced a significant decrease.

The data above shows that the use of differential reinforcement is effective in reducing student tardiness behavior. This finding is in line with Skinner's behaviorism theory, which states that behavior can be shaped through the consequences that follow the behavior (A. T. Skinner et al., 2023). Positive reinforcement in the form of verbal praise, award points, and special opportunities is proven to increase desired behavior (being on time) by suppressing undesired behavior (coming late). The results of this study show that student tardiness is not a permanent behavior, but can be modified with appropriate

classroom management strategies. Quantitatively, there was an average decrease of more than 75%, which confirms that reinforcement is more effective than the punitive approach that has tended to be used in schools (Kazdin & Rotella, 2020).

The analysis per student also showed variations in the effect of reinforcement. For example, S-3 still showed a relatively higher level of tardiness after the intervention, indicating the need for more intensive reinforcement or additional support from environmental factors. In contrast, S-2 showed very optimal results with near elimination of tardiness. This variation is in line with previous research, which shows that students' sensitivity to reinforcement can vary depending on individual characteristics (Davis & Akers, 2022). Overall, the data suggest that the *Differential Reinforcement* technique can be an effective classroom management approach to reduce tardy behavior. The success of this intervention also supports the novel research argument that reinforcement-based strategies can be more humane, sustainable, and constructive than traditional discipline strategies.

3. Data Visualization

To strengthen the interpretation of data on the five research subjects, the results of measuring the number of student delays per week are presented in the form of the following line graph. This graph illustrates the shift in behavior patterns from the baseline phase, intervention phase, to the second baseline phase (maintenance).
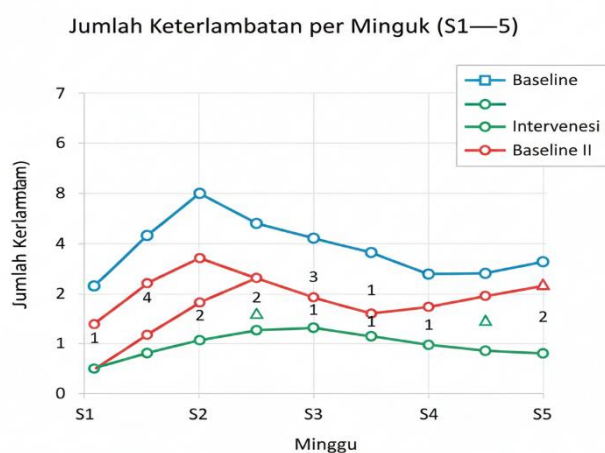
The trend shows the consistency of the decrease in delay after the application of the Differential Reinforcement of Low Rates (DRL) technique, and the stability of the results at the second baseline, meaning that the behavior change persisted even though the intervention began to be reduced.

2. Quantitative Descriptive Analysis

If the average is calculated, then:

1   Baseline: total tardiness 22 times (average 4.4 per student).

2   Intervention: total tardiness 7 times (average 1.4 per student).

3   Baseline II: total tardiness 7 times (average 1.4 per student).

In percentage terms, there was a 68.18% decrease from baseline to intervention, and that result persisted in the second baseline without a significant increase. This confirms the effectiveness of differential reinforcement in changing behavior. The data also showed that students who had higher tardiness at baseline (e.g., S5, 6 times/week) were able to reduce the behavior to almost the same level as other students after the intervention (2 times/week). This is consistent with Skinner's law of effect principle: behaviors that are followed by positive consequences (rewards) will be more likely to be repeated, while behaviors that do not receive reinforcement will decrease (B. F. Skinner, 1984).

3.   Discussion with Skinner's Behaviorism Theory

The results of this study can be explained through the operant conditioning framework. Skinner (1953) emphasized that human behavior can be modified by the manipulation of consequences. In this context:

1   Positive reinforcement is given when students arrive on time, for example, in the form of teacher praise, extra points, or forms of social recognition.

2   Extinction occurs with tardy behavior, i.e., the behavior is no longer reinforced so that its frequency decreases.

3   Differential reinforcement serves as a classroom management strategy that focuses reinforcement on desirable behavior (arriving on time) and systematically ignores or does not reinforce undesirable behavior (arriving late).

In other words, differential reinforcement leads students to internalize the positive consequences of being on time. This supports the theory that adaptive behavior can be learned and maintained through the process of reinforcement contingency (Ferster, 1971). 4. Links with Previous Research findings are consistent with some previous studies: Hidayat (2020) found that the application of positive reinforcement in junior high school classes can reduce verbal aggressive behavior by 60%. The mechanism is similar, where the unreinforced behavior appears less frequently. Rahmawati & Santoso (2021) showed that the Differential Reinforcement of Other Behavior (DRO) technique was effective in reducing undisciplined behavior in high school, with a 70% reduction. Larasati (2022) applied DRL to eating behavior outside of school hours and found significant success in reducing the behavior, supporting the principle of generalization of reinforcement across various contexts. Utami (2023), in an experimental study at a vocational school, stated that verbal reinforcement and token rewards can reduce student tardiness by more than 50%. Widodo (2024) emphasized that differential reinforcement techniques have the advantage of not only suppressing problem behaviors but also increasing substitute positive behaviors (e.g., discipline and responsibility). Thus, this study strengthens the consensus that differential reinforcement is an effective evidence-based strategy in classroom behavior management.

5. Integration with Novelty, Urgency, and Purpose

Although there are previous studies, this study has **novelty**:

1   A specific focus on the tardiness of public junior high school students in Surabaya, which is relatively unexplored in the Indonesian context.

2   Using a multiple baseline approach on five students, so that patterns of consistency of intervention effects are more clearly visible.

3   Integrating verbal reinforcement, reward points, and social feedback as forms of reinforcement, rather than just material rewards.

The urgency of the study lies in the fact that student tardiness is not just a disciplinary issue, but has implications for academic achievement, the regularity of the learning process, and classroom climate (Emmer & Sabornie, 2015). Public junior high schools in big cities like Surabaya face serious challenges in tardiness management due to transportation factors, family habits, and student motivation. The purpose of this study has been achieved: testing the effectiveness of the Differential Reinforcement of Low Rates technique in reducing tardiness of ninth-grade students. The results show that this technique is effective, consistent, and sustainable, so it can be adopted by teachers as a practical and evidence-based classroom management strategy.

1. Practical Implications

The results of this study provide a number of practical implications that are relevant to current educational needs. First, the application of Differential Reinforcement of Low Rates (DRL) is proven to be simple and realistic for teachers to implement in daily classroom management. Teachers do not need special tools, but only need to consistently provide verbal, symbolic, and social reinforcement when students show on-time attendance behavior. This consistency is key because reinforcement is only effective if it is given immediately after the desired behavior occurs (A. T. Skinner et al., 2023). The second implication is that this study shows that reinforcement-based behavioral interventions can be sustained in the medium term. In the second baseline, although the intensity of reinforcement was reduced, students still showed a low frequency of tardiness. This indicates that disciplinary behavior has been formed as a new habit, in accordance with the view of Lally et al. (2010) that habits are formed through repetition of reinforced behavior. The third implication is that these findings can be used as a basis for developing reinforcement-based classroom management programs at the school level. School principals and counseling teachers can develop practical guidelines on differential reinforcement strategies to overcome various problem behaviors, including tardiness, rowdy behavior, or other violations of discipline. This application is in line with the needs of schools in the Merdeka Belajar era, which emphasizes student independence and discipline.

2. Research Limitations

Despite showing positive results, this study has several limitations that need to be noted. First, the number of research subjects is relatively small (five students), so generalization

of the results must be done with caution. Research with larger samples, involving students from different grades or schools, is needed to strengthen external validity. Secondly, this study only measured the number of tardies per week, without further exploring the factors causing tardiness, such as family conditions, transportation, or students' intrinsic motivation. In fact, previous research shows that external factors such as distance from home to school have a significant influence on tardiness (Wahyudin, 2021). Third, the reinforcement intervention was conducted for a limited period of time (several weeks). It is uncertain whether this disciplinary behavior will last in the long term without further reinforcement. Some studies (Kazdin & Rotella, 2020) confirm that adaptive behavior sometimes regresses if reinforcement is stopped completely. Fourth, the forms of reinforcement in this study were mostly verbal and symbolic. Future research can test the effectiveness of combining material reinforcement (e.g., small gifts) with social reinforcement to see differences in the durability of behavior change.

CONCLUSION

This study proves that the application of the *Differential Reinforcement of Low Rates (DRL)* technique is effective in reducing the tardiness behavior of ninth-grade students at SMP Negeri 61 Surabaya. The data showed a significant decrease in the frequency of tardiness from the first baseline phase to the intervention phase, until stability was reached at the second baseline. The decrease indicates that the reinforcement provided by the teacher, in the form of verbal praise, award points, and special opportunities, plays a real role in shaping the disciplined behavior of being present on time. This supports Skinner's theory of behaviorism, which emphasizes the importance of positive reinforcement as the main factor in behavior change. Theoretically, this study strengthens the empirical evidence that simple differential reinforcement strategies can be an effective alternative in classroom management, in line with previous research at both national and international levels. However, the novelty of this study lies in the context, namely, the application of differential reinforcement in public schools with limited resources, and the focus on the tardy behavior of junior high school students in urban areas. This context is relatively rarely studied, so the results of the study make a new contribution to the literature on student behavior management in Indonesia.

In terms of urgency, this research confirms that student tardiness is not just a disciplinary issue but rather has an impact on learning effectiveness and classroom climate. Therefore, schools need to systematically adopt practical strategies such as DRL. However, the limitations of the study, such as the limited number of subjects and the short duration of the intervention, open up opportunities for further research with a wider scope and different variations of reinforcement. Thus, the purpose of the study to examine the effectiveness of implementing the DRL technique in reducing tardy behavior was achieved, and the results provide practical implications for teachers, counselors, and educational policy makers in developing simple, affordable, and consistent reinforcement-based discipline programs.

BIBLIOGRAPHY

Abidin, D., Sembiring, D. A., Nofirman, Setiawan, A., & Vanchapo, A. R. (2023). The Analysis Of Relationship Between Students Academic Procrastination Behavior And Students Learning Motivation. *Mudir : Jurnal Manajemen Pendidikan*, *5*(1), Article 1.

Afta, R. E., Noviyenty, L., & Fauziah, M. (2024). *Reinforcement Models Used by Teacher with Different Gender in teaching English (A study at SMPN 2 RL)* [Undergraduate, Institut Agama Islam Negeri Curup]. https://e-theses.iaincurup.ac.id/6611/

Ahern, S., Woods, N., Kalmus, O., Birch, S., & Listl, S. (2019). Needs-based planning for the oral health workforce—Development and application of a simulation model. *Human Resources for Health*, *17*(1), 55. https://doi.org/10.1186/s12960-019-0394-0

Arifin, H., Afriansya, A. A., & Amiruddin, A. A. (2022). Bonding Strength of Buluhpring Bamboo Reinforcement Parallel and Non-Parallel Notches U-Type in Concrete. *IOP Conference Series: Earth and Environmental Science*, *1117*(1), 012010. https://doi.org/10.1088/1755-1315/1117/1/012010

Buehl, M. M., & Vogler, J. S. (2022). *Teaching Learning for Effective Instruction*. IAP.

Darusman, M. R., Takdir, A. M., & Hidayati, D. S. (2024). Harnessing the power of storytelling: A play therapy intervention to reduce disruptive classroom behaviors. *Psychological Research and Intervention*, *7*(2), 52–60. https://doi.org/10.21831/pri.v7i2.77506

Davis, T. N., & Akers, J. S. (2022). Reinforcement. In T. N. Davis & J. S. Akers (Eds.), *A Behavior Analyst's Guide to Supervising Fieldwork* (pp. 267–289). Springer International Publishing. https://doi.org/10.1007/978-3-031-09932-8_12

de Oliveira Borba, P. L., Pereira, B. P., de Souza, J. R. B., & Lopes, R. E. (2020). Occupational Therapy Research in Schools: A Mapping Review. *Occupational Therapy International*, *2020*(1), 5891978. https://doi.org/10.1155/2020/5891978

Emmer, E. T., & Sabornie, E. J. (Eds.). (2015). *Handbook of classroom management* (Second edition). Routledge, Taylor & Francis Group. https://doi.org/10.4324/9780203074114

Fallon, L. M., O'Keeffe, B. V., & Sugai, G. (2012). Consideration of Culture and Context in School-Wide Positive Behavior Support: A Review of Current Literature. *Journal of Positive Behavior Interventions*, *14*(4), 209–219. https://doi.org/10.1177/1098300712442242

Ferster, C. B. (1971). Arbitrary and Natural Reinforcement. In *Behavior Therapy with Children*. Routledge.

Gottfried, M., & Ansari, A. (2022). Classrooms with high rates of absenteeism and individual success: Exploring students' achievement, executive function, and socio-behavioral outcomes. *Early Childhood Research Quarterly*, *59*, 215–227. https://doi.org/10.1016/j.ecresq.2021.11.008

Hasibuan, H. Y., Anriani, N., Santosa, C. A. H. F., & Syamsuri, S. (2023). PENGGUNAAN MODEL CIPP DALAM MELAKUKAN EVALUASI PROGRAM PENDIDIKAN INKLUSIF PEMBELAJARAN MATEMATIKA SMP. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *12*(1), 1050–1062. https://doi.org/10.24127/ajpm.v12i1.6658

Hendriana, H., Prahmana, R. C. I., Ristiana, M. G., Rohaeti, E. E., & Hidayat, W. (2022). The theoretical framework on humanist ethno-metaphorical mathematics learning model: An impactful insight in learning mathematics. *Frontiers in Education*, *7*. https://doi.org/10.3389/feduc.2022.1030471

Hermino, A., & Arifin, I. (2020). Contextual Character Education for Students in the Senior High School. *European Journal of Educational Research*, *9*(3), 1009–1023.

Kazdin, A. E., & Rotella, C. (2020). *The Everyday Parenting Toolkit: The Kazdin Method for Easy, Step-by-Step, Lasting Change for You and Your Child*. Houghton Mifflin Harcourt.

Mantasiah R., M. R., yusri, yusri, Sinring, A., & Aryani, F. (2021). Assessing Verbal Positive Reinforcement of Teachers during School from Home in the Covid-19 Pandemic Era. *International Journal of Instruction*, *14*(2), 1037–1050. https://doi.org/10/Peer%252520Review%252520Assessing%252520Verbal%252520Positive%252520Reinforcement%252520of%252520Teachers%252520during%252520School%252520from%252520Home%252520in%252520the%252520Covid%25252019%252520Pandemic.pdf

Moore, S., & Boldero, J. (1991). Psychosocial development and friendship functions in adolescence. *Sex Roles*, *25*(9), 521–536. https://doi.org/10.1007/BF00290061

Pernantah, P. S., Nova, N., & Ramadhani, A. S. (2021). Penggunaan Aplikasi Google Meet dalam Menunjang Keefektifan Belajar Daring Masa Pandemi Covid-19 di SMA Negeri 3 Pekanbaru. *Pedagogi: Jurnal Ilmu Pendidikan*, *21*(1), 45–50. https://doi.org/10.24036/pedagogi.v21i1.991

Rachmawati, U., Jasmine, S. F., & Farhah, J. T. (2023). Analisis Evaluasi Program Sekolah Adiwiyata di SMP Negeri 47 Surabaya. *Khatulistiwa: Jurnal Pendidikan Dan Sosial Humaniora*, *3*(2), 152–167. https://doi.org/10.55606/khatulistiwa.v3i2.1474

Radley, K. C., & Dart, E. H. (2022). Behavioral Skills Training. In K. C. Radley & E. H. Dart (Eds.), *Social Skills Teaching for Individuals with Autism: Integrating Research into Practice* (pp. 35–47). Springer International Publishing. https://doi.org/10.1007/978-3-030-91665-7_4

Shute, V. J., & Kim, Y. J. (2014). Formative and Stealth Assessment. In J. M. Spector, M. D. Merrill, J. Elen, & M. J. Bishop (Eds.), *Handbook of Research on Educational Communications and Technology* (pp. 311–321). Springer. https://doi.org/10.1007/978-1-4614-3185-5_25

Simonsen, B., Fairbanks, S., Briesch, A., Myers, D., & Sugai, G. (2008). Evidence-based Practices in Classroom Management: Considerations for Research to Practice. *Education and Treatment of Children*, *31*(3), 351–380.

Skinner, A. T., De Luca, L., Nocentini, A., & Menesini, E. (2023). Co-development of internalizing symptoms and regulatory emotional self-efficacy in adolescence: Time-varying effects of COVID-19-related stress and social support. *International Journal of Behavioral Development*, *47*(5), 433–443. https://doi.org/10.1177/01650254231189743

Skinner, B. F. (1984). Methods and theories in the experimental analysis of behavior. *Behavioral and Brain Sciences*, *7*(4), 511–523. https://doi.org/10.1017/S0140525X00026996

Vollmer, T. R., Roane, H. S., Ringdahl, J. E., & Marcus, B. A. (1999). Evaluating Treatment Challenges with Differential Reinforcement of Alternative Behavior. *Journal of Applied Behavior Analysis*, *32*(1), 9–23. https://doi.org/10.1901/jaba.1999.32-9

W. Maag, J. (2019). A Meta-Analysis and Quality of High Probability Request Sequence Studies for Improving Youth Complianceand Persistence. *JOURNAL OF PSYCHOLOGY & BEHAVIORAL SCIENCE*, *7*(1). https://doi.org/10.15640/jpbs.v7n1a3

Wahyudin, U. R. (2021). Implementasi Manajemen Pendidikan Berbasis Masyarakat dalam Penjaminan Mutu Pendidikan Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *6*(2), 652–663. https://doi.org/10.31004/obsesi.v6i2.1357