

Reducing Disruptive Student Verbalizations through the Use of Praise-Based Differential
Reinforcement of Behavior and Non-Verbal Cues

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Abstract

This study was designed to determine the impact that differential reinforcement of appropriate behavior (DRA) and non-verbal responses to disruptive behavior had on reducing the occurrence of behavior that was disruptive to instruction in a high school classroom. Disruptive behavior was defined as inappropriate talking, shouting out, and/or noise-making during instruction. This study utilized a quasi-experimental design with a pre-test and post-test separated by a period of one month. The dependent variable was the number of inappropriate verbalizations and noise-making made during the introductory drill by selected students for a one-week period. The independent variable was the teacher's statements praising non-disruptive behavior and the non-verbal actions used to address disruptive behavior starting with teacher proximity, continuing with providing a picture of closed mouth with a silencing finger, and ending with planned ignoring for four minutes before verbal redirection. The participants in this research were five students aged fourteen to eighteen with high records of prior disruptive behavior in the researcher's Fundamentals of Art class. This study did not find a significant difference in the mean number of disruptive behaviors exhibited by the participants in the pre-test and post-test, $t(4) = 1.34, p = .25$. The number of disruptive behaviors did decline slightly in the post-test, and this slight reduction suggests that the intervention might have been more effective if administered for a longer duration.

CHAPTER I

INTRODUCTION

Overview

Student behavior plays a major role in the ultimate success of any academic institution. When students exhibit behaviors that are disruptive to classroom instruction, they negatively impact the learning of all students in the classroom. (Ruttledge & Petrides, 2012) Verbal interruptions to instruction are a common form of disruptive student behavior that affects nearly every classroom teacher to some extent. Many teachers can relate to the difficulty of teaching while students talk during their instruction, call out, or make noises. These behaviors disrupt student engagement by distracting both teacher and student attention away from classroom learning. Managing student verbalizations that are disruptive to instruction can be a continual challenge for educators.

The research of Dhaem (2012) and Zuckerman (2007) suggests that regardless of how frustrated a teacher may become by disruptive behavior, they should refrain from responding with negativity or drawing classroom attention to the behavior. Their research suggests that punitive responses are not effective for chronic offenders or good for student-teacher relationships, and that positive-based strategies are more likely to increase appropriate behavior.

One non-punitive strategy that many schools use to shape student behavior is the establishment of positive behavior support (PBS) systems. These systems define, teach, and reward expected student behaviors with attention and praise in the effort of reducing disruptive behavior. A similar strategy known as differential reinforcement of behavior (DRB) can also be effective in reducing disruptive student behavior. Using this strategy, teachers ignore disruptive behaviors and reinforce appropriate behaviors with attention, praise, or other forms of

reinforcement. A third strategy that teachers can use to prevent and manage disruptive behavior is non-verbal behavior cues, such as establishing eye-contact, increasing physical proximity to student, and showing good-behavior pictures in response to disruptive student behavior.

This study examined the impact that positive behavioral supports, praise-based differential reinforcement of behavior, and non-verbal cues had on reducing disruptive student verbalizations in one of the researcher's high school visual arts classes.

Statement of Problem

The purpose of this research is to determine if differential reinforcement of appropriate behavior and non-verbal responses to disruptive behavior can be used to reduce the rate of student behavior that is disruptive to instruction in a high school art classroom.

Hypothesis

The use of differential reinforcement of appropriate behavior and non-verbal responses to disruptive behavior will have no statistically significant impact on the reduction of student behavior that is disruptive to instruction.

Operational Definitions

The independent variable was praise provided for non-disruptive behavior and non-verbal behavior cues provided for disruptive behavior. This project was implemented by praising non-disruptive behavior and addressing disruptive behavior using non-verbal actions including increasing teacher proximity, showing a picture of closed mouth with a silencing finger, and responding with planned ignoring for four minutes before individual verbal redirection. The independent variable was delivered by the teacher over a period of time to five students identified with the highest record of disruptive behavior in the class. The dependent variable was the number of occurrences of inappropriate verbalization and noise-making during the drill by

selected students as measured by a daily checklist. Behaviors defined as disruptive to instruction are inappropriate verbalization and noise-making, including unsanctioned talking, shouting out, singing, and noise-making. This researcher-developed checklist recorded the number of occurrences of disruptive behavior per student, per drill, for a one week period both prior to starting and at the conclusion of the research.

CHAPTER II

REVIEW OF THE LITERATURE

Overview

Teachers have long faced the challenge of managing student behavior that is disruptive to classroom instruction. Behavior that disrupts instruction impacts the class as a whole and results in the loss of instructional time for all students. If allowed to continue unabated, the disruptive behavior of a few students may spread as it is learned and practiced by more students. (Dhaem, 2012) This literature review examines the problem of disruptive student behavior in the classroom and identifies strategies that teachers can use to reduce or eliminate disruptive behaviors. The first section describes what appropriate and disruptive student behaviors in the classroom look like. The second section explores causes for disruptive behaviors. The third section identifies prevention and intervention strategies for disruptive classroom behaviors. Specific attention is given to the interventions of differential reinforcement, positive behavior supports, and nonverbal cues for reducing disruptive behavior.

The Importance of Appropriate Student Behavior in the Classroom

Student behavior plays a major role in the ultimate success of any academic institution. Student behavior shapes the school climate, and school climate affects student achievement. The occurrence of disruptive behavior in the high school classroom is not a new phenomenon, and it can be expected to remain a challenge for teachers far into the future. At some point most every adolescent will exhibit a disruptive behavior or outburst. Rutledge and Petrides (2012) suggest that adolescent frustration at being independent in some circumstances and not independent in others, such as in school, may often be the cause for disruptive behaviors in school. Behavior that is disruptive to classroom instruction is related to low academic achievement, low grades,

and poor test performance (Chen & Ma, 2007). Disruptive behavior negatively impacts the class as a whole in the loss of attention and instruction time. Teachers face the challenge of meeting individual needs as well as providing for the education of all students. Reactive behavior on the teacher's part can compound the problem, and further diminish the quality of classroom instruction for all students (Ruttledge & Petrides, 2012). In responding to disruptive behavior, teachers must recognize that it is not their responsibility to control student behavior, but rather to help students learn to control their own behavior (Zuckerman, 2007).

Although most teachers have a clear idea of what constitutes "disruptive behavior", the term itself is vague and open to interpretation. In their research identifying highly effective treatments for disruptive behaviors, Chen and Ma (2007) defined disruptive behavior as "an excessive behavior that can interfere with the general activities proceeding at the time" (p.380). They identified behaviors incompatible with good classroom learning and categorized them into five categories: (a) gross motor activities including fiddling, jerking, and out of seat; (b) non-verbal noise-making; (c) orienting including off-task; (d) verbalization including crying, inappropriate verbalization, and talk outs; and (e) verbal or physical aggression.

In researching the treatment of disruptive behavior, Ruttledge and Petrides (2012) defined the term as "any behavior which appears problematic, inappropriate, or disturbing to teachers" (p.224). They went on to classify disruptive behavior into the following five categories: (a) aggressive behavior including hitting, pulling hair, kicking, and using abusive language; (b) physically disruptive behavior including damaging objects, throwing objects, and physically annoying other pupils; (c) socially disruptive behavior including screaming, running away, and temper tantrums; (d) authority-challenging behavior including refusing to carry out requests,

exhibiting defiant verbal and non-verbal behavior, and using pejorative language; and (e) self-disruptive behavior including: daydreaming, and reading (or using electronics) under the desk.

Swinson and Knight (2007) researched the effects of teacher verbal feedback on student behavior, and categorized disruptive behavior into five categories including: inappropriate in seat behavior (IS), inappropriate out of seat behavior (OS), shouting out (S), inappropriate talking (T), disturbing other pupils (DOP), arguing with teacher (A), distracting teacher (DT), and being inattentive (IN).

The descriptions of disruptive behavior found in the literature can help to create a picture of what non-disruptive or appropriate behavior looks like. Students show appropriate behavior when they refrain from: physical and verbal aggression, physical disruptions such as throwing, noise-making and talking at inappropriate times, disturbing other pupils, challenging authority, and self-disruptive behaviors such as begin off task or out of their seat.

Causes for Disruptive Student Behavior in the Classroom

Learning to manage disruptive behavior is a common experience for many educators. Obenchain and Taylor (2005) remind us that all behavior serves a function, and that the cause of a behavior is directly related its outcome. Ruttledge and Petrides (2012) suggest that small amounts of difficult behavior and outbursts are a natural part of adolescence, as young people experience frustration at being independent in some life instances, and not in others. In his excellent book on character education, Lickona (1991) documents how disruptive adolescent behaviors in schools and society have increased in modern times. He attributes rises in youth violence and declines in moral behavior to the decay of values education over the last century. He argues that adolescents require education in values in order to learn to exhibit behavior that is morally beneficial to society. Historically, the institutions of the home, church or temple, and

school have taught young people values. Lickona (1991) points to the absence of parents and religious institutions in the lives of young people as a cause for the rise in non-moral adolescent behavior in modern times.

The research by Vaaland and Idsoe (2011) suggests that antisocial and aggressive behaviors are established at an early age and can progress from minor to more serious problem behaviors. The development of antisocial behavior pathways often result in disobedient pupil behavior. For example, a pathway that begins with bullying can progress to physical fighting, and end in even more violent behavior such as rape. Vaaland, et al., (2011) describe an authority conflict pathway that begins before age twelve with stubborn behavior, develops through disobedience, and culminates in authority avoidant behaviors such as truancy and running away. The researchers go on to distinguish aggressive behavior into the subtypes of reactive aggression and proactive aggression, both of which are causes for disruptive behavior. Reactive aggression results from an anger-inducing experience, such as student frustration with an inconsistent classroom discipline policy. Proactive aggression results from the desire to achieve something, and does not require anger. Bullying and disobedience are proactive aggressive behaviors that often result from the desire to attain social rewards, such as the feeling of power by inducing submission or fear. (Vaaland, et al., 2011) Proactive aggression can also manifest in classrooms with high levels of negativity, as students seek the reward of affiliation through creating a common negative reference, such as the authority figure. (Vaaland, et al., 2011)

The general manner in which a teacher runs a classroom may cause disruptive behavior. Teachers make decisions that control the class' organization, rules, routines, and discipline strategy. Decision making that is inconsistent, uninformed, or simply poor may produce an increase in disruptive student behavior. One example of such teacher mistakes is the

unintentionally reinforcement of a disruptive behavior by awarding attention to the behavior (Auld, Belfiore, & Scheeler, 2010). The research of Auld, et al. (2010) found that inconsistent classroom management on behalf of the teacher was itself a cause for disruptive behaviors in the classroom. Students may also learn disruptive behavior from observing it in other children. (Dhaem, 2012) In his research on student behavior, Swinson and Knight (2007) found that pupils who were designated as “chronically disruptive” behaved better and had higher on-task rates in classes that were well-ordered than in classes that were not.

Prevention and Intervention Strategies

Negative teacher reactions to student behavior often result from frustration or a punitive discipline policy. Research suggests that although negative reactions may appear useful to the teacher, they are not in fact effective in reducing disruptive behavior. Teachers’ negative reactions may even provoke a confrontation, and exacerbate the problem (Zuckerman, 2007). Dhaem (2012) researched minor misbehavior in the classroom and concluded that punitive measures were not effective on chronic offenders or good for student-teacher relationships. Other research finds that traditional punitive and reactive practices, such as suspension, are not significantly effective in reducing problem behaviors (Chitiyo, May, & Chitiyo, 2012).

Swinson and Knight (2007) studied teacher verbal feedback toward pupils who had been designated as being especially difficult to teach. They found that negative feedback or disapproval showed a negative correlation with on-task behavior, while positive feedback showed a positive correlation with on-task behavior. It can be concluded from this research that negative feedback does not appear to encourage appropriate behavior, and that positive-based strategies are more likely to increase appropriate behavior.

An interesting study by Chiu and Tulley (1997) examined students' preferences of discipline approaches. Results showed that regardless of grade, gender, or achievement, students indicated a clear preference for the Confronting-Contracting approach over the more common Rule/Reward-Punishment approach. The Confronting-Contracting discipline approach is based on the assumption that interrelationships between individuals and their environment are the keys to understanding behavior. In this approach it is the role of the teacher to interact continually with the student in order to arrive together at solutions to behavior problems. Students likely prefer this approach due to its emphasis on teacher-student interaction and joint decision-making over punitive measures (Chiu & Tulley, 1997).

Teachers may address disruptive behavior through the use of proactive rather than reactive discipline strategies. Prevention strategies provide teachers with a way to address disruptive behavior that does not detract from the lesson or award attention-seeking behaviors (Dhaem, 2012). Prevention strategies can include lesson planning, classroom routines and rules, and seating rearrangement. Zuckerman's (2007) study of teachers' effective discipline strategies found three strategies particularly effective: changing the pace of the lesson, using the least intrusive intervention along a sequence of nonverbal to verbal strategies, and conferring privately with a chronically disruptive student. Additional prevention strategies include providing a non-punitive time out, boosting student interest, and redirection of student focus. Rather than relying on negative feedback and punishment to modify behavior, these strategies promote student self-control, moral development, and show teacher-student respect. (Zuckerman, 2007). Prevention strategies help student to learn behavior control and shift the emphasis away from teacher control.

The understanding that positive-based strategies are more effective than negative-based

strategies in the reduction of disruptive behavior has resulted in the creation and implementation of positive behavior support (PBS) systems in many schools. PBS systems provide an alternative to punitive methods for shaping student behavior. PBS is a systems-approach that aims to create safe schools, positive school cultures, and positive educational outcomes for all students (Chitiyo, et al., 2012). PBS utilizes a data-driven decision making process that targets specific outcomes through implemented practices. It is usually implemented in three tiers. Schools that implement a PBS system work to define, teach and reward expected behaviors, develop peer support systems, and implement clear consequences for inappropriate behavior (Chitiyo, et al., 2012). The research of Chitiyo, et al. (2012) examines the efficacy of PBS programs in ten schools and describes a variety of interventions that have been employed. Interventions used include: defining, teaching, and rewarding positive student behavior, the development of a school improvement plan to improve the school climate, the creation of school and classroom wide disciplinary policies and a behavior tracking system, training staff to use positive reinforcement procedures, and creating an anti-bullying intervention program with clear rules.

Sherrod, Getch, and Ziomek-Daigle (2009) describe a two level PBS approach that was employed by an elementary school with the aim of reducing discipline referrals. The first level consisted of a three week school-wide intervention in which all students were exposed to standardized lessons concerning school wide rules, behavior expectations, and the school history, and were then quizzed on the material. The second level consisted of the formation of a counseling group for students identified as being chronically disruptive. This group met over a period of eight weeks to receive additional lessons teaching rules, relationship skills, anger management, responsibility, positive communication, and ways in which to shed their negative

label. Sherrod, et al. (2009) reported that following the PBS intervention, discipline referrals dropped twenty-six percent from the prior year's level.

Many schools embrace PBS as an effective strategy for reducing disruptive behaviors, and at least 13,000 schools in America have adopted school-wide PBS systems by 2010 (Chitiyo, et al., 2012). Unfortunately, the research of Chitiyo, et al. (2012) concluded that although there is evidence pointing to the efficacy of PBS, more inquiry with enhanced methodological rigor must occur before it can be established as an evidence-based practice.

The practice of differential reinforcement of behavior is another intervention that utilizes positive interactions between teachers and students. Differential reinforcement can be defined as “reinforcement contingent upon the absence of a disruptive behavior and the presence of desirable behaviors during a specified time interval” (Chen & Ma, 2007, p. 382). In this approach disruptive behaviors are ignored and appropriate behaviors are reinforced with tangible reinforcement. Altering teacher feedback from negative to positive shifts the focus onto the positive behavior, and ensures that teacher attention does not ultimately reinforce attention-seeking behavior. Chen & Ma (2007) analyzed 106 studies concerning disruptive behavior in order to synthesize the most effective treatments. They identified differential reinforcement, along with the token economy system, as being one of the most effective interventions in treating disruptive behavior.

A subcategory of differential reinforcement is the differential reinforcement of alternative behavior (DRA). Differential reinforcement of alternate behavior is defined as “placing one behavior on extinction while another behavior is reinforced” (Auld, et al., p.171) In their study on student teachers' use of DRA strategies, Auld, et al. (2010) selected talking-out in class as the behavior for extinction and hand-raising as the behavior for reinforcement. Student teachers

were taught to consistently respond positively to hand-raising, and to ignore talking-out for ten seconds before correcting. Following their initial DRA training, the student teachers received direct classroom observations and follow-up meetings aimed to increase the integrity with which the DRA strategies were employed. Initially, teachers were found to respond inconsistently to the problem behavior, but continued evaluation and instruction resulted in increased consistency of teacher response, a reduction in the problem behavior of talking out in class, and an increase in hand-raising. In addition to concluding the effectiveness of DRA strategies, this study suggests the need for improvements in teacher training through an increase in performance feedback.

One method for identifying behaviors that are to be reinforced or put on extinction is to create a functional behavior assessment (FBA). To create an FBA an in-depth analysis of student behavior over time is completed by a behavior specialist. The FBA identifies antecedents and consequences of problem behaviors in order to understand the function of the behavior. Unfortunately, the creation of an FBA can be a time consuming process, and not much help to a teacher on a daily basis. Obenchain and Taylor (2005) suggest that teachers may try to quickly assess the function of chronically disruptive behaviors by examining the “A-B-Cs” of the behavior. This technique refers to the antecedent, the behavior, and the consequences. Identification of the function of the disruptive behavior allows the teacher to address it appropriately. If the function of a problem behavior is to produce immediate teacher attention, then a nonreactive response from the teacher may curtail the disruptive behavior.

Teachers need strategies to address disruptive behavior that do not negatively impact the class as a whole, do not award attention to attention-seeking behaviors, and that do not result in the loss of exposure to instruction. Zuckerman (2007) recommends that teachers respond to

disruptive behavior by following a predetermined series of reactive strategies that begin with nonverbal cues. Nonverbal cues allow teachers to respond immediately to inappropriate behavior, while maintaining the pace of instruction and positive teacher-student relationships. In contrast, immediate verbal responses from the teacher result in the disruptive student gaining attention from both the teacher and other students. In his research on misbehavior in the classroom, Dhaem (2012) examined the impact of using a two-level intervention system of nonverbal and verbal responses. Unlike a traditional punitive system that relied on a hierarchy of increasing punishments, the two-level intervention system first relied on using nonverbal hints before employing more direct verbal responses in addressing disruptive behavior. Nonverbal interventions include the power position (teacher body language), proximity control, hand signals, good behavior pictures, and written notes. Dhaem (2012) found that some students averaged up to 4.5 exchanges with the teacher before displaying appropriate behavior, and that nonverbal hints can be used to prompt students who require several exchanges before complying with a teacher's request. All teachers who participated in this study reported that nonverbal hints had an impact on student behavior, and 80% reported continued use of nonverbal hints after the study's conclusion. In addition, all teachers found that using body language to produce a power position, or "teacher look" was an effective response to disruptive behavior. Teachers reported that nonverbal cues helped to promote positive behaviors in class and helped them maintain the pace of instruction because they were not stopping to publically discipline disruptive students. (Dhaem, 2012)

Interventions that use the cognitive behavioral approach (CBA) seek to reduce disruptive behavior by altering students' views of people and situations. This approach seeks to correct cognitive distortions, such as the perception of aggression in a non-aggressive situation, through

the application of logic and the search for evidence. (Ruttledge & Petrides, 2012) In this approach students learn to analyze the links between their thoughts, feelings, and behavior in order to control and improve their behavior. CBA interventions include teaching new cognitive and behavioral skills, teaching new cognitive strategies (positive self-talk), teaching problem-solving skills, attribution retraining, and practice. Ruttledge and Petrides (2012) conducted a study in which a CBA curriculum was taught over a period of seven weeks to a group of 22 students identified as displaying disruptive behavior. They found that significant reductions in disruptive behavior were reported by the participants, teachers, and parents immediately following the intervention. In a six-month follow-up assessment both participants and teachers reported maintained improvements in behavior and self-concept.

Summary

The occurrence of disruptive behavior in the classroom presents a continual challenge for the classroom teacher. In responding to disruptive behaviors teachers often employ negative and reactive feedback, which actually does little to prevent the behavior from occurring again in the future. Teachers may better address student behavior through the use of strategies that include prevention, non-verbal cues, and differential reinforcement, among others. Shifting teacher feedback from a focus on disruptive behavior to a focus on positive behavior serves to teach proper behavior and maintain positive teacher-student relationships. Finally, teachers may find the student-preferred discipline approach of confronting-contracting more effective in reducing disruptive behavior than traditional approaches, as it stresses continual student-teacher interaction and joint decision-making over rewards and punishment for behavior.

CHAPTER III

METHODS

Design

This study utilized a quasi-experimental pre/post-test design to determine the impact that differential reinforcement of appropriate behavior (DRA) and non-verbal responses to disruptive behavior had on reducing student behavior that was disruptive to instruction. The dependent variable in this study was the number of inappropriate verbalization and noise-making made during the drill by selected students for a one-week period at the conclusion of the course.

The independent variable was the teacher's statements praising non-disruptive behavior and the non-verbal actions addressing disruptive behavior starting with teacher proximity, providing a picture of closed mouth with a silencing finger, and responding with planned ignoring for four minutes before verbal redirection. The independent variable was delivered by the teacher over a period of one month to five students with the highest record of disruptive behavior in the class

Participants

The participants in this research were five high school students. This convenience sample was composed of students with the highest record of disruptive behavior in the course. All students in this sample were male, two students (40%) were Caucasian, and three students (60%) were African American. Three students were fourteen year old freshmen, one was a fifteen year old sophomore, and one was an eighteen year old senior.

Instrument

The instrument used for this study was a researcher-developed disruptive behavior frequency checklist that recorded the frequency of disruptive verbalization and noise-making made during the daily class drill by the participants. The behavior of each of the five participants

during the class drill was observed and recorded using the behavior frequency checklist for a period of one week at both the beginning and end of this research. This checklist was filled out by recording the time and type of each disruptive behavior made by each of the participants during the daily five minute drill activity. The instrument was created by the researcher therefore no reliability or validity testing was conducted.

Procedure

The participants in the study were students in the researcher's forty-five minute Fundamentals of Art class. These students were selected because they had the highest record of disruptive behavior during the first eight months of the ten month course. The researcher did not disclose the existence of the study to the participants as this could have influenced behavior and compromised the results. Baseline data was gathered by conducting a pre-test using the disruptive behavior frequency checklist for a one week period at the start of the second semester of the course.

During the following four weeks the researcher changed his method of responding to the participants when they exhibited disruptive behaviors during the drill at the start of class. Behaviors defined as disruptive included unsanctioned talking, shouting out, and noise-making. Instead of reacting and calling attention to the disruptive behavior, the researcher praised those students who were non-disruptive. Throughout the five-minute daily drill the teacher circulated around the room providing praise to students who worked quietly. Students exhibiting unsanctioned talking, shouting, or noise-making for longer than one minute were responded to first by using teacher proximity and eye-contact, next by showing a picture of closed mouth with a silencing finger, and finally with planned ignoring for four minutes before verbal redirection. Teacher proximity was achieved by the teacher moving physically closer to the disruptive

student. Eye-contact was established by looking the student in the face and waiting for return eye-contact of several seconds duration. The good behavior picture was shown to individual students who continued to talk or make noise during the drill activity. This picture consisted of a teacher-developed graphic depicting a smiling face with a silencing finger placed over a closed mouth and the text “no talking please”. Verbal redirection was provided to individuals who continued to talk or make noise after receiving four minutes of non-verbal responses. Verbal redirection consisted of concise directions to cease talking or noise-making provided in a quiet and non-passionate tone. Praise was continuously provided throughout the five minute drill to students who exhibited quiet behavior.

After four weeks, the researcher recorded the frequency of disruptive student behavior during the drill for a one-week period using the disruptive behavior frequency checklist. This post-test was made to determine if praise-based and non-verbal teacher responses had an impact on reducing student behavior that was disruptive to instruction.

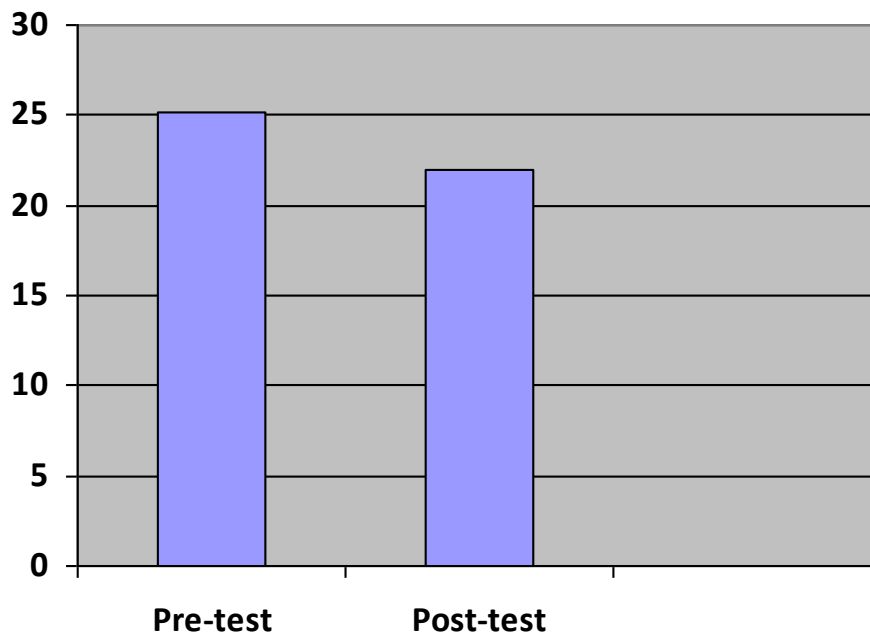
CHAPTER IV

RESULTS

Analysis of the results indicate that there was no significant difference in the mean number of disruptive behaviors exhibited by the participants in the pre-test and post-test, $t(4) = 1.34$, $p = .25$. The mean number of disruptive behaviors in the pre-test was 25.20 which decreased to 22.00 (SD=8.28) after the intervention.

Figure 1:

Mean Number of Disruptive Behaviors in Pre-test and Post-test



CHAPTER V

DISCUSSION

The purpose of this research is to determine if differential reinforcement of appropriate behavior and non-verbal responses to disruptive behavior can be used to reduce the rate of student behavior that is disruptive to instruction in a high school art classroom. The data collected showed a slight decrease in the mean occurrence of disruptive behaviors, however the decrease was not statistically significant. This implies that although the intervention may have begun to reduce disruptive behavior, the researcher must accept the null hypothesis, which states that the use of differential reinforcement of appropriate behavior and non-verbal responses to disruptive behavior will have no statistically significant impact on the reduction of student behavior that is disruptive to instruction.

Theoretical Consequences

This supports the research of Auld, et al. (2010) and Obenchain and Taylor (2005) which theorizes that the practice of differential reinforcement of behavior will not affect all students equally or in the same amount of time. As the purpose of this practice is the relearning of appropriate behaviors, it stands to reason that results will vary among individual students based on their past and present experiences both inside and outside of the classroom. These results support the theories of Auld, et al. (2010) which state that the effectiveness of differential reinforcement of behavior will be reduced when it is not reinforced in additional classes, at the home, or for long periods of time.

Threats to Validity

There are several threats to the validity of this study. The internal validity of this study is threatened by the differential selection of the participants. The convenience sample was

composed of students available to the researcher who had an established record of disruptive behavior. Although these students all exhibited patterns of disruptive behavior, the quantity and nature of their behaviors varied widely among them. The researcher did not check for initial equivalence of the sample in a pre-test, and therefore existing differences in the participants may have affected the post-test data.

The external validity of this study is threatened by the limited sample size, short duration of the study, and selection-treatment interaction. The design of this study was crafted to address one class of students available to the researcher. A small sample size of five participants was selected from thirty-two students, and a short time frame of one month was used to conduct this study. Both of these factors limit the ability to generalize these results to other populations. Selection-treatment interaction also threatens the external validity of this study. The sample was non-random in nature because it was intentionally composed of students available to the researcher with established records of disruptive behavior. The lack of a random sample could have had an effect on the data collected.

Connections to Previous Studies

Several studies (Auld, et al., 2010; Dhaem, 2012; Swinson & Knight, 2007) found that differential reinforcement of appropriate behavior and non-verbal cues can be effective in reducing student behavior that is disruptive to instruction. Although this study does not find these supports to produce a statistically significant reduction in disruptive behavior, informal observations cause this researcher to believe that these supports began to encourage appropriate behavior. The research of Swinson and Knight (2007) was supported as the researcher observed that ceasing to respond to disruptive behavior with immediate negative verbal reactions encouraged more positive student-teacher interactions, and discouraged exacerbations of

disruptive behavior. This change also resulted in ceasing to provide reinforcement for disruptive behaviors in the form of teacher or class wide attention, as found in the research by Zuckerman (2007). Reinforcing appropriate behavior with praise appeared to shift the focus in the classroom in a positive direction which supports the research of Auld, et al. (2010). This focus on praising appropriate behavior also reduced researcher stress and frustration concerning disruptive behaviors.

The researcher found that employing a series of non-verbal responses to disruptive behavior, as suggested by Dhaem (2012) and Zuckerman (2007), was helpful in redirecting students without disrupting class wide attention and instruction. As in the research by Dhaem (2012) it was observed that several students required multiple exchanges with the instructor before exhibiting appropriate behavior. Employing a series of predetermined non-verbal cues allowed the researcher to communicate with these students in a manner more effective than immediate verbal reprimand. It was observed that the use of proximity, body language, and behavior pictures affected student behavior without disrupting instruction, and shifted the emphasis onto the student to exhibit behavior control.

Implications for Future Research

Further research is needed to determine the extent to which a teacher can reduce student behavior that is disruptive to instruction through the use of differential reinforcement of appropriate behavior and non-verbal cues. To replicate this study the researcher recommends using a sample size of ten or more participants and a duration of several months or longer. Another important modification would be to employ assistants other than the researcher/teacher to collect data regarding student behavior using the behavior frequency instrument. In this study

the researcher collected the data while multi-tasking as the class teacher, and this raised the potential for distractions to focus and inaccuracies in the data collected.

Summary

This study did not produce statistically significant evidence that differential reinforcement of appropriate behavior and non-verbal responses to disruptive behavior can be used to reduce the rate of student behavior that is disruptive to instruction. However, data trends and researcher observations suggest that these interventions may have some value. The lack of significant findings may be due to the study's small sample size, short duration, or non-random nature of the sample. Hopefully, additional research will help teachers identify the most effective methods for reducing student behavior that disrupts instruction and negatively impacts the learning of others.

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