

ETC 690 Masters Project

The Token Economy: Reducing the Disruptive and Off-Task Behavior

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I give permission to City University to store and use this MIT Project for teaching purposes.

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### **Abstract**

This study investigates the effects of a token economy as an intervention to reduce disruptive and off-task behavior of third grade students in an open concept setting. The intervention is combined with the use of a token reinforcement with a raffle style drawing. The students receive tokens on an intermittent reinforcement schedule for being on-task, displaying compliant behavior, or for the completion of academic assignments. The tokens are entered into a weekly drawing to receive a backup reinforcer. The results indicate a significant decrease in disruptive behavior in both classes, but no significant change in the completion of outside academic assignments. The findings suggest that the token economy may be successful in reducing disruptive behavior but not for academic assignments completed outside of the classroom.

### **Topic and Dilemma**

Classroom disruptions are a common experience for teachers. Every day disruptions interrupt academic instruction time and cause the student to become off-task. While what classifies as disruptive is debatable among educators its impact is the same. The effect of disruption not only interferes with the teacher's ability to teach but also on the student's ability to learn. Students in the classroom commonly exhibit different types of off-task and disruptive behaviors. Some examples of behaviors that have been identified are calling out at inappropriate times, constantly being out of seat without purpose, talking while the teacher is talking, throwing objects or moving excessively in their seat and doing things other than working on the current class activity. When one student engages in a disruptive behavior it creates a domino effect on the class and the other students either begin to engage in the behavior or are affected by it and

become distracted. Students do not view these behaviors as disruptive and do not understand their impact on the classroom-learning environment. Throughout the day the teacher is constantly spending class time trying to control these types of disruptive behaviors and get the student's back on task. Every time a disruption occurs the teacher must stop what he/she is doing and manage the class. Often times, it can take many minutes to get the students focused on what they were doing before the disruption began. The problem is that the more time teachers spend on classroom control, the more academic instruction time that is lost.

### **Rationale**

Disruption in the classroom is a common problem for educators. The single most common request for assistance from teachers is related to behavior and classroom management (Rose & Gallup, 2005). Teachers consistently report that student misbehavior and classroom management are among the most difficult aspects of teaching (Clarizio, 1976). The problem is that disruptive behavior requires the teacher to spend considerable time on classroom control and discipline, which decreases the amount of time spent on academic instruction (Bray & Kehle, 2000). Students who continually display off-task and disruptive behavior not only suffer from the loss of academic instruction, but they prevent the teacher from giving other students the necessary attention or academic instruction.

There is a great need for teacher friendly interventions that can be used with the whole class. A classroom behavioral management system should be simple to implement and use in order to allow the teacher to conduct his or her class without major disruption (Filcheck & McNeil, 2004). Token economies have been proven as an effective method of behavior intervention when the usual methods of positive reinforcers have failed (O'Leary & Becker, 1967). More notably, token economies are among the oldest and most successful programs with

well-documented therapeutic and educational benefits (Hackenberg, 2009). According to Filcheck et. al, (2004) some common interventions may not be time and cost effective and the use of a whole class token economy may be a practical option for classroom management problems.

### **Review of the Literature**

Challenging behaviors, such as those that are disruptive and cause the students to become off-task, are faced by many teachers on a daily basis. Teachers use a variety of classroom and behavior management systems to address this problem. In recent years teachers have been encouraged to use strategies that are evidence-based and grounded in research (Maggin et. al, 2011). A token economy is a management system that has been accepted as an evidenced based strategy effective in reducing a wide range of behavior problems.

### **Classroom Management**

Classroom management is one of the most critical and for some, most challenging aspect of being a classroom teacher. Effective classroom management can help to decrease disruptive classroom behaviors and increase student engagement in academic tasks (Reinke, Lewis-Palmer & Merrell, 2008). Without an effective classroom management strategy teachers are constantly using up academic instructional time trying to regain control of the class. Along with classroom management teachers in today's society are faced with more demands than those of the past. Increased emphasis on evidence based-instruction, high stakes testing, data-based decision making, and response to intervention models put massive demands on teacher time and resources (Sugai and Homer, 2009). So while research has shown that teachers can lower disruptive behavior through evidence-based classroom management strategies, many teachers are not aware or fluent with these practices (MacSuga & Simonsen, 2011). An extensive literature review by

Simonsen et. al, (2008) identified five empirically-supported critical actions required of effective classroom management: a) maximize structure, b) post, teach, review, monitor and reinforce expectations, c) actively engage students in observable ways, d) use a continuum of strategies for responding to appropriate behaviors and e) use a continuum of strategies to respond to inappropriate behaviors. This study demonstrates how crucial classroom management is to establishing a successful learning environment that will support academic instruction.

### **Disruptive and Off-Task Behavior**

Over the past decade the number of children with behavior problems has increased. The majority of research shows that academic problems are related to a decrease in on-task behavior, and an increase in disruptive behavior (Mottram et. al, 2002). Off-task behavior is defined as not attending to or participating in, instructional activities as requested by the teacher (Shumate & Wills, 2010). While there is no set definition or criteria of disruptive behavior, research has found some common behaviors that most teachers would qualify as being disruptive. Disruptive behavior can be categorized as social, emotional, aggressive, or defiant. Each type of behavior falls under one of the four categories and then is organized more specifically. A coding system for children's behavior created by Kuypers, Becker & O'Leary (1968) lists specific categories of behaviors along with examples. These include excessive talking, disturbing others, gross motor behaviors, disruptive noise, contact, orienting responses, and verbalizations. As follows:

#### **Coding Categories for Children** (Kuypers, Becker & O'Leary, 1968)

**Gross motor behaviors:** getting out of seat, standing up, walking around, running, rocking/moving chair

**Disruptive noise:** tapping feet, clapping, rattling papers, tearing papers, throwing books on desk, slamming desk top, tapping pencil or other objects on desk.

**Disturbing others:** grabbing objects or work, knocking neighbors books off desk, destroying another's property, throwing objects at another without hitting, pushing with desk.

**Contact:** hitting, pushing, shoving, pinching, slapping, striking with objects, throwing objects which hit another person, poking with object

**Orienting responses:** turning head or body to look at another person, showing objects to another child, any turn of 90 degrees while at seat is rated

**Verbalizations:** Carrying on conversation with another child when not permitted, called teachers name to get attention, calling out answers to questions or comments without being called on, crying, screaming, singing, whistling, laughing, coughing or blowing nose

Research by Shumate and Wills (2010) defines disruptive behavior as any behavior that appears to interfere with learning, impede instructional delivery, or both. This includes arguing, taunting, name calling, making audible vocalizations unrelated to the instructional task (i.e., singing, humming, and talking to self), making repeated audible noises with tangible items (e.g., pencil tapping), talking to peers, calling out the teacher's name with or without hand-raising, getting out of their seat and walking up to the teacher during seat work, and waving their hand in the air (Shumate & Wills, 2010). The cause for disruptive behavior can be for a variety of reasons. Research by Vollmer and Northup (1996) summarized three common motives for problem behavior: attention from the teacher, attention from peers, and escape from instructional demands.

Disruptive behavior has a negative effect on all individuals involved. Students who are disruptive experience less academic engaged time, tend to have lower grades, and perform worse on standardized tests compared to students in well-managed classrooms (Dolan, Kellam, Brown, Werthamer-Larsson, Rebok, Mayer, et al., 1993). Disruption also costs the class academic time, as teachers repeatedly have to stop instruction to control the disruptive behavior, leading to loss of academic achievement for the class as a whole.



## **Token Economies**

A token reinforcement system, commonly known as a *token economy*, is a classroom management strategy that has been commonly used by teachers for classroom management. Token economies have been around for many years before being applied in the classroom. Token systems were first successfully employed as behavior management and motivational tools in the early 1800's (Kazdin, 1978). The flexibility of the token economy is one of its most desirable features making it easy to apply in a variety of populations and settings. It has been used in the improvement of social and academic skills, attention, speech, drug addiction, self-care, and disruptive behaviors (Maggin et. al, 2011).

Token economies are a behavior intervention strategy designed to create a more positive and productive classroom community by using reinforcers to increase student's extrinsic motivation. Extrinsic motivation is motivation that comes from external factors such as incentives or rewards. Children are most commonly first driven by extrinsic motivation as they enter the education setting. Wolery et. al, (1988) depicts the five critical elements of a token economy, which, similarly are aligned with the features of other behavior management systems. They include the a) identification of the target behaviors, b) the identification of tokens for conditioned reinforcement, c) the development of a menu of backup reinforcement options to award positive behavior, d) the creation of an explicit protocol for exchanging conditioned reinforcers for backup reinforcers, and e) the development of procedures for fading the use of the token economy system (Wolery et, al, 1988). A general goal of token economies is to eventually transfer control of responding from the token system to other conditioned reinforcers such as teacher praise and grades (Kuypers, Becker & O'Leary, 1968).

Beginning in preschool teachers commonly use external motivators such as praise, success charts, awards, prizes and point systems to motivate students. In a token economy, tokens are tangible objects that attain reinforcing power by being exchanged for other objects such as candy and trinkets, also known as backup reinforcers (O’Leary & Becker, 1967). A token is an object or tool that can be exchanged for goods or services, also called a *conditioned reinforcer*. In the classroom students received tokens immediately after displaying desirable behavior, which is used as a way to modify behavior (Wyka, 2009). A major benefit of a token economy is that the tokens can be used for immediate reinforcement of a response, but tokens gain their effectiveness by being paired up with backup reinforcers (Alexander & Apfel, 1976). While the token itself has no intrinsic value, it is the backup reinforcer that holds the power to motivate students to continue to behave desirably. As pointed out by Piper, McKinney and Wick (1972), the reinforcer to motivate Student A to perform at an optimal rate may be different than the reinforcer that optimally motivates Student B. Therefore, it is important that as a teacher to use a variety of meaningful reinforcers to motivate students. It is suggested that in order to successfully use reinforcers the teacher must recognize potential reinforcers that are available, match the reinforcer to the student, or let the students choose their own reinforcer (Piper, McKinney & Wick, 1972).

Studies have shown that token economies have had positive results in reducing disruptive behaviors in a variety of educational settings (Mottram et. al, 2002, Zlomke, 2003, Filcheck et. al, 2004, O’Leary & Becker, 1967). The study by Filcheck & McNeil (2004) evaluated the use of a whole classroom token economy to manage disruptive behaviors of a preschool class. The results of this study suggested that the disruptive behavior decreased when the token economy was implemented (Filcheck & McNeil, 2004). This study was important because it demonstrated

the effectiveness of using a token economy as a behavior management system for an entire class. Another study (Zlomke, 2003) examined the use of a token economy intervention combined with a self-monitoring package. The results of this research are aligned with other studies that showed a decrease in disruptive behavior with the use of a token economy (McGoey & DuPaul, 2000, Bray & Kehle, 2000).

The review of the research supports the importance of using an effective classroom management strategy for addressing challenging classroom behaviors. There has also been an increase in the demand in the use of strategies that are research and evidence based. While there have been many different strategies used over the years, a token economy has been found as an effective evidence based strategy in reducing off-task and disruptive behavior.

### **Purpose**

The purpose of this study is to investigate the use of a token economy as a behavior intervention to reduce off-task and disruptive behavior in a third grade classroom.

### **Researchable Question**

Will using a token economy decrease disruptive and off-task behavior?

### **Methodology**

#### **Participants and Setting**

The participants in this study were in a public, open concept classroom in an urban area located in the Pacific Northwest area of the United States. In an open concept setting each grade is taught in a room with no walls to separate one class from another. The school was located in a lower socioeconomic area. Being an open concept school the participants are the entire third grade with 53 participants total divided between two classes. In this particular situation

participants were with one teacher for half of the day to study reading and writing and then switch with the other class to another teacher who focuses on math and word comprehension. The ages range from 8-9 years old. In classroom A there were 25 students, 9 boys and 16 girls. Nine of the students in this class were classified as English Language Learners (ELL). There were 3 students on an Individual Education Program (IEP), two for English, writing and math, while the third student was a behavior based IEP. Class B had 27 students' 13 boys and 14 girls. There was one ELL student and no students on IEP's. The ethnicity breakdown for the third grade was as follows: African American Hispanic, Middle Eastern, Caucasian, and American Indian.

### **Data Gathering Tools and Instruments**

In this study, students were observed to see if there is was reduction in off task and disruptive behavior during the intervention. Three different data gathering tools were used to collect data during the intervention (token economy) phase of the research. These instruments included a behavior observation schedule (See Appendix A), a weekly student self-assessment survey (see Appendix B), as well as a homework completion chart (See Appendix C). A mixed mode data analysis was be conducted at the end of the intervention to compare baseline data to intervention data.

### **Procedure**

The researcher used a script read by the cooperating teacher to welcome participants to the study and explain the procedures. A week before the pretest a list of common disruptive or off-task behaviors was identified. A pretest was administered one week prior to the start of the intervention. The researcher used the behavior observation checklist to monitor the frequency that the identified behaviors occur during specified thirty minute time periods throughout the

day. The intervention began the week following the pretest. Participants were introduced to the token economy and the policies/procedures for getting tokens. The tokens were given out at random throughout the day to participants who are on-task or behaving in ways that fall under the classroom community guidelines. It was reinforced that the token distribution is intermittent and tokens were not given every time a participant was on-task. In the beginning of the intervention tokens were given out more readily so that students understood how it worked. Participants could receive tokens for bringing their completed reading log, turning in homework, for lining up with out talking, etc. Participants were directed that when they receive a token they must write their name on it and turn it in to the token box that is located in the classroom. Classroom A's tokens were a different color than classroom B's to separate the tokens by class. At the end of each week two separate lottery-style drawings were held-one for each class. There was also a behavior self-assessment survey that the participants were required to fill out each week. During the drawing tokens were pulled at random and the participant whose name was drawn would receive a backup reinforcer in place of their token. Backup reinforcers ranged from different items such as pencils, stickers, or homework coupons. At the end of the drawing the token box was emptied and all participants started the following week at zero tokens. During the intervention stage the researcher would also gather data that participants were academically on task by recording if they were turning in their weekly assignments. At the end of three weeks the intervention ended and the following week a posttest was conducted. The goal was to determine if there was any decrease in the frequency of off-task and disruptive behavior.

### **Parameters**

A parameter of the study was that it was only conducted in two third grade classrooms. Another parameter of the study was since it was an open concept school participants were only with the researcher for half of the day.

### **Validity**

The researcher increased *Neutrality/ Confirmability* by the use of triangulation. Triangulation is a technique that combines the use of three different data gathering tools to gather data, which increases the validity and reduces bias. Possible limitations were inaccuracy of observation/data collection. The use of triangulation helped limit this. The researcher also increased *Truth-value* and *Process* validity by the use of persistent and prolonged observation during the intervention. This increased validity as the longer the data was collected; the more likely the truth effects showed. Some limitations of the *Truth-Value* validity were that participants could answer the self-assessment survey by putting answers they think that they should have or what their peers do. To assess this limitation I told the students the survey is anonymous and asked that they complete it silently and honestly and that their answers will not be held against them in any way.

### **Conclusion**

#### **Results**

During the pretest the observer noted an average frequency of 107 identified disruptions from Classroom A during the week. After the intervention period the observer noted an average frequency of 46 identified disruptions during the week of the posttest. These observations yielded a 68% reduction in the frequency of observed disruptive behaviors from the pre test to the posttest.

Classroom B showed an average frequency of 188 identified disruptions during the pretest week. The data from the posttest shows that the observer noted an average frequency of 74 disruptions, which yields a 61% decrease from the pre to post tests. The graphs (See Appendix D) show a large generalization of improved behavior in both classrooms after the intervention period. From this data and the data gathered during observations made in the token period, the level of confidence in the validity of this information is that there was a significant decrease in disruptive behavior after the token economy was implemented.

The homework completion chart was used to measure if students were completing assignments outside of the classroom. Classroom A data was gathered prior to the start of the intervention period. Students turned in an average of 58% of homework during this period. After the intervention the average decreased to 48%, which yields a 10% change from pre to post test (See Appendix E). This data resulted in an unexpected finding that the token economy actually had a negative or no significant impact on improving the completion of homework and assignments that occurred outside the classroom.

Classroom B (See Appendix E) showed an average of 56% of homework turned in before the intervention and an average of 60% of homework turned in after the intervention. This data yields a 4% change from the pre to post test. Unlike Classroom A this data shows little if any, generalization of an improvement in the completion of homework from when the token economy was in effect to when it was not in effect.

## **Discussion**

The data suggests that the implementation of the token economy was successful in reducing off-task and disruptive behavior. The findings from the pretest and the posttest in observing the frequency of disruptive behaviors show a significant decrease in both classes.

Observations from the teacher also show that students were more likely to follow directions, stay on task, and display desirable behavior when other students were praised and received tokens. The system created a type of domino effect on the rest of the students in the class- when one student was awarded a token, other students' immediately began to model the behavior of the student who was positively reinforced. It was further observed that the token system had an immediate effect as disruptive behavior was significantly reduced the first week of the intervention, but as the weeks went on the behaviors fluctuated (possibly due to interruptions in class schedule during statewide standardized testing). To control this the researcher had to significantly alter the stakes of the weekly raffle by adjusting the level of prizes that were offered each week to those that were more desirable to the students.

An unexpected finding was that the token economy had no affect on the completion of assignments outside of the classroom. This was supported through the data collected in the homework completion chart, which recorded the number of homework and out-of-class assignments that were turned in. A possible explanation as to why this occurred would first be due to the fact that the token response for homework was not immediate enough, suggesting even though the student knew they would receive a token the next day, it was not sufficiently immediate to motivate them to complete their homework. This inference leads directly into motivation, which will be recommended later as an area of further study. Another reason that students did not complete homework was because it was not a priority at home. Parents play a large role in their student's education and if they do not have the support at home from their parents, then the student may have trouble completing tasks that take place outside of the classroom.

### **Implications**



The results of this study have important implications for classroom and behavior management. To reduce off-task and disruptive behavior it appears students need a form of reward or external motivation, which research suggests can be provided through the use of a token economy system. It is important and essential though that when implementing a token system one must use a combination of praise when giving out tokens so that the student knows explicitly why they are receiving it. By catching the student when they are on task or displaying desired behavior and using verbal praise in combination with the tokens a teacher focuses on the area of improvement and provides all the other students a chance to view what behavior is expected. An important area to note, which was also discussed by Kuypers, Becker and O'Leary (1968) suggests if the token economy involves a delay in giving tokens, it is probably very important to use differential social reinforcers until a time in which the token can be given to the child. This could include praise or writing a note on the board. The important feature is to acknowledge the student for displaying the desired behavior and then following through with a token as soon as possible.

### **Recommendations**

Based on the experiences and findings in this study a number of recommendations are proposed. One is to hire and train at least three observers to help increase the validity of this study. This change would increase validity because it would generate data from three different people, as opposed to just one as in the current study. This would also increase validity because this would also eliminate any researcher bias.

Another recommendation would be to implement this study in a different classroom setting. The current study took place in an open concept school where the students were only with the teacher for half of the day. The token economy was not implemented by the other

teacher, which could possibly have significantly different results if the token system was used for the entire day. A final recommendation would be to conduct a separate study to measure motivation outside of the classroom with the use of a token economy. The current study showed unexpected findings when it came to homework or assignments that were completed outside of the classroom. Hence there is a need to research why the token economy was not effective in this area.

Token economies are a flexible and reliable method of managing behavior, but they are not a magic solution. A good classroom management system uses a variety of management techniques to positively reinforce positive behavior. The token economy is just one tool that can help facilitate a successful classroom. The real answer lies in the combination of tools the teacher chooses to effectively utilize.

### **Dissemination Plan**

I plan to submit my action research to the Education Resources Information Center (ERIC). ERIC is an online library of scholarly journals, books, research syntheses, conference papers, technical reports, policy papers, dissertations and theses and other education-related materials. It is the world's largest digital library of education literature.

In order to submit my research I must first submit a free personalized My ERIC account at [www.eric.ed.gov](http://www.eric.ed.gov). Then I must complete an online agreement to give ERIC permission to display my work. After I complete the agreement I must upload an electric copy of my research report. After the file is uploaded I must provide key details of the document including my name, title, publication date, and an abstract. After my submission is complete an ERIC document selection expert will review my report in accordance with the screening criteria. The criteria for screening are as follows: Must be relevant to education, must meet basic quality criteria, full text

must be provided, and a summary or abstract must be provided. According to ERIC in order to meet the quality criteria the document must be complete and useable as presented, the objectivity of the paper must have been verified by a review process, it must address scope area in a professional way, and it must be relevant to current priorities in education and be of interest to the broad education community.

Once my report has been accepted ERIC will send me an email notifying me and my thesis will be assigned an Eric Document (ED) number. My report will be available in the collection within 30 days of submission.

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**Appendix A**

**Behavior Observation Schedule**

Behavior Observation Schedule

Date:	Time Schedule				
<b>Behavior</b>	<b>845-915</b> <b>1230-1</b>	<b>915-945</b> <b>1-130</b>	<b>945-1015</b> <b>130-2</b>	<b>1120-1150</b> <b>2-230</b>	<b>Lunch</b> <b>230-3</b>

## Appendix B

### Student Self-Assessment Survey

#### Self -Assessment

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

- |  |       |              |           |                  |        |
|--|-------|--------------|-----------|------------------|--------|
| 1. I had a positive attitude.                                | Never | A little bit | Sometimes | Most of the time | Always |
| 2. I was respectful to my peers/teacher.                     | Never | A little bit | Sometimes | Most of the time | Always |
| 3. I had trouble following directions.                       | Never | A little bit | Sometimes | Most of the time | Always |
| 4. I filled out my reading log everyday.                     | Never | A little bit | Sometimes | Most of the time | Always |
| 5. I listened to the teacher.                                | Never | A little bit | Sometimes | Most of the time | Always |
| 6. I talked to my peers when I am<br>doing my work in class. | Never | A little bit | Sometimes | Most of the time | Always |
| 7. I was on time and ready to work.                          | Never | A little bit | Sometimes | Most of the time | Always |
| 8. I turned my homework in.                                  | Yes   | No           |           |                  |        |
| 9. I did my very best work.                                  | Never | A little bit | Sometimes | Most of the time | Always |
| 10. I had fun at school                                      | Never | A little bit | Sometimes | Most of the time | Always |

Next week I am going to work  
on: \_\_\_\_\_

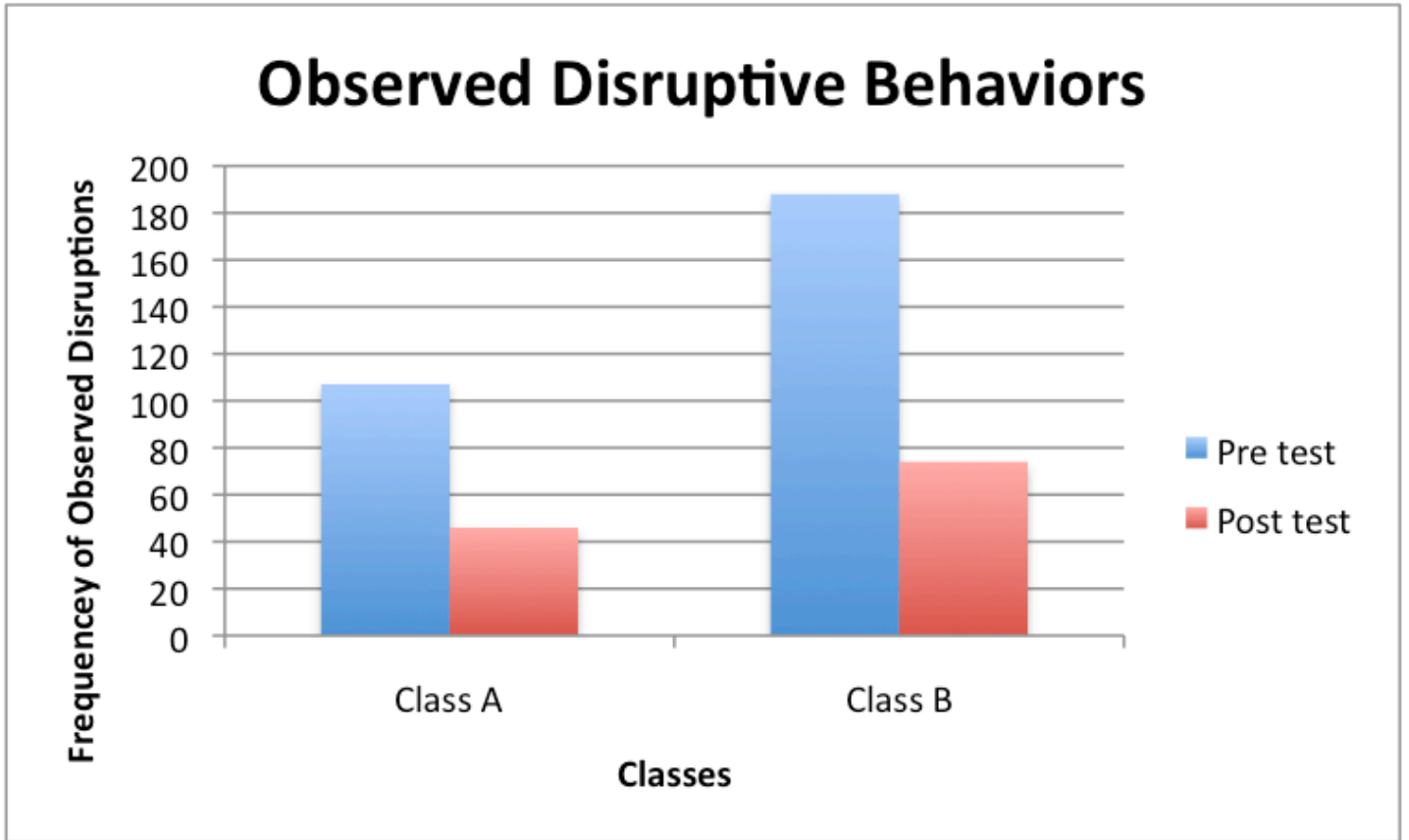




Appendix D

Table 1

*Observed Disruptive Behavior Pre and Post Test: Classroom A & B*



Appendix E

Table 2

*Completion of Homework Before and After Intervention: Classrooms A & B*

