

St. Cloud State University

The Repository at St. Cloud State

Culminating Projects in Community Psychology,
Counseling and Family Therapy

Department of Community Psychology,
Counseling and Family Therapy

5-2023

Use of an Interdependent Group Contingency to Decrease the Off-Task Behavior of a Special Education Student

Hannah Anselment

Follow this and additional works at: https://repository.stcloudstate.edu/cpcf_etds

Recommended Citation

Anselment, Hannah, "Use of an Interdependent Group Contingency to Decrease the Off-Task Behavior of a Special Education Student" (2023). *Culminating Projects in Community Psychology, Counseling and Family Therapy*. 101.

https://repository.stcloudstate.edu/cpcf_etds/101

This Thesis is brought to you for free and open access by the Department of Community Psychology, Counseling and Family Therapy at The Repository at St. Cloud State. It has been accepted for inclusion in Culminating Projects in Community Psychology, Counseling and Family Therapy by an authorized administrator of The Repository at St. Cloud State. For more information, please contact tdsteman@stcloudstate.edu.

**Use of an Interdependent Group Contingency to Decrease the Off-Task Behavior of a
Special Education Student**

by

Hannah C. Anselment

A Thesis

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

Master of Science in

Applied Behavior Analysis

May 2023

Thesis Paper Committee:
Michele Traub, Chairperson
Eunju Choi
Stephen Walker
Benjamin Witts

Abstract

Off-task behavior of an individual student can impact the behavior of a class. Group contingencies are an effective behavior management procedure to reduce disruptive behavior and increase academic engagement of a classroom. This study investigated the effects of an interdependent group contingency on the off-task behavior of a special education student. A multiple-baseline design was used to examine whether the intervention could decrease the rate of inappropriate vocalizations and off-task technology use of an individual student as well as their class peers. The interdependent group contingency reduced inappropriate vocalizations by 60.49% for the target student and 62.52% for the class. Off-task technology use was decreased for the target student and their peers by 72.31% and 76.27% respectively. In addition, a correlated increase in academic engagement was observed for the target student and the class once the procedure was fully applied to both target behaviors. The findings suggest the interdependent group contingency reduced off-task behavior of a special education student and increased their academic engagement while further providing an overall reduction in disruptive behavior of the classroom.

Table of Contents

	Page
List of Tables	5
List of Figures	6
Chapter	
1. Introduction and Literature Review	7
Independent Group Contingencies.....	9
Dependent Group Contingencies	11
Interdependent Group Contingencies	13
Matching Group Contingencies to Group Demographics	15
Limitations of Independent and Dependent Group Contingencies.....	16
Individual Performance within Interdependent Group Contingencies	19
Interdependent Group Contingencies and Inclusion.....	20
2. Method	23
Participants and Setting.....	23
Materials	24
Dependent Variables and Data Collection.....	25
Inappropriate Vocalizations	25
Off-Task Technology Use.....	26
Academic Engagement	26
Hair Touching	27
Experimental Design.....	28
Interobserver Agreement	29

	4
Chapter	Page
Procedure	29
Training.....	29
Preference Assessment.....	30
Baseline.....	31
Intervention.....	32
Social Validity	33
Procedural Integrity	34
Accurate Rules	34
Class Reminder	34
Scanning.....	35
Praising and Prompting.....	35
Recording.....	35
3. Results.....	35
Social Validity	42
4. Discussion.....	45
References.....	50
Appendices	
A. Data Collection Forms for Individual and Classroom	58
B. Written Intervention Instructions	62
C. Procedural Fidelity Form	63
D. Institutional Review Board Approval Letter.....	64

List of Tables

Table	Page
3.1 Student's Social Validity Results.....	43
3.2 General Education Teacher's Social Validity Results	44

List of Figures

Figure	Page
3.1 Percent of Behavior Occurrence During Baseline and Intervention for Each Target	
Behavior.....	38
3.2 Checkmarks Earned Per Criterion Phase	42

Chapter 1: Introduction and Literature Review

Students' academic engagement is an important aspect of classroom teaching. Reducing off-task behavior in the classroom can improve the focus of not only the off-task individual but also the students around them. According to Fredrick et al. (1979), the inattention, tardiness, and interruptions of others reduces learning time for all students present. To increase the academic engagement of the classroom, minimizing the distractions of off-task individuals must occur first. However, on average there are over 26 students per elementary classroom in the United States (National Center for Education Statistics, 2018), which may unfortunately reduce a teacher's ability to ensure each student is engaged during their lesson. Group contingencies have been used as an effective class-wide intervention to reduce off-task behavior and increase the academic engagement of not only individuals but an entire student body.

Group contingencies are a set of techniques in which the same consequence is given contingent on the behavior of the entire group, a portion of the group, or a single person within the group (Cooper et al., 2014). These class-wide interventions give teachers a simple way to monitor the group's behavior and reward them as a unit. Instead of monitoring multiple individual contingencies, which can be impractical within a classroom, the teacher monitors the group's responses towards a common criterion to determine whether the group is rewarded. This strategy incorporates individual achievement while simplifying the teacher's responsibilities, as the behavior of the group is observed rather than each student's behavior. Axelrod (1973) provided an early demonstration of the utility of group contingencies. In his study, he compared the effectiveness of individual and group contingencies in reducing undesirable behaviors within two special education classrooms. The two phases were set up similarly, with the numbers 25

through zero written in descending order on the blackboard in front of the class (for the group contingency) or written under each student's name (for the individual contingency). During the intervention phase, when any student in the class engaged in undesirable behavior, the highest number on the board (group) or under the student's name (individual) was erased. The highest number left after the one-hour session represented the number of tickets each student would earn and could use to buy a large variety of candy and toys. The study found the mean number of daily undesirable behaviors in both classrooms was reduced by an equivalent extent when the individual and group contingencies were added. These results indicate both contingencies had a similar effectiveness in reducing the frequency of undesirable behaviors. Since the contingencies were equally effective within this study, other factors were considered to decide which contingency had more utility within the classroom. Record-keeping, administration of reinforcers, and variety of reinforcers were reasons stated for the group contingency having more utility. Observing the class as one unit rather than each student as their own made it easier for the teacher to count the frequency of behaviors, count the total tokens needed for a class reward, and choose a reinforcer (e.g., free play for the class versus individual toys per child).

More recently, Hernan et al. (2019) found a group contingency to be more effective and socially acceptable when compared to the effectiveness of an individual contingency in increasing academic engagement and reducing mobile device use within two high school classrooms. The individual contingency consisted of an antecedent strategy giving the students a choice to put their phones in a clear box during instructional time. The clear box was removed from the students' desks and put in a corner of the classroom until the lesson was over. Students who chose to keep their phones and use them during the lesson could contact reprimands or loss

of privileges for using them. The group contingency was run similarly; however, students were told they could earn 15 bonus points if everyone in their small group placed their mobile devices in the clear box for the entirety of the lesson. Groups could earn an extra 5 points each time the teacher scanned the room and the group displayed zero occurrences of off-task behavior. At the end of the lesson, the teacher would draw a random point criterion from a jar indicating the minimum number of points the groups had to earn to receive the daily reward. The results of the study showed an immediate increase in academic engagement, a decrease in off-task behavior, and a reduction in mobile device use only when the group contingency was in place. The individual contingency was found to be no more effective than the typical classroom strategies. Not only was the group contingency more effective than the individual contingency, but the teacher and students both rated the group contingency as more acceptable and effective than the individual strategy. Group contingencies have continued to show similar or improved efficiency when compared to individual approaches (Holt et al., 2012, Lloyd et al., 1996, McLaughlin et al., 1980) and can offer simplicity to classroom observation and behavior management when working with large groups. There are several subtypes of group contingencies, all of which have demonstrated effectiveness in various settings, but all of which are procedurally and functionally distinct.

Independent Group Contingencies

Independent group contingencies are defined as the same criterion for individual responses being in effect for all members of a group; however, access to reinforcement is earned on an individual basis (Litow & Pumroy, 1975). For example, to earn a piece of candy a student would need to complete an academic worksheet under 5 mins. Students who successfully

completed the task would receive a piece of candy, whereas students who failed to complete the worksheet under 5 mins would not receive the reward. Reward and punishment are contingent on the individual's responses alone, and the outcomes of other individuals will not affect one another.

Independent group contingencies have been used successfully with elementary to high school students to decrease verbal disruptions, inappropriate sitting, off-task behaviors, and disruptive behaviors (Groves & Austin, 2017; Lum, 2017). Brantley and Webster (1993) successfully implemented an independent group contingency to decrease inappropriate behavior within a fourth-grade classroom. Prosocial behavior that was incompatible with the target behavior (i.e., talking without permission, making noises, not paying attention, touching others) was introduced to the class as a means of reducing inappropriate behavior. The children's names were written on the whiteboard along with four rules to follow (i.e., pay attention during class, ask permission before talking, stay in your seat, keep hands to yourself). Students who exhibited two prosocial behaviors per 45-min interval would earn a check mark under their name. A preselected reward chosen by the students was delivered to the students who earned five checks per day for at least four days out of the week. Students who did not reach the criterion completed their usual academics in a different room while the students who earned the reward accessed it. Results proved this independent group contingency to be effective. Talking without permission decreased by 55% during the first week, out-of-seat behavior decreased by 44% in week three, and touching others dropped from 5.33 instances a day during baseline to less than one instance in the first week. This study provided evidence that independent group contingencies can be effective in reducing off-task and inappropriate behaviors and offered an example of the

simplicity of implementing this procedure within an elementary classroom. Similar independent group contingencies can be a convenient and simple technique to include within a variety of group settings.

Advantages of this technique include easily managed reinforcement due to equal criteria being applied across all students, and a fair rating system for teachers when all variables are equal (Skinner et al., 1996). Independent group contingencies can be an effective strategy if the response criterion is attainable to most of the class and by rotating through multiple reinforcers to ensure the reward is motivating to all students. However, there may be settings or situations in which applying consequences on an individual basis is less desirable or feasible, and other group contingency arrangements should be considered.

Dependent Group Contingencies

A dependent group contingency requires every member of a group to work towards a response criterion; however, the contingency will be applied to the group based on the performance of only one or two members (Litow & Pumroy, 1975). For example, the entire class is expected to run a mile during physical education; however, the class will only be rewarded if the chosen student (i.e., typically a student that needs improvement) finishes the mile. If the chosen student finishes the mile, all students will be rewarded with free time for the remainder of class. If the chosen student does not finish the mile, the entire class will continue with physical education as usual.

In a dependent group contingency, a target student is selected to reach the response criterion on behalf of the classroom. Since the target student is typically an underperformer, their peers may try to support the target student in their efforts. Peer influence (i.e., positive or

negative) has been shown to motivate target individuals to reach the response criterion, as illustrated by Speltz et al. (1982). This study applied independent, interdependent, and dependent contingencies to the academic performance and social interactions of elementary aged students in a learning disabilities classroom. Desired outcomes consisted of a higher rate of academic completion and increased frequency of positive peer interactions. The study was broken into four reinforcement contingency phases to compare outcomes: a) individualized, which consisted of each student's behavior being measured separately; b) all-member, which took the average results of the group; c) identified responder, which was conducted as a dependent group contingency with the target student being identified; and d) unidentified responder, which was conducted the same as the previous phase, but the target student was unknown to the group. The findings revealed the two dependent group contingencies (i.e., identified responder and unidentified responder) produced a significantly higher level of positive social interactions than found in baseline. Not only was a higher frequency of positive interactions found during these phases, but the dependent group contingency was the only reinforcement contingency to show differential responding from baseline levels. Speltz et al. (1982) found dependent group contingencies to be effective in increasing not only academic performance but also enhancing the social interactions of elementary aged students.

Dependent group contingencies have a variety of applications including reduction of talk-out, out-of-seat, and off-task behavior along with increased academic work (Coleman, 1970; Speltz et al., 1982), diminished disruptions during hallway transitions (Deshais et al., 2018), and increased group cooperation within physical activities (Vidoni & Ward, 2006). This intervention encourages groups to work together and promotes low-achieving individuals to accomplish

higher set goals. However, it may be less advisable when the behavior of multiple individuals in the classroom requires intervention.

Interdependent Group Contingencies

Interdependent group contingencies involve all group members performing to a preselected response criterion to receive reinforcement. The same contingency is in place for all members of the group, and their collective performance determines their consequence (Litow & Pumroy, 1975). For example, if an entire class has fewer than five instances of inappropriate or off-task behavior within a 1-hour interval, the entire group will receive extra recess at the end of the day. If the class, or any individuals within the class, engage in a combined six instances of inappropriate or off-task behavior, the class will continue with academic work. These group contingencies can be conducted with the entire classroom participating as one large group, or the group can be split into two or more teams to compete with one another.

Developed by Saunders in 1967 and published by Barrish et al. in 1969, the Good Behavior Game (GBG) can decrease the rate of out-of-seat and talking-out behavior of a classroom by making a highly sought-after reward contingent on following pro-social classroom rules. Barrish et al. (1969) conducted the GBG in a 4th grade classroom which was split into two teams. Prior to the game, the teacher explained the privileges that could be won by the teams by simply following the stated rules. The first four rules were regarding out-of-seat behavior. The rules stated that the students could not leave their seats without permission, move their desks, sit on top of their desks, or leave their seat to write on the chalk board. The last six rules were in relation to talking-out behavior, such as not talking without permission or to their neighbors. The students were told that each instance a team violated these rules, a mark would be made on the

chalkboard. The team with the fewest checkmarks at the end of the one-hour interval would earn victory tags, a star by their name, line up first for lunch, and have access to a 30-min free time break at the end of the day. If both teams had fewer than five marks on the board, both teams could earn the reward. The team(s) that lost the privileges would continue to work on their academic assignments during the last 30 mins of the day. In baseline out-of-seat and talking-out behavior occurred in 96% and 82% percent of intervals, respectively. Once the intervention was applied those declined to 19% and 9% of intervals, respectively. The GBG significantly modified the out-of-seat and talking-out behavior of the entire classroom by using a simple response contingency and motivating rewards. Since its development in 1967, the GBG has been successfully adapted and applied to extend the literature on interdependent group contingencies. Improvements to the implementation of the GBG have been explored by using coaching techniques to instruct teachers on increasing treatment fidelity (Becker et al., 2013), adjusting the application of the game for inclusive classroom settings (Lastrapes, 2013), extending the literature to include the kindergarten population (Donaldson et al., 2011) and developing strategies to observe individual effects (Donaldson et al., 2017). Although the GBG is only one technique used within the various interdependent group contingency applications, it is well known to be successful and adaptable to a range of classroom disciplines.

Interdependent group contingencies have advantages over independent and individual contingencies, such as fostering more connection between group members and less division occurring between reward earners and non-reward earners, along with improvements in social goals occurring through positive peer pressure (Skinner et al., 1996). Although disadvantages can occur with these group contingencies, including individual students showing limited

motivation to earn some group rewards and potentially sabotaging the group, almost all these disadvantages can be mended by use of randomized intervention components and rotation of motivating rewards (Skinner et al., 1996). Interdependent group contingencies have been proven to be successful class-wide interventions with a range of implementation styles to fit the needs of diverse groups.

Matching Group Contingencies to Group Demographics

All three group contingencies are successfully used with a wide range of participants in a variety of settings (Alric et al., 2007, Joslyn et al., 2019, Meredith & Dallery, 2013, Theodore et al., 2001). Although group contingencies can be applied to an assortment of challenges, every group contingency has their own advantages, and these benefits can be paired with certain group dynamics. For example, individual and interdependent group contingencies are a practical choice for classrooms with younger children. These two methods require each child to encounter the cause-and-effect contingency of reaching the criterion and receiving a reward (Pokorski et al., 2017). This two-step procedure is simple for younger children to grasp and continue using, and it gives them more opportunities to directly contact contingent consequences for their behavior.

Interdependent group contingencies also provide a convenient approach to increase cooperation within a group. This contingency requires the group to work together to achieve the reward. Carroll and Williams (2007) provided an example of this increased cooperation by exposing their undergraduate human development students to one of three cooperative learning arrangements to improve exam performance. The first arrangement (individual-requirement) consisted of an independent group contingency where all participants had the same criterion to meet before earning 5 bonus points on their exam, but their results did not impact their group

members. Once achieved they could earn 5 more points if all group members reached the criterion. The group-requirement contingency consisted of an interdependent group contingency with all group members needing to reach criterion before earning 5 bonus points on their exam. Once achieved, individuals reaching criterion could earn 5 more bonus points. The last cooperation arrangement (split-requirement) allowed group members to earn 5 bonus points for meeting the individual and/or the group-required contingency. The study found the group-required contingency contributed the most to earning group credit, with 94% of students meeting the group criterion compared to only 76% and 89% earning this credit in the individual-requirement and split-requirement contingencies, respectively. The interdependent group contingency was shown to be a successful cooperative learning arrangement to increase the percent of students who earned bonus points on their exam.

Dependent group contingencies have benefitted specific individuals by using positive peer pressure from group members to improve the target individual's performance. Since only the performance of an individual or a select few need to reach the criterion, only that individual's behavior needs to be observed (Little et al., 2015). This reduction in behavior monitoring from the entire class to a single student can make this group contingency highly preferable to teachers and staff (Deshais et al., 2018). Group contingencies can be effective with a range of behavior change programs; however, they can be even more successful when the type of group contingency is matched to the needs of the group.

Limitations of Independent and Dependent Group Contingencies

When targeting the behavior change of a specified student, independent and dependent group contingencies seem to be the most reasonable option. These methods, though, have

limitations to their effectiveness that are often overlooked. For instance, independent group contingencies may promote unsuitable social groups in which peers who regularly do not meet criteria because of poor academic performance or inappropriate social behavior, create a space where members can promote and praise each other's inappropriate behavior as a means of fitting in (Cashwell, 1998). This leads to the creation of two contrary peer groups, one that includes the "smart" and "behaved" students and another which includes the socially underdeveloped and academically inferior students (Skinner et al., 1996). Not only does this separation create an increase of inappropriate behavior but may also establish division within the classroom. Other limitations of the independent group contingency stem from the aim for equal consequences. Reinforcers may be limited within these group contingencies because the strength and quality of a tangible reinforcer varies per student. To avoid the inequalities of individual reinforcers, group activities have been used. However, issues arise with the use of group activities as well, especially when the activity requires the reinforcement earners to be separate from the non-earners along with ensuring enough supervising adults are available to monitor two groups (Skinner et al., 1996). For instance, when excluding some members from a group activity, it may make the activity less enjoyable or less reinforcing for the rest of the group (Skinner et al., 1996). The individuals left to continue with their regular schedule may feel as if they are being punished, which may affect their academic performance and socially appropriate behavior.

The dependent group contingency has constraints when it comes to behavior change of a target student as well. Due to the design of this method, it would be almost impossible to target the entire class's behavior simultaneously (Little et al., 2015). That is why low performing individuals are regularly the focus point of this contingency and typically only their data is

collected and analyzed. Nevertheless, this procedure assumes the entire group will participate alongside the target individual and the contingencies in place will affect the rest of the group similarly to the target individual. Yet data is rarely reported on the procedural effectiveness for the rest of the group (e.g., Coleman, 1970, Deshais et al., 2018, Vidoni & Ward, 2006). If an entire class is completing the procedural tasks under a dependent group contingency, the average group results of the intervention would be informative to the teacher and other student resource members. This information can help teachers choose whether to continue the group contingency with the whole class (if it was effective for more than just the target student) or whether an individual contingency may be better suited for the specified student. Running a class-wide intervention that is only successful for some may waste effort and time, but this can only be realized and adjusted by taking data for the entirety of the class.

Dependent group contingencies rely upon positive social pressure as a means of motivation and reinforcement for the target individual. Although these interactions occur and can be quite successful, negative peer pressure may occur just as frequently. According to Kauffman et al. (1986), this group arrangement makes negative peer pressure much more likely to occur compared to interdependent group arrangements. Additionally, these negative social interactions can become even more likely to occur when the target individual(s) performs inadequately, which may result in verbal threats, criticism, and even harassment. Negative statements towards the target individual(s) can increase feelings of failure and may further decrease their performance. Further, the target individual(s) may perceive the group procedure as an act of punishment rather than a reinforcement contingency when presented with disapproval (Little et al., 2015).

Individual Performance within Interdependent Group Contingencies

Interdependent group contingencies currently look at the cumulative performance of the class (Skinner et al., 1999); however, this group-based procedure can be adjusted to not only observe the behavioral performance of the group but also the individual progress of certain group members (e.g., off-task individuals). Interdependent group contingencies could be the ideal procedure to alter the behavior of an individual within a procedure that targets the entire group's performance. This method requires an entanglement of diverse students to work together and meet behavioral expectations to increase the probability of receiving group reinforcement (Kelshaw-Levering et al., 2000). When the focus moves from an individual to the whole class, peer encouragement is more likely to occur across students, it promotes inclusion of everyone, and no student will feel singled out (Lew et al., 1986). As well as this approach increasing cooperation of a diverse student body, it also requires less time to implement due to an all or none reinforcement delivery (Axelrod, 1973), it is easier to manage as a single teacher, and provides a cost-effective strategy to reinforce an entire group. Because the same reinforcement within an interdependent group contingency is provided to the entire group, the reinforcer may be more motivating given that everyone is included, and the pool of reinforcers can be more abundant including tangibles, tokens, or activities (Skinner et al., 1996). The interdependent group contingency can be a simple, collective method to adjust behavior of an individual while incorporating that same behavior change to an entire group.

Research has demonstrated that the behavior of target individuals can be impacted by implementing interdependent group contingencies that operate on the entire classroom. For example, Schanding and Sterling-Turner (2010) implemented an interdependent group

contingency in a high school classroom to decrease the disruptive behavior of three identified students. With the use of classroom rules and a mystery reward, the results showed a 40% decline in the three individuals' disruptive behavior, along with a 50% decline in the class's overall disruptive behavior. Similar findings were shown by Ling et al. (2011) when they implemented an interdependent group contingency to increase the academic engagement of an 8-year-old student. The class earned their reinforcement if they followed the posted rules and demonstrated appropriate classroom behavior during their daily morning meetings. Results found the procedure to be effective in increasing the academic engagement in both the target individual and the entire class, with an average of 86% and 89% sessions engaged, respectively. These studies show the interdependent group contingency to be an effective method in decreasing the rates of inappropriate classroom behavior and increasing the academic engagement of both target individuals and their classmates, and they further support the contention that target individuals can have successful behavior change within a group contingency targeting the entire class. Knowing the success interdependent group contingencies can have with individual students, teachers can implement these interventions and reduce their effort by combining target students' goals when appropriate, thereby generating more time and productivity for the teacher, encouraging positive peer interactions between students, and providing all staff and students with a fun and easy way to manage individual and classroom behavior.

Interdependent Group Contingencies and Inclusion

Despite the successful research on the effectiveness of interdependent group contingencies on individual's behavior (e.g., Donaldson et al., 2017, Thorne & Kamps, 2008), there is little in the literature supporting their use for the population of students who may most

benefit from them. A small portion of general education classes consist of students diagnosed with a variety of disabilities or delays such as reading and language deficits, cognitive delays, and behavioral disorders. These students could be receiving special education support through inclusion services (i.e., support within the general education classroom), resource or pull-out services (i.e., the student is removed from the classroom at specific times for additional support), alternative services (i.e., support outside of the school), or transitioning into general education from an exclusive classroom (i.e., special education classroom where students spend a majority of their day; Obiakor et al., 2012). No matter the level of support these students are receiving, they each have experienced exclusion from their general education peers due to their academic or behavioral limitations. Exclusion from the classroom can cause serious distress for the excluded individual due to the lack of social interactions needed to create meaningful relationships (Larger et al., 2015). The sooner these individuals make peer connections, the larger the opportunity will be to have a positive adjustment within the inclusive classroom (Knesting et al., 2008). These individuals can be accepted into the classroom with a sense of belonging by use of an interdependent group contingency. According to Knesting et al., (2008) in their research of transitioning students with mild disabilities from an exclusive classroom to a general education classroom, students reported to prefer being in the general education classroom immersed with classmates with and without disabilities due to the types of friendships they created and the lack of stigmatization as their relationships grew. The collaboration and positive interactions needed to effectively implement this group contingency are important skills that will support target individuals in their incorporation into the classroom and will maintain social relationships with peers (Lew et al., 1986). Interdependent group contingencies can create an opportunity for

special education students to be accepted by their general education peers and work collaboratively with them, while concurrently improving their classroom behavior with support from their classmates. Therefore, the goal of this study was to extend the research of Ling et al., (2011) and Schanding and Sterling-Turner (2010) on the effects of interdependent group contingencies on individual performance. Specifically, this study sought to increase academic engagement and reduce the frequency of off-task behavior of a special education (SPED) student included in a general education classroom, by introducing an interdependent group contingency to the classroom.

Chapter 2: Method

Participants and Setting

The participants in this study consisted of a general education teacher and her students within a sixth-grade inclusion classroom at an urban middle school in the Midwest. The classroom consisted of 18 students ranging in age from eleven to twelve years old. Out of the 18 students, 44% were female, 56% were male, 89% were white, 5.5% were black, and 5.5% were Hispanic. Two students were on an individual education plan; however, only one was chosen as the primary participant (“target student”) due to their low academic engagement. This student was diagnosed with Other Health Diagnoses, Attention-Deficit Hyperactivity Disorder, and had a history of engaging in off-task behavior during classroom activities. To meet inclusion criteria, the target student must have had a current individual education plan in place with at least one behavioral goal, been able to remain in the selected general education classroom for at least 30 mins at a time, could engage in a classroom activity for at least 20 mins without paraprofessional support, and exhibit basic reading and writing skills for their age. The selected classroom teacher was required to have a current Minnesota teaching license and teach within a general education classroom with at least four students enrolled.

This research study was reviewed and approved by the Institutional Review Board. Research consent was obtained from the research department of the participating school district, the target students’ guardians, and the general education teacher. Parents of the general-education students were informed of the intervention and the collection of aggregate classroom behavior data and were given the opportunity to opt their child out of the study; however, no parents elected to opt their child out of the intervention or aggregate data collection.

After obtaining consent and prior to baseline, the researcher and teacher met to discuss the class displaying the highest rate of off-task behavior. The teacher identified their Educational Technology class as having a high rate of misbehavior and a lack of academic engagement. The researcher observed and took frequency data for two days for up to 30 minutes each day to determine the suitability of that class for the study. The subject of Educational Technology had a high rate of off-task behavior for both the class and target student and was the setting for this study. Out of the 18 students in the classroom, two students met the criteria to be the targets of the study. Out of the two assessed, only one student was chosen to be the primary participant due to their low rates of academic engagement and high frequency of off-task behavior compared to the rest of the class. The other potential target student had similar rates of off-task behavior when compared to their peers and therefore was not selected to be the target of this study. The setting for Educational Technology was unchanged from its typical arrangements during the procedure. Students were seated in one of three rows of tables with all seats facing the whiteboard at the front of the classroom. Seating arrangements were in place for all students and remained consistent throughout the intervention. The researcher was seated in the back of the classroom. When inter-observer agreement (IOA) data was collected, that observer was also seated in the back of the classroom.

Materials

The implementing teacher used the classroom whiteboard and markers at the beginning of each session to write one to four sentences on the board reminding the students of classroom expectations. The teacher wrote phrases such as, “I will raise my hand when I have a question or comment”, “talking should only occur when my work is complete.”, “I will only use teacher-

approved websites”. During intervention, the teacher was provided with an interval-timing phone application called the MotivAider™. This application was used to inform the teacher when each six-minute variable interval had concluded and cued the teacher to scan the classroom for off-task behaviors. Tangible reinforcers were provided to the teacher by the researcher once selected by the class-wide preference assessment.

Dependent Variables and Data Collection

Four dependent variables were measured throughout this study. Inappropriate vocalizations and off-task technology use were directly targeted during intervention, whereas academic engagement was observed for a correlated increase in student engagement when the target topographies decreased. The intervention effects were anticipated to influence these three behaviors; therefore, a fourth dependent measure of hair touching was included as a control behavior.

Inappropriate Vocalizations

Inappropriate vocalizations were defined as any non-contextual or non-teacher-initiated sound produced with one’s voice (e.g., sounds, words, phrases, or sentences). Non-contextual vocalizations refer to sounds not related to the current academic circumstances or setting such as shushing a peer, making popping noises with one’s mouth, discussing weekend plans with a friend, or asking a question not related to the current subject. Non-teacher-initiated vocalizations refer to sounds within context of the current academic circumstances but occurring without teacher permission. Examples included blurting out an answer to the problem on the board, asking a question about the current subject without raising their hand, or sharing their work progress with a peer. Non-examples of inappropriate vocalizations included being called on to

answer a question, saying an answer to the question out loud when the teacher prompts the class to do so, and discussing the subject with a peer when instructed to.

Off-Task Technology Use

Off-task technology use was defined as having any computer program open other than the teacher's pre-specified programs (e.g., Edclub.com, Keybr.com) at any time during the 30-min observation, the use of headphones during teacher lecture, and any use of technological devices during device restricted times. Examples included checking email, watching YouTube videos, scrolling through music applications, and checking text messages on a smartwatch. Non-examples included transitioning from one pre-specified program to another pre-specified program, changing the volume or use of other device settings in relation to the activity (e.g., headphone settings, use of calculator specifically for the activity), removing headphones from ears and placing them around the neck while the teacher is speaking, and checking the time on a smartwatch for less than five seconds.

Academic Engagement

Academic engagement was included as a dependent variable to measure the extent to which appropriate behavior increased during intervention. Academic engagement was defined as actively participating in the class activity. Participating included behavior such as following instructions within 3 s of a demand, keeping eyes positioned on the current instructor or academic work without looking elsewhere for more than 3 s, and keeping voice silent when the teacher is talking. Examples included raising their hand to answer a question, quietly asking a partner a question about the academic activity, checking the time for two secs before resuming work, and listening to the teacher's instructions. Non-examples included having their head

resting on their desk with their eyes closed, playing with their water bottle while the teacher gave instructions, online shopping, and talking to a friend about their weekend plans.

Hair Touching

Hair touching was defined as any occurrence of hands or fingers touching one's own hair. This definition includes scratching ones' scalp, twirling ones' hair, pulling ones' hair into a bun or ponytail, and resting one's hand on their head with fingers meeting one's hairline.

Each observation session was 30-min with 30-s intervals for each behavior. Inappropriate vocalization, off-task technology use, and hair touching were measured using 30-s partial interval recording (see Appendix A). The number of intervals in which each of these behaviors was scored was divided by the total number of intervals within one session and multiplied by 100 to yield the percentage of interval occurrences for each of the behaviors. Whole-interval recording with 30-s intervals was used to measure academic engagement. Percentage of academic engagement was measured by taking all intervals in which academic engagement occurred for the entire interval, dividing by the total number of intervals within one session, and multiplying by 100. To simplify data collection and to differentiate the target student's rate of behavior change from that of the class, the behavior of the target individual was measured on separate predetermined sessions than their peers. The behavior of the target student was measured consecutively for every 30-s interval during their determined sessions. Classroom sessions used a randomized, predetermined order in which classroom students, excluding the target individual, were observed sequentially for one 30-s interval at a time.

Experimental Design

A multiple-baseline-across-behaviors design was used to evaluate the effects of an interdependent group contingency on reducing the off-task behavior of one individual within a mainstream inclusion classroom. A multiple-baseline design is used to evaluate whether an intervention is effective by implementing the intervention at varying intervals. In doing this, behavior change is shown to be effective only when the intervention is implemented. However, in this study we anticipated academic engagement to increase as inappropriate vocalizations and off-task technology use decreased, but that the two target behaviors for reduction would not generalize; that is, that a decrease in inappropriate vocalizations would not influence off-task technology use behavior or vice versa. It was also anticipated that dependence would be shown between the first two target behaviors and academic engagement, but that the control behavior of hair-touching would remain unaffected.

Baseline consisted of regular implementation of classroom instruction along with typical off-task behavior management by the classroom teacher. Following baseline, the intervention was implemented on the target behavior producing the most stable data, inappropriate vocalizations. Baseline measurements continued to be collected for the other three behaviors (i.e., off-task technology use, academic engagement, and hair touches) while inappropriate vocalizations were targeted for intervention. Since high variation was seen in the second baseline, the intervention was implemented for the second target variable of off-task technology use when the second baseline began an upward trend. Baseline data continued to be collected for the behavior of academic engagement and hair touching throughout the entire study.

Data were collected for eight weeks with sessions occurring once a day, up to five days a week. The researcher collected data for each session, with a trained behavior analyst intern collecting IOA data at least once a week.

Interobserver Agreement

Interval-by-interval IOA data was taken for 17% of all sessions. Interval-by-interval IOA was calculated by taking the total number of intervals with agreement and dividing it by the total number of intervals within one session and multiplying that number by 100. Agreements consisted of both occurrences and non-occurrences that matched the second observer's results for that same interval. Results of IOA are displayed in Figure 1. During the first week of baseline, mean IOA scores never fell below 91%; therefore, additional IOA training was not required. The mean agreement for inappropriate vocalizations was 95.13% with a range of 93.47% to 96.61%. Off-task technology use had the highest mean agreement at 96.94% with a range of 91.53% to 100%. The mean agreement for academic engagement and hair touches was 89.70% and 93.47% respectively. The overall mean agreement was 93.80% across sessions with a range of 91.95% to 95.65%. Overall IOA agreement never fell below 91% throughout the study.

Procedure

Training

The classroom teacher was taught how to implement the contingencies prior to the start of treatment. Behavioral skills training techniques were used to train the teacher by presenting the intervention both written and vocally (see Appendix B), modeling the behaviors the teacher will need to engage in, having the teacher role-play their own part, and delivering feedback to the teacher on what they did well on and what needed improvement. This training was repeated until

the teacher was able to correctly implement the intervention to 100% accuracy for two consecutive role-plays according to the procedural fidelity checklist (see Appendix C).

To ensure accurate collection of IOA, the researcher provided the IOA collector with the dependent variable definitions, a written and vocal description of the data collection methods and allowed time for questions and feedback. IOA data was collected for at least two sessions during the first week baseline data was collected. If IOA fell under 80% during the first week, the researcher and IOA collector would have collaboratively collected data for at least three sessions during the second week of baseline to increase the equivalence of our scoring.

Preference Assessment

Prior to the start of intervention, the researcher conducted a preference survey to nominate potential stimuli to be used as a class-wide reinforcer. The researcher asked the class to vocally name activities or items they would like to earn during the procedure. Each student had the opportunity to identify a potential reinforcer while the researcher recorded the feasible nominations (Schanding & Sterling-Turner, 2010). The researcher and teacher selected five of the student-chosen nominations based on practicality and expense. The five potential reinforcers were then presented to the class (free-time, 5-mins off typing practice, candy, hornet bucks, fidgets), who were asked to discreetly vote by an anonymous ballot for their preferred option. The researcher gathered the votes and ranked the stimuli, with “1” being the reinforcer with the most votes and “5” being the reinforcer with the least votes. Free time received 50% of the preferred votes, candy received 38.9% of the vote, time off typing practice received 11.1% of the vote and both hornet bucks and fidgets were not picked as a preferred reinforcer. The three reinforcers with the most votes (i.e., 10-mins of free time, candy, and 5-mins off typing practice)

were used as the reinforcers during the intervention. During the procedural sessions, the teacher randomly chose among these choices as potential reinforcers to earn each day.

On session 16 social validity was assessed. When asked if the rewards were motivating, 52.93% of students stated they were either neutral or they disagreed with the statement. Most students stated 5 minutes off typing practice was no longer motivating because it could only be rewarded the next day. The researcher discussed options with the teacher and decided to remove the 5-mins off typing practice and add a mystery reward. The mystery reward consisted of small fidgets, treats, erasers, and bonus points. A new mystery reward was provided each time this reward was chosen. Reward motivation was reassessed at the end of the study. When asked if the rewards were motivating, 94.44% of students stated they agreed or strongly agreed with the statement, an increase of over 100% from the previous questionnaire.

Baseline

Baseline was taken concurrently for all four behaviors until stability, or an upward trend was observed in one of the two target responses (i.e., inappropriate vocalizations or off-task technology use). During baseline sessions, the classroom teacher conducted class as usual and managed target behavior as they typically would. This included redirection of students by vocal prompts, warnings given for loss of opportunities, and response blocking (i.e., remotely exiting students from non-educational internet tabs). The reinforcers identified in the preference assessment were not available to be earned (for appropriate behavior or other academic or behavioral targets) during baseline sessions.

Intervention

At the start of intervention for the first target behavior of inappropriate vocalizations, the teacher introduced a class-wide interdependent group contingency. While the students set up their desk for the next activity, the teacher wrote one to two sentences on the board to introduce the first contingency. Rules were discussed with the teacher prior to the start of intervention and were written in such a way as to highlight specific aspects of the target behavior. For example, the first target for intervention was inappropriate vocalizations and the rules were phrased as “I will raise my hand if I have a question or comment” and “conversations will only occur when my work is done”. Once all the students were back and seated at their desks, the teacher asked the students to read the sentences on the board in unison. The teacher reminded the students that they could earn one of their chosen reinforcers if the entire class follows the rules on the whiteboard.

This procedure was repeated for off-task technology use, but additional classroom rules were added such as, “I will only use teacher-approved websites” and “my headphones will be off when the teacher is talking”. The teacher again reminded the students that they must follow the rules on the white board to earn their selected reinforcer.

The general education teacher implemented a variable interval, six-minute momentary time sampling procedure as part of the intervention sessions. This time sampling schedule was selected based on the average duration of on-task behavior by the target student during pre-session observations. Approximately every six minutes the teacher scanned the room looking for off-task behavior. If all students, including the target student, were following the pre-stated rules, the teacher vocally praised the class (e.g., good job raising your hand everyone, you earned a checkmark!) and delivered a checkmark on the white board. If the teacher scanned the room and

saw any one of the students not following the rules, the teacher vocally prompted the entire class (e.g., “remember everyone, we should raise our hands when we have something to say to earn the reward”). Five empty squares were displayed on the whiteboard. If at least three checkmarks were put within the five squares at the end of the 30-min interval, the students earned their reinforcer. The number of checkmarks needed to earn reinforcement was based off the percentage of dependent variable occurrences by the target student during baseline (i.e., 48.37%). A criterion of three checkmarks (i.e., no more than two teacher-observed instances of target behavior per session) began at the implementation of the first target behavior and stayed in effect until the class reached the four-checkmark criterion (i.e., no more than one teacher-observed instance of target behavior per session) for at least three consecutive days. This response criterion was increased to five checkmarks earned within the 30-min session thereafter. To meet mastery criterion, students needed to earn the required number of checkmarks per session for three consecutive days. If the response criterion was not met by the first three weeks of the intervention, the researcher would have lowered the response criterion to two out of five checkmarks and reevaluated the target behaviors.

Social Validity

Brief questionnaires were given to both the teacher and students throughout the intervention. Responses were presented using a 5-point Likert scale with one being strongly disagree and five being strongly agree. The teacher’s questionnaire asked questions involving ease of implementation and effectiveness, and the student’s questionnaire was comprised of questions concerning treatment preference and effectiveness.

Procedural Integrity

The fidelity checklist was provided to the teacher at the start of each phase of intervention as a self-managed assessment (see Appendix C). This checklist was used to ensure the teacher is adhering to all the procedural steps at the appropriate times. Formal procedural integrity probes were taken by the researcher at the same time as the self-managed assessments to further confirm accurate implementation fidelity. Definitions of the independent variables included within the fidelity checklist (i.e., accurate rules, class reminders, scanning, praising and prompting, and recording) were provided to the teacher to promote accurate interpretation of the checklist.

Accurate Rules

The teacher wrote the accurate rule(s) on the whiteboard each day while the students prepared for their next activity. Accurate rules consisted of writing the entirety of the rule(s) corresponding with the intervention phase currently in place on the white board visible to all students.

Class Reminder

The teacher reminded the class of the contingency in place prior to the academic activity each day. The teacher may phrase the reminder as they prefer; however, the contingency between following the rules and earning their reward should be included within the teacher's statement (e.g., if you work together and follow the rules written on the board you will earn extra recess).

Scanning

The teacher scanned the classroom every six minutes or when the MotivAider™ application emitted a cue. Scanning the room included observing each individual student for at least two seconds while looking for instances of the target behavior.

Praising and Prompting

At every six-minute interval, the teacher provided vocal praise or behavior prompts after scanning the classroom. Vocal praise was only given if zero instances of the behavior(s) targeted in that phase were observed. Vocal praise consisted of a phrase supporting the specific behavior the students were displaying and stating that a checkmark was earned (e.g., great job raising your hands, you earned your first checkmark; keep up the awesome job of staying quiet!). Behavior prompts only occurred if inappropriate vocalizations or off-task behavior were exhibited. Behavior prompts did not include specific behavior observed and only consisted of a reminder of what appropriate behavior should look like and the reinforcer that could be earned (e.g., let's remember to keep our focus on me and earn another checkmark).

Recording

The teacher accurately recorded the absence of behavior occurrences by putting a checkmark in a square only if zero inappropriate vocalizations or off-task technology use occurred. The teacher left the square blank if any instances of inappropriate vocalizations or off-task technology use occurred.

The initial fidelity checklist was conducted on the first day the teacher implemented the group contingency procedure targeting inappropriate vocalizations. The teacher scored their procedural integrity at 100% while the researcher's integrity probe scored the teacher's

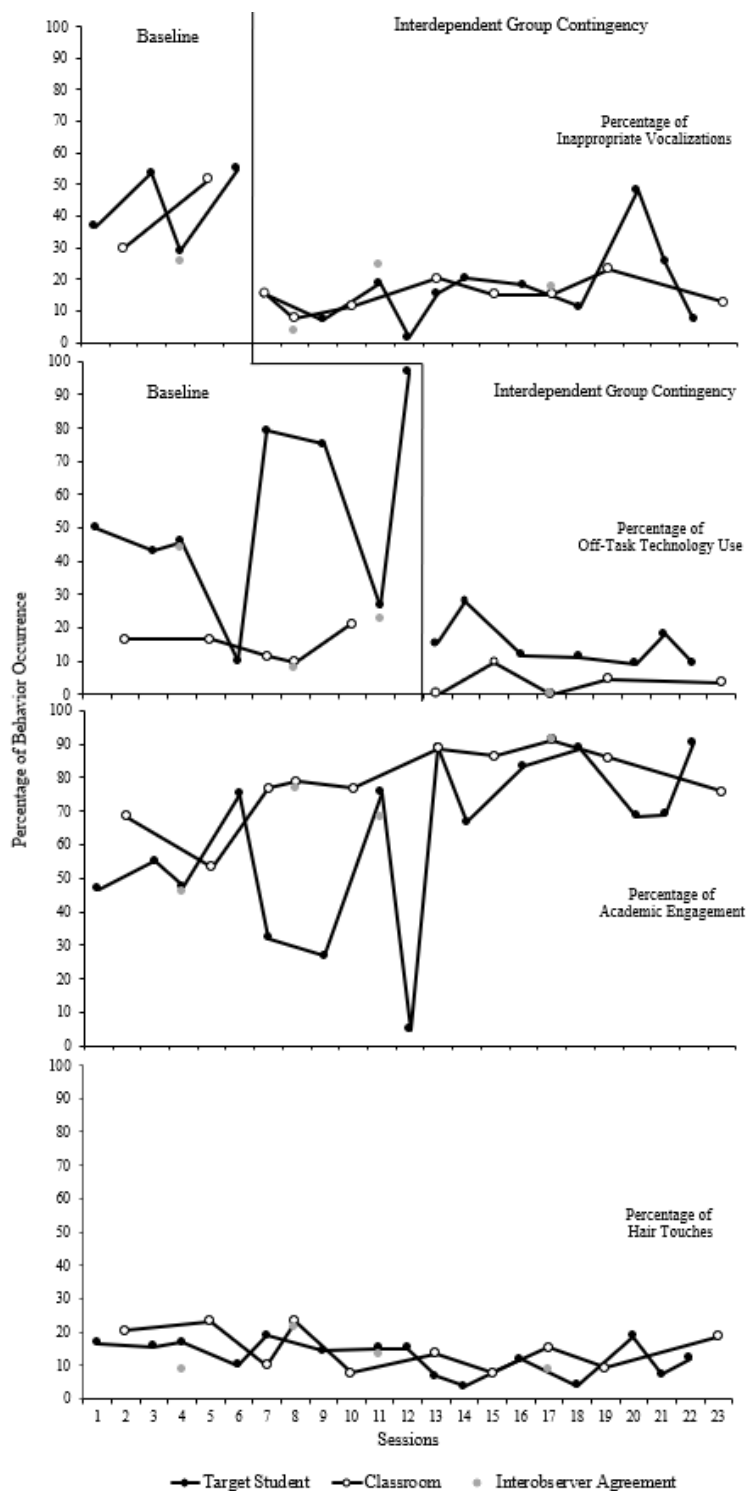
performance at 83.33%. The second fidelity checklist was conducted two days following the implementation of the procedure on off-task technology use. Both the teacher and the researcher scored the teacher's procedural performance at 100%. Overall, the results of the fidelity checklists indicate the teacher implemented the procedure at an accuracy rate of 95.83% during the first two weeks of the intervention.

Chapter 3: Results

Data were collected on all target behaviors for both the classroom as a whole and the target student. Data were collected and calculated as percentage of intervals in which the behavior occurred and was graphed daily. The impact of the interdependent group contingency on the target students' and the classes target behavior is depicted in Figure 3.1.

Figure 3.1

Percent of Behavior Occurrence During Baseline and Intervention for Each Target Behavior



During baseline, the average percentage of inappropriate vocalizations of the target student was 43.48% with a range of 28.81% to 55%. Comparably, the classroom's average percentage of inappropriate vocalizations was 40.64% during baseline with a range of 29.62% to 51.66%. Following the implementation of the interdependent group contingency an immediate decrease in inappropriate vocalizations occurred for both the target student and the class. The target student decreased their average percentage of inappropriate vocalizations to 17.18% with a range of 1.67% to 48.15%. In comparison, the classroom decreased their inappropriate vocalizations to 15.23%. Overall, the target student decreased their inappropriate vocalizations by over 60% from baseline and the classroom decreased their inappropriate vocalizations by over 62% once the interdependent group contingency was implemented.

Prior to the interdependent group contingency, that target student's off-task technology use was higher than the target student's peers for all but one session during the 12-session baseline. During baseline, the target student's percentage of off-task technology use was 53.27% with variable data (i.e., 10% to 96.67%) occurring throughout. The target student engaged in higher rates of off-task technology use towards the end of the baseline phase. The classroom's baseline data showed more stability with a range of 9.62% to 21.15% of off-task technology use with an average rate of 15.13% at the end of baseline observations. The interdependent group contingency was implemented at session 13 with reductions being observed in the target student and class data. The target student decreased their off-task technology use to an average of 14.75% (9.26%-17.78%) per session once the group contingency was in place. In comparison, the classroom decreased their average percentage of off-task technology use to 3.59% with a range of 0% to 9.62% during the procedural phase. Overall, the findings show a considerable

decrease in off-task technology use by the target student with a total reduction of 72.31% and the class with a total reduction of 76.27%.

Although academic engagement was not a targeted behavior, it was anticipated to increase as the interdependent group contingency was introduced to the target behaviors of inappropriate vocalizations and off-task technology use. Visual analysis of these data shows an upward trend of the target student's and class's academic engagement. Prior to implementation of the procedure, the target student's average rate of academic engagement was 56.07%. Once the group contingency was implemented for both targeted behaviors, the target student's academic engagement increased to an average rate of 79.38% by the end of the study. Although some variability was observed during the initial sessions of intervention, the target student's academic engagement ranged from 66.67% to 90.48% throughout the last 10 sessions. Upon visual analysis of the classroom's data, a stable increasing trend appeared throughout the intervention phases. The classroom's average rate of academic engagement was 60.93% while baseline was in affect for both target behaviors. Following the implementation of the interdependent group contingency targeting the first behavior of inappropriate vocalizations, academic engagement increased to an average of 77.56%. The academic engagement of the class continued to increase to an average rate of 85.69% while the procedure was implemented for both target behaviors. Overall, the target student increased their academic engagement by 41.57%, while the class increased their academic engagement by 40.64%. As expected, there was a correlated increase in academic engagement as the interdependent group contingency was applied to inappropriate vocalizations and off-task technology use behavior.

Hair touches was used as a control behavior in which experimental control would be observed if no change was seen even when the impact of the intervention was observed on the other three behaviors of inappropriate vocalizations, off-task technology use, and academic engagement. For the entirety of the study, the target student touched their hair with an average rate between 3.77% to 18.87%. Similarly, the class had an average rate of hair touching between 7.69% to 23.30% throughout the study. Implementation of the interdependent group contingency did not influence the percentage of hair touches for either the target student or the class. The lack of change in this arbitrary response suggests that, although the intervention impacted the behaviors on which the contingency was placed, and that appropriate alternative behavior (i.e., academic engagement) increased in their place, unrelated behaviors were not impacted by the intervention.

Figure 3.2 displays the number of checkmarks earned for each procedural (i.e., intervention) session in relation to the criterion in place. Although the class could receive up to five checkmarks each day, the students never earned more than their current criteria. Throughout the procedure, there were several times student's stated phrases such as "We got three! We can talk now!", or "We don't have to be quiet anymore, we already earned our reward". This suggests the criteria to earn the reinforcement had stimulus control over the student's responding.

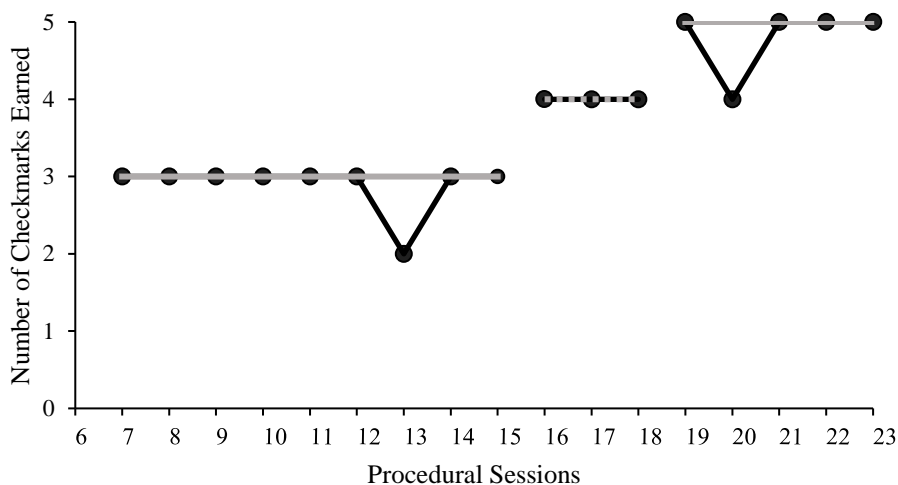
Figure 3.2*Checkmarks Earned per Criterion Phase***Social Validity**

Table 3.1 displays the results of the classroom's, including the target student's, social validity assessments at the mid-point and the end of the procedure. The students rated the interdependent group contingency procedure by completing a 6-question Likert-style questionnaire. Possible scores ranged from 1 to 5, with a higher score indicating a greater acceptability to the procedure. The overall mean per statement from students at the mid-point of intervention was 3.63 of 5. Social validity was reassessed at the end of the procedure and had an overall mean score per statement from students was 4 of 5, a slight increase from the previous assessment. Students agreed or strongly agreed they preferred their technology class when the group contingency was in place and most students would like other classes to implement the group contingency. 76.79% of students stated they earned the reward for their entire class. However, when asked if their peers reminded them to follow the rules, 42.81% of students

disagreed. When asked if they could elaborate, four students stated they were minding their own business, two students believed everyone was following the rules, and another student stated that he could not correct other students because talking out of turn was contrary to the rules. Overall, the mean score of the student's social validity assessment was 3.82 of 5. In general, the students were satisfied with the intervention.

Table 3.1

Student's Social Validity Results

Statements	Mid-Point		Final	
	Mean	Range	Mean	Range
1. I prefer technology when I get to play this game	4	3-5	4.11	3-5
2. I want my other school subjects to play this game	3.64	1-5	4	1-5
3. The rules helped me stay on task	3.71	2-5	4.28	2-5
4. I followed the rules to earn the reward for the entire class	3.94	3-5	4.44	3-5
5. The reward had motivated me to follow the rules	3.76	1-5	4.44	3-5
6. My classmates reminded me to stay on task	2.71	1-5	2.72	1-5
7. Did you remind others to stay on-task? Why? (final survey only)	Yes, to receive a reward (n=8) Yes, to remind others to follow the rules (n=3) No, I wanted to mind my own business (n=4) No, everyone was following the rules (n=2) No, talking was against the rules (n=1)			

Table 3.2 displays the results of the teacher's social validity assessments. A six-question Likert-type scale was used by the teacher to rate the interdependent group contingency intervention. The overall mean score of the teacher's social validity assessments was 4.9 of 5. The teacher strongly agreed that the intervention reduced off-task behavior of the target student and the rest of their class. The teacher believed the intervention was simple to implement and she

would implement this procedure within their other classes. The teacher was more than satisfied with the result of the intervention.

Table 3.2

General Education Teacher's Social Validity Results

Statements	Mid-Point	Final
This intervention was simple to use.	5	5
I will implement this intervention within my other classes.	4	5
This intervention reduced off-task behavior for the entire class.	5	5
This intervention reduced off-task behavior for the target student.	5	5
I will recommend this intervention to fellow teachers.	5	5

Chapter 4: Discussion

The purpose of this study was to determine whether an interdependent group contingency would increase academic engagement and reduce the frequency of off-task behavior of a single special education student within a classroom. The results of this study indicate the interdependent group contingency was effective at managing the target student's behavior, and further analysis of the class comparison demonstrates the intervention to be successful for the classroom's academic engagement and reduction of off-task behavior as well. Visual analysis of the graphs revealed clear treatment effects for both targeted behaviors when the interdependent group contingency was implemented. At that time, a significant reduction in off-task behavior occurred with a 60.49% and 62.52% decrease of inappropriate vocalizations for the target student and class respectively. The target student and their peers reduced their off-task technology use by 72.31% and 76.27% respectively. In addition, the target student and the class increased their academic engagement by over 40% each.

Around session 13, the researcher learned the target student had been off her medication and had been struggling with her self-control, as well as experiencing housing and relationship changes. No additional support was given to the target student in class during this time, and no changes were made to the interdependent group contingency. Although anecdotal reports described the target student's behavior as unpredictable throughout the school day, the target student maintained low rates of off-task behavior while participating in the group contingency. This unforeseen development suggests the robustness of the effects of the contingency for this student and provides further support for the use of such interventions for a broad range of behavioral needs.

Results from the current study are consistent with previous research that demonstrates the improvement of classroom behavior by use of group contingencies (e.g., Heering & Wilder, 2006, Pigott et al., 1986, Theodore et al., 2001), and it extends the research by showing the effectiveness of an interdependent group contingency on the improvements of one special education student's off-task behavior. Generally, dependent group contingencies are the primary group-based intervention that concentrates on an individual's behavior (e.g., Williamson et al., 2009). The current study expands the potential of group contingencies by providing evidence for individual success in addition to group effects by use of an interdependent group contingency. Although dependent group contingencies have been found to be successful in improving academic performance (Cariveau & Kodak, 2016), increasing positive verbal interactions (Hansen & Lignugaris-Kraft, 2005), and reducing off-task behavior (Deshais, et al., 2018), the aim is to modify either an individual's behavior or the group's behavior, yet almost never at the same time. An advantage of using an interdependent group contingency to enhance an individual's behavior is the ability to assess and alter the individual's performance while still holding the entire group responsible for the outcome of the contingency in place. By involving the entire group of students in the behavior contingency, no single individual is being directly targeted and each member of the group is responsible for their own behavior; however, cooperation and supporting others is necessary to guarantee a successful outcome. Not only can the group's behavior be monitored and evaluated but information on specific individual's progress can be easily analyzed and adjusted to fit that student's behavioral needs.

More recently, interdependent contingencies have been identified as successfully altering certain individuals' behavior within group-based behavior change procedures (e.g., Ling et al.,

2011). This study furthered the research on the use of interdependent group contingencies for individual behavior change by including a population that is vulnerable to exclusion. According to Krull et al. (2018), special education students with school-related behavior problems and/or learning disabilities are faced with higher social rejection and lower social acceptance than their non-special education peers. Social exclusion can be due to increased academic separation of the special education student from their peers, which in turn can reduce the opportunities for social engagement (Frostad et al., 2011). The current study was designed to increase social acceptance between special education students and their peers by incorporating the need for joint effort to receive reinforcement. Students were encouraged to remind their peers of the rules of the game and accept their consequence as one team. Cooperation of peers can lead to enhanced academic achievement, motivation for learning, social competence, and interpersonal relations (Nastasi & Clements, 1991). Collaboration between peers, increased academic engagement, and reduced off-task behavior of the class are just a few advantages of using an interdependent group contingency to evoke behavior change of a special education student.

Although the study demonstrated promising results, several limitations must be considered. First, due to time restraints and the ending of the students' trimester, maintenance data was not collected. Since the long-term effects of this procedure could not be analyzed, it is unknown whether this procedure could be maintained on an ongoing basis. While maintenance data was not collected in this study, similar studies have been conducted and were found to have successful maintenance phases (e.g., Chapman et al., 2021; Throne & Kamps, 2008) lasting between five days and four weeks after the conclusion of their studies. Staff availability also limited the number of days IOA could be collected. Although the percentage of sessions in which

IOA was taken was lower than average, the results demonstrated a high percentage of agreement between data collectors, implying high rates of reliable data being collected throughout the study.

Planned breaks from school consisting of teacher workshops and e-learning days were scheduled and expected throughout this study; however, additional interruptions to the interdependent group contingency occurred multiple times due to unforeseen weather and teacher illness. The unexpected disruptions to the procedure further restricted the timeline of the study and may have influenced the data. Without missing additional sessions throughout the eight-week procedure, students may have been able to reach mastery criterion prior to the conclusion of the study. Despite these interruptions, though, off-task behavior continued to decrease during the procedural phases, further strengthening the internal validity of this study. Lastly, a group contingency is expected to use some amount of social influence to adjust the behavior of others within the group. The current study provided the class with the opportunity to use social influence with the behavior of inappropriate vocalizations. However, off-task technology use may have been more difficult for students to alter the behavior of their peers. For example, if a student is watching a video on their tablet while they are supposed to be typing, a student sitting in front of that peer may not be able to tell whether that student is on task since their screen cannot be seen from their vantage point. Future research should consider measuring dependent variables which can each be similarly affected by social influences. Because the behavior of off-task technology use was likely less effected by social influence than inappropriate vocalizations, a difference in the rate of reduction of this behavior could have been seen. However, that was not the case for the target student. In fact, off-task technology use was

reduced more than inappropriate vocalizations. This finding suggests the behavior change of the class and target student was more likely to be rule-governed rather than socially influenced.

The current study provides support for the behavior change of a special education student by use of an interdependent group contingency. A significant reduction of inappropriate vocalizations and off-task technology use and the anticipated increase in academic engagement suggests the current procedure to be an effective approach to individual behavior reductions with comparable classroom results. To further increase the effectiveness of this method a few recommendations should be considered. Maintenance data were not collected during this procedure. To ensure the longevity of this intervention, maintenance probes should be conducted several times after the conclusion of the study. To incorporate generalization, research could be extended by including other diagnoses, grade-levels, school subjects, criterion level, or demographics. Although variations of this procedure can be conducted and extended, this interdependent group contingency is a simple and effective strategy to increase the academic engagement of a special education student.

References

- Alric, J. M., Bray, M. A., Kehle, T. J., Chafouleas, S. M., & Theodore, L. A. (2007). A comparison of independent, interdependent, and dependent group contingencies with randomized reinforcers to increase reading fluency. *Canadian Journal of School Psychology, 22*(1), 81-93. <https://doi.org/10.1177/0829573507301254>
- Axelrod, S. (1973). Comparison of individual and group contingencies in two special classes. *Behavior Therapy, 4*(1), 83-90. [https://doi.org/10.1016/S0005-7894\(73\)80076-0](https://doi.org/10.1016/S0005-7894(73)80076-0)
- Barrish, H. H., Saunders, M., & Wolf, M. M. (1969). Good behavior game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom. *Journal of Applied Behavior Analysis, 2*(2), 119-124. <https://doi.org/10.1901/jaba.1969.2-119>
- Becker, K. D., Bradshaw, C. P., Domitrovich, C., & Ialongo, N. S. (2013). Coaching teachers to improve implementation of the good behavior game. *Administration and Policy in Mental Health and Mental Health Services Research, 40*(2), 482-493. <https://doi.org/10.1007/s10488-013-0482-8>
- Brantley, D. C., & Webster, R. (1993). Use of an independent group contingency management system in a regular classroom setting. *Psychology in the Schools, 30*(1), 60-66. [https://doi.org/10.1002/1520-6807\(199301\)30:1<60::AID-PITS2310300110>3.0.CO;2-X](https://doi.org/10.1002/1520-6807(199301)30:1<60::AID-PITS2310300110>3.0.CO;2-X)
- Buysse V., & Bailey, D. B. (1993). Behavioral and developmental outcomes in young children with disabilities in integrated and segregated settings: A review of comparative studies. *The Journal of Special Education, 26*(4), 434-461. <https://doi.org/10.1177/002246699302600407>

- Cariveau, T., & Kodak, T. (2016). Programming a randomized dependent group contingency and common stimuli to promote durable behavior change. *Journal of Applied Behavior Analysis, 50*(1), 121-133. <https://doi.org/10.1002/jaba.352>
- Carroll, E., & Williams, R. (2007). Individual and group contingencies in cooperative learning at the collegiate level. *The Behavior Analyst Today, 8*(3), 298-306.
<https://doi.org/10.1037/h0100621>
- Cashwell, C. S. (1998). Group reward programs: A humanistic approach. *Journal of Humanistic Education and Development, 37*(1), 47-54. <https://doi.org/10.1002/j.2164-4683.1998.tb00405.x>
- Chapman, B. N., Drevon, D. D., & Jasper, A. D. (2021). The impact of the quiet classroom game on on-task behavior and classroom noise level in three middle school classrooms. *Journal of Behavioral Education. <https://doi.org/10.1007/s10864-021-09444-3>*
- Coleman, R. (1970). A conditioning technique applicable to elementary school classrooms. *Journal of Applied Behavior Analysis, 3*(4), 293-297. <https://doi.org/10.1901/jaba.1970.3-293>
- Cooper, J. O., Heron, T. E., & Heward, W. L. (2014). *Applied behavior analysis: Second edition* Pearson Edition Limited.
- Deshais, M. A., Fisher, A. B., & Kahng, S. (2018). A preliminary investigation of a randomized dependent group contingency for hallway transitions. *Education and Treatment of Children, 41*(1), 49-64. <https://doi.org/0.1353/etc.2018.0002>

- Donaldson, J. M., Fisher, A. B., & Kahng, S. (2017). Effects of the good behavior game on individual student behavior. *Behavior Analysis: Research and Practice, 17*(3), 207-216. <http://dx.doi.org/10.1037/bar0000016>
- Donaldson, J. M., Vollmer, T. R., Krous, T., Downs, S., & Berard, K. P. (2011). An evaluation of the good behavior game in kindergarten classrooms. *Journal of Applied Behavior Analysis, 44*(3), 605-609. <https://doi.org/10.1901/jaba.2011.44-605>
- Fredrick, W. C., Walberg, H. J., & Rasher, S. P. (1979). Time, teacher comments, and achievement in urban high schools. *The Journal of Educational Research, 73*(2), 63-65. <https://www.jstor.org/stable/27539721>
- Frostad, P., Mjaavatn, P. E., & Pijl, S. J. (2011). The stability of social relations among adolescents with special educational needs (SEN) in regular schools in Norway. *London Review of Education, 9*(1), 83-94. <https://doi.org/10.1080/14748460.2011.550438>
- Groves, E. A., & Austin, J. L. (2017). An evaluation of interdependent and independent group contingencies during the good behavior game. *Journal of Applied Behavior Analysis, 50*(3), 552-566. <https://doi.org/10.1002/jaba.393>
- Hansen, S. D., & Lignugaris-Kraft, B. (2005). Effects of a dependent group contingency on the verbal interactions of middle school students with emotional disturbance. *Behavioral Disorders, 30*(2), 170-184. <https://doi.org/10.1177/019874290503000204>
- Heering, P. W., & Wilder, D. A. (2006). The use of dependent group contingencies to increase on-task behavior in two general education classrooms. *Education and Treatment of Children, 29*(3), 459-468.

- Hernan, C. J., Collins, T. A., Morrison, J. Q., & Kroeger, S. D. (2019). Decreasing inappropriate use of mobile devices in urban high school classrooms: Comparing an antecedent intervention with and without the good behavior game. *Behavior Modification, 43*(3), 439-463. <https://doi.org/10.1177/0145445518764343>
- Holt, J. E., Kinchin, G., & Clarke, G. (2012). Effects of goal setting, individual and group contingencies on learning and effort by talented youth soccer players. *European Journal of Behavior Analysis, 13*(1), 5-24. <https://doi.org/10.1080/15021149.2012.11434401>
- Joslyn, P. R., Vollmer, T. R., & Kronfli, F. R. (2019). Interdependent group contingencies reduce disruption in alternative high school classrooms. *Journal of Behavioral Education, 28*(1), 423-434. <https://doi.org/10.1007/s10864-019-09321-0>
- Kauffman, J. M., Pullen, P. L., & Akers, E. (1986). Classroom management: Teacher-child-peer relationships. *Focus on Exceptional Children, 19*(1), 1-10.
- Kelshaw-Levering, K., Sterling-Turner, H. E., Henry, J. R., & Skinner, C. H. (2000). Randomized interdependent group contingencies: Group reinforcement with a twist. *Psychology in the Schools, 37*(6), 523-533. [https://doi.org/10.1002/1520-6807\(200011\)37:63.0.CO;2-W](https://doi.org/10.1002/1520-6807(200011)37:63.0.CO;2-W)
- Knesting, K., Hokanson, C., & Waldron, N. (2008). Settling in: Facilitating the transition to an inclusive middle school for students with mild disabilities. *International Journal of Disability, Development, and Education, 55*(3), 265-276. <https://doi.org/10.1080/10349120802268644>
- Krull, J., Wilbert, J., & Hennemann, T. (2018). Does social exclusion by classmates lead to behavior problems and learning difficulties or vice versa? A cross-lagged panel analysis.

European Journal of Special Needs Education, 33(2), 235-253.

<https://doi.org/10.1080/08856257.2018.1424780>

Lastrapes, R. E. (2013). Using the good behavior game in an inclusive classroom. *Intervention in School and Clinic*, 49(4), 225-229. <https://doi.org/10.1177/1053451213509491>

Lew, M., Mesch, D., Johnson, D. W., & Johnson, R. (1986). Positive interdependence, academic and collaborative-skills group contingencies, and isolated students. *American Educational Research Journal*, 23(3), 476-488.

<https://doi.org/10.3102/00028312023003476>

Ling, S., Hawkins, R. O., & Weber, D. (2011). Effects of a classwide interdependent group contingency designed to improve the behavior of an at-risk student. *Journal of Behavioral Education*, 20(2), 103-116. <https://doi.org/10.1007/s10864-011-9125-x>

Litow, L., & Pumroy, D. K. (1975). A brief review of classroom group-oriented contingencies. *Journal of Applied Behavior Analysis*, 8(3), 341-347. <https://doi.org/10.1901/jaba.1975.8-341>

Little, S. G., Akin-Little, A., & O'Neill, K. (2015). Group contingency interventions with children—1980-2010: A meta-analysis. *Behavior Modification*, 39(2), 322-341.

<https://doi.org/10.1177/0145445514554393>

Lloyd, J. W., Eberhardt, M. J., & Drake, G. P., Jr. (1996). Group versus individual reinforcement contingencies within the context of group study conditions. *Journal of Applied Behavior Analysis*, 29(2), 189-200. <https://doi.org/10.1901/jaba.1996.29-189>

- Longer, T., Schmidt, M., & Vukman, K. B. (2015). The social acceptance of secondary school students with learning disabilities (LD). *Center for Education Policy Studies Journal*, 5(2), 177-194. <https://doi.org/10.26529/cepsj.148>
- Lum, J. D. (2017). *Tootling with a randomized independent group contingency in a high school setting* [Doctoral dissertation, University of Southern Mississippi]. The Aquila Digital Community. https://aquila.usm.edu/dissertations/909?utm_source=aquila.usm.edu%2Fdisertations%2F909&utm_medium=PDF&utm_campaign=PDFCoverPages
- McLaughlin, T. F., Herb, C., & Davis, C. (1980). The effects of individual and group contingencies on spelling performance for a special education class. *B. C. Journal of Special Education*, 4(3), 263-270. https://doi.org/10.1300/J019v04n02_01
- Meredith, S. E., & Dallery, J. (2013). Investigating group contingencies to promote brief abstinence from cigarette smoking. *Experimental and Clinical Psychopharmacology*, 21(2), 144-154. <https://doi.org/10.1037/a0031707>
- Nastasi, B. K., & Clements, D. H. (1991). Research on cooperative learning: Implications for practice. *School Psychology Review*, 20(1), 110-131. <https://doi.org/10.1080/02796015.1991.12085536>
- National Center for Education Statistics. (2018). *Average class size in public schools, by class type and state: 2017–18* [Data set]. National Teacher and Principal Survey. <https://nces.ed.gov/surveys/ntps/question1718.asp>.
- Obiakor, F. E., Harris, M., Mutua, K., Rotatori, A., & Algozzine, B. (2012). Making inclusion work in general education classrooms. *Education and Treatment of Children*, 35(3), 477-490. <http://www.jstor.org/stable/42900597>

- Pigott, H. E., Fantuzzo, J. W., & Clement, P. W. (1986). The effects of reciprocal peer tutoring and group contingencies on the academic performance of elementary school children. *Journal of Applied Behavior Analysis, 19*(1), 93-98. <http://doi.org/10.1901/jaba.1986.19-93>
- Pokorski, E. A., Barton, E. E., & Ledford, J. R. (2017). A review of the use of group contingencies in preschool settings. *Topics in Early Childhood Special Education, 36*(4), 230-241. <https://doi.org/10.1177/0271121416649935>
- Reid, R., Gonzalez, J. E., Nordness, P. D., Trout, A., & Epstein, M. H. (2004). A meta-analysis of the academic status of students with emotional/behavioral disturbance. *The Journal of Special Education, 38*(3), 130-143. <https://doi.org/10.1177/00224669040380030101>
- Schanding, G. T., Jr., & Sterling-Turner, H. E. (2010). Use of the mystery motivator for a high school class. *Journal of Applied School Psychology, 26*(1), 38-53. <https://doi.org/10.1080/15377900903379448>
- Skinner, C. H., Cashwell, C. S., & Dunn, M. S. (1996). Independent and interdependent group contingencies: Smoothing the rough waters. *Special Services in the Schools, 12*(1), 61-78. https://doi.org/10.1300/J008v12n01_04
- Skinner, C. H., Skinner, C. F., Skinner, A. L., & Cashwell, T. H. (1999). Using interdependent contingencies with groups of students: Why the principal kissed a pig. *Educational Administration Quarterly, 35*(5), 806-820. <https://doi.org/10.1177/00131619921968833>

- Speltz, M. L., Shimamura, J. W., & McReynolds, W. T. (1982). Procedural variations in group contingencies: Effects on children's academic and social behaviors. *Journal of Applied Behavior Analysis, 15*(4), 533-544. <https://doi.org/10.1901/jaba.1982.15-533>
- Theodore, L. A., Bray, M. A., Kehle, T. J., & Jenson, W. R. (2001). Randomization of group contingencies and reinforcers to reduce classroom disruptive behavior. *Journal of School Psychology, 39*(3), 267-277. [https://doi.org/10.1016/S0022-4405\(01\)00068-1](https://doi.org/10.1016/S0022-4405(01)00068-1)
- Thorne, S., & Kamps, D. (2008). The effects of a group contingency intervention on academic engagement and problem behavior of at-risk students. *Behavior Analysis in Practice, 1*(2), 12-18. <https://doi.org/10.1007/BF03391723>
- Vidoni, C., & Ward, P. (2006). Effects of a dependent group contingency on middle school physical education student's fair play behaviors. *Journal of Behavioral Education, 15*(2), 80-91. <https://doi.org/10.1007/s10864-006-9012-z>
- Williamson, B. D., Campbell-Whatley, G., & Lo, Y. (2009). Using a random dependent group contingency to increase on-task behaviors of high school students with high incidence disabilities. *Psychology in the Schools, 46*(10), 1074 -1083.
<http://doi.org/10.1002/pits.20445>

Appendix A

Data Collection Forms for Individual and Classroom

Individual Measurement Form

Individual Data Collection				
Partial Interval Recording:	<div style="border: 1px solid black; padding: 5px; float: right; width: 150px;"> Name: Session #: </div> <ul style="list-style-type: none"> Mark a “+” if the target behavior occurred at any time during the interval Mark a “0” if the target behavior did not occur during the interval 			
Whole Interval Recording (Academic Engagement):	<ul style="list-style-type: none"> Mark a “+” if the target behavior occurred for the entire interval Mark a “0” if there was an absence of the target behavior during any part of the interval 			
30 Second Intervals	Inappropriate Vocals (Bx1)	Off-Task Tech Use (Bx2)	Hair Touching	Academic Engagement
Interval 1				
Interval 2				
Interval 3				
Interval 4				
Interval 5				
Interval 6				
Interval 7				
Interval 8				
Interval 9				
Interval 10				
Interval 11				
Interval 12				
Interval 13				
Interval 14				
Interval 15				
Interval 16				
Interval 17				
Interval 18				
Interval 19				
Interval 20				
Interval 21				
Interval 22				
Interval 23				
Interval 24				
Interval 25				
Interval 26				
Interval 27				
Interval 28				
Interval 29				
Interval 30				
Interval 31				
Interval 32				
Interval 33				
Interval 34				
Interval 35				
Interval 36				
Interval 37				
Interval 38				
Interval 39				
Interval 40				
Interval 41				
Interval 42				
Interval 43				

Classroom Measurement Form

Classroom Data Sheet

Name:

Session #:

Partial Interval Recording:

- Mark a “+” if the target behavior occurred at any time during the interval
- Mark a “0” if the target behavior did not occur during the interval

Whole Interval Recording (Academic Engagement):

- Mark a “+” if the target behavior occurred for the entire interval
- Mark a “0” if there was an absence of the target behavior during any part of the interval

30 Second Intervals	Inappropriate Vocals (Bx1)	Off-Task Tech Use (Bx2)	Hair Touching	Academic Engagement
Interval 1/ (e.g., Student 1)				
Interval 2/ (e.g., Student 2)				
Interval 3/ (e.g., Student 3)				
Interval 4/Student x				
Interval 5/Student x				
Interval 6/Student x				
Interval 7/Student x				
Interval 8/Student x				
Interval 9/Student x				
Interval 10/Student x				
Interval 11/Student x				
Interval 12/Student x				
Interval 13/Student x				
Interval 14/Student x				
Interval 15/Student x				
Interval 16/Student x				
Interval 17/Student x				
Interval 18/Student x				
Interval 19/Student x				
Interval 20/Student x				
Interval 21/Student x				
Interval 22/Student x				
Interval 23/Student x				
Interval 24/Student x				
Interval 25/Student x				
Interval 26/Student x				
Interval 27/Student x				
Interval 28/Student x				
Interval 29/Student x				
Interval 30/Student x				
Interval 31/Student x				
Interval 32/Student x				
Interval 33/Student x				
Interval 34/Student x				
Interval 35/Student x				
Interval 36/Student x				
Interval 37/Student x				
Interval 38/Student x				
Interval 39/Student x				
Interval 40/Student x				
Interval 41/Student x				
Interval 42/Student x				
Interval 43/Student x				

Interval 44/Student x				
Interval 45/Student x				
Interval 46/Student x				
Interval 47/Student x				
Interval 48/Student x				
Interval 49/Student x				
Interval 50/Student x				
Interval 51/Student x				
Interval 52/Student x				
Interval 53/Student x				
Interval 54/Student x				
Interval 55/Student x				
Interval 56/Student x				
Interval 57/Student x				
Interval 58/Student x				
Interval 59/Student x				
Interval 60/Student x				
(Total "+"/60) x100	%	%	%	%

Criterion

Current # of "✓" Needed for Reward (Current Criterion)	% Of Occurrences (Bx1% + Bx2%) ÷ 2	# Of Consecutive Days Met			
3 4 5		0	1	2	3

Appendix B

Written Intervention Instructions

Teacher's Written Intervention Instructions

1. After instructing students to find their supplies for the next activity:
 - a. Write the rule or rules (depending on which phase we are in) on the whiteboard large enough for all students to see.
2. Once all students are seated at their desks:
 - a. Instruct all students to read the rules out loud in unison.
 - b. State the contingency. Ex: “you must earn three out of five checkmarks by being engaged in the subject to earn your reward”
3. Begin the MotivAider™ application when the activity begins.
 - a. The MotivAider™ will vibrate on average, every six-minutes to cue you to stop and scan the room.
 - If all students are engaged and following the rules on the board during the moment that you scan the room, deliver vocal praise (e.g., good job being engaged, you earned a checkmark!).
 - Put one checkmark in one of the five blank squares on the whiteboard.
 - If one or more students are engaging in off-task behavior (not following the stated rule(s) on the board) provide a vocal prompt, (e.g., remember everyone, we should be keeping our voices off when we are typing to earn our checkmarks).
4. Once the 30-minute session is complete:
 - a. Review the checkmarks on the board with the students.
 - Criterion 1: 3 out of 5 checkmarks = Reward
 - Criterion 2: 4 out of 5 checkmarks = Reward
 - Criterion 3: 5 out of 5 checkmarks = Reward
 - b. If students earned reward: randomly choose a mystery reward from one of the three incentives and immediately reward the students.
If students did not earn reward: Let students know they will have another chance to earn their reward tomorrow.

Appendix C

Procedural Fidelity Form

Name: Date:	Yes	No
1. I wrote the accurate rule(s) on the whiteboard while students prepared for the next activity		
2. I had all students read the rules out loud prior to the activity		
3. I reminded the class of the contingency prior to the activity		
4. I scanned the room every six-minutes or when the MotivAider™ cued		
5. I provided vocal praise or a vocal prompt every time the MotivAider™ cued		
6. I accurately recorded the absence of behavior occurrences by putting a checkmark in an empty square on the whiteboard		
Score of "yes"/6 = % Correct Implementation	%	

Appendix D

Institutional Review Board Approval Letter



Institutional Review Board (IRB)

720 4th Avenue South AS 101, St. Cloud, MN 56301-4498

IRB PROTOCOL DETERMINATION: **Expedited 1**

January 24, 2023

To: Hannah Anselment
Email: scha1201@go.stcloudstate.edu

Faculty Mentor/Advisor: Michele Traub

Project Title: Use of an Interdependent Group Contingency to Decrease the Off-Task Behavior of a Special Education Student

The Institutional Review Board has reviewed your protocol to conduct research involving human subjects.

Your project has been: Approved

Expiration Date: January 23, 2024

SCSU IRB#: 40843603

Please read through the following important information concerning IRB projects:

ALL PROJECTS:

- The principal investigator assumes the responsibilities for the protection of participants in this project. Any adverse events must be reported to the IRB as soon as possible (ex. research related injuries, harmful outcomes, significant withdrawal of subject population, etc.).
- The principal investigator must seek approval for any changes to the study (ex. research design, consent process, survey/interview instruments, funding source, etc.).
- The IRB reserves the right to review the research at any time.

ADDITIONAL FOR EXPEDITED AND FULL BOARD REVIEW PROJECTS:

- The principal investigator must submit a Continuing Review/Final Report form in advance of the expiration date indicated on this letter to report conclusion of the research or request an extension.
- Approved consent forms display the official IRB stamp which documents approval and expiration dates. If a renewal is requested and approved, new consent forms will be officially stamped and reflect the new approval and expiration dates.

If we can be of further assistance, feel free to contact the IRB at 320-308-4932 or email ResearchNow@stcloudstate.edu and please reference the SCSU IRB number when corresponding.

Sincerely,
IRB Chair:
William Collis-Prather

Program Director
Applied Clinical Research

IRB Institutional Official:
Dr. Claudia Tomany

Associate Provost for Research
Dean of Graduate Studies