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Nicole Harris
University of South Florida

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Implementing the Class Pass Intervention within Schoolwide Positive Behavior Interventions and Supports

by

Nicole Harris

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Applied Behavior Analysis Department of Child and Family Studies College of Behavioral and Community Sciences University of South Florida

Major Professor: Kwang-Sun Cho Blair, Ph.D., BCBA-D Catia Cividini-Motta, Ph.D., BCBA-D & Kimberly Crosland, Ph.D., BCBA-D

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Keywords: academic engagement, Class Pass Intervention, disruptive behavior, SWPBIS

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DEDICATION

I dedicate this manuscript to my mom, Maria Harris, for showing me what it truly means to care for others. If it wasn’t for her example, I may have never chosen a career path like this one. Also, for her showing me strength and determination even during the toughest of times, I will always be grateful for the lessons she’s taught me. To my friends and family who always checked up on me to provide words of encouragement, and to my boyfriend, Joe for unwavering support, thank you for making this daunting process a little easier and enjoyable. To the friends I’ve met through the ABA program, my classmates in Project EBAS, and my cohort as a whole, thank you for a transformative 5 semesters. The confidence and knowledge I’ve gained would not have been possible had it not been for the challenging yet welcoming environment you all created. Thank you for a great overall experience and memories I will cherish forever.
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ABSTRACT

Disruptive behavior is a challenge to classroom management for many teachers. Behavior such as calling out, getting out of seat, and off-task during instructions interfere with instructional time and have negative impacts on student learning. The Class Pass Intervention (CPI) is an antecedent-based intervention that has proven effective in decreasing disruptive behavior and increasing academic engagement for students of various ages and skill levels. This study aimed to expand the literature on CPI as a Tier 2 intervention within Schoolwide Positive Behavioral Interventions and Supports by targeting three elementary age students with or at-risk for emotional and behavioral disorders, who were recruited from multiple schools. Using a multiple-baseline across participants design, this study evaluated the impact of CPI on the students’ academic engagement and disruptive behavior, specifically when reinforcement was systematically faded across sessions. Results indicated that the CPI successfully decreased disruptive behavior and increased academic engagement of two of the participating students. Further, the intervention remained effective when reinforcement was thinned systematically for one student, and the effects generalized to nontargeted academic time periods for all three students.
INTRODUCTION

Effective classroom management is essential for student social and academic success (Hawken et al., 2009). Because teachers have the responsibility of creating and facilitating an environment suitable for learning, effective classroom management strategies are needed to promote success for all students. However, effectively managing disruptive behavior in classrooms is challenging for many teachers and is a significant source of their stress and burnout (McCarthy et al., 2009). It is reported that the majority of the teachers across all grade levels spend more time addressing classroom disruptive behavior than instructions (Beaman et al., 2007; Rosenberg & Jackman, 2003). Disruptive behavior not only negatively impacts the target student but also other students in the classroom. Time spent by the teacher managing disruptive behavior is conversely instruction time taken from the class as a whole. Thus, disruptive behavior negatively affects students by interfering with academic engagement time and possibly diminishing social relationships with peers and teachers (Hinshaw, 1992).

It is well known that early disruptive problem behavior can lead to antisocial behavior, poor school achievement, and increased risk of delinquency later in life (Fergusson & Horwood, 1995; Jakobsen et al., 2012; Tremblay et al., 1992), which indicates the importance of addressing disruptive behavior during early grades. Yet, punitive consequences including time-out, office referrals, and suspensions have been used to decrease disruptive behavior even though these strategies can further impede instructional time by removing the student from the instructional setting (Losen & Skiba, 2010).
In an effort to promote proactive classroom management and interventions and reduce using reactive approaches in dealing with students engaging in problem behavior, schools have been using the Schoolwide Positive Behavioral Interventions and Supports (SWPBIS) model. SWPBIS is a multi-tiered framework that provides varying levels of support to students to improve behavioral and social outcomes (Horner & Sugai, 2015). In Tier 1 of the SWPBIS model, students receive universal supports at the school and classroom levels. Supports in Tier I can include establishing and teaching positively stated and age appropriate expectations and rules, creating routines and procedures during transitions, and providing students positive consequences to optimize classroom management (George et al., 2009). Approximately 10-15% of students that do not benefit from Tier 1 interventions alone are transitioned to Tier 2 to receive supplementary support (Hawken et al., 2009). Students, who display problem behavior that persists after Tier 1 and 2 interventions, are then eligible to receive further support within Tier 3. Students receiving Tier 3 supports comprise approximately 5% of a school’s population and require individualized assessment and intervention due to complex behavioral challenges and extensive behavioral histories (McDaniel, Bruhn, & Mitchell, 2015).

Tier 2 behavior interventions utilize assessment and data-based decision making to implement cost-effective, evidence-based practices for students who are not progressing from SWPBIS Tier 1 supports alone (Horner et al., 2010). These interventions aim to provide support to smaller groups of students with similar needs and must be efficient regarding training time, implementation time, and resource requirements (Rodriguez et al., 2015). Tier 2 behavior interventions incorporate explicit skill instruction, structured prompts for appropriate behavior, opportunities to practice skills in natural settings, and frequent feedback on skills to promote intervention success and efficiency (Anderson & Borgmeier, 2010). When implemented with
fidelity, Tier 2 interventions have been effective in decreasing disruptive behavior, increasing academic engagement, and fostering the learning of new academic skills (Bryant et al., 2008; Campbell et al., 2013; Cook et al., 2014; Kelley et al., 2015; Wanzek et al., 2016). Examples of Tier 2 interventions include Check-in/Check-out (CICO; Todd, Campbell et al., 2008), Check and Connect (CCE; Alvarez & Anderson-Ketchmark, 2010), group contingency (Embry, 2002), and Class Pass Intervention (Cook et al., 2014). Of these interventions, CICO has been the most frequently used Tier 2 intervention and identified as being successful for students whose problem behavior is maintained by attention (Wolfe et al., 2016).

Key features of Tier 2 interventions include implementing multiple screening procedures to identify students needing supplementary Tier 2 intervention, identifying effective standardized procedures that can be implemented across students who have similar behavioral needs, teaching schoolwide expectations and rules, ongoing data collection on student progress and implementation fidelity, and making decisions based on data regarding student response to the intervention (Hawken et al., 2009). Although there is evidence supporting the efficacy of CICO, CCE, group contingencies, and social skills groups for providing positive strategies to decrease problem behavior, limitations in the literature remain regarding procedural fidelity, efficiency of implementation, and teacher and student acceptability (Blair et al., 2019).

CPI is a Tier 2 intervention within SWPBIS and is typically used to increase academic engagement and decrease disruptive behavior among students (Cook et al., 2014). Extending from research conducted on the Bedtime Pass Program (Friman et al., 1990), CPI applies the same behavioral procedures to a classroom setting. Implementing CPI begins at the start of the school day when students are given class passes they can exchange with the teacher for a break from work and access to a preferred or neutral activity. If a student did not exchange their passes
for breaks from work, passes could be exchanged for rewards or preferred activities at the end of each day. In a landmark investigation, Cook et al. (2014) evaluated CPI with three elementary school boys whose disruptive behavior was hypothesized to be maintained by escape from academic tasks. Thirty-min training sessions were conducted to teach the students how to exchange the pass for access to a break. The results indicated that the student’s disruptive behavior decreased from an average of 40% in baseline to 10% in intervention during target instructional time periods for all participants. For two participants, passes were systematically faded out to decrease the amount of times students were requesting a break. Disruptive behavior maintained at low levels after number of passes were reduced. Overall, the study demonstrated CPI as effective in decreasing disruptive behavior and increasing academic engagement.

One limitation of the Cook et al.’s (2014) study was that CPI was not implemented within SWPBIS. Although the researchers identified students needing supplementary supports, they did not report whether the school where the participating students received the CPI was implementing SWPBIS. Thus, it was not clear how CPI could be implemented as a Tier 2 intervention within SWPBIS or whether it would be feasible for teachers to implement the intervention within a classroom with ongoing Tier 1 supports. Cook et al. used a multiple gating procedure for screening potential participants, including teaching nomination, systematic screening, and FBA to identify students engaging in hypothesized escape-motivated disruptive classroom behavior.

Following Cook et al. (2014), Collins et al. (2016) evaluated CPI in increasing academic engagement in four male students at a high school actively implementing SWPBIS for more than 5 years with an implementation score of 72% on the School-Wide Evaluation Tool (SET; Horner et al., 2004). Scores from SET indicated that the school was approaching an acceptable level of
implementation of the Tier 1, universal level supports (>80%). Similar to Cook et al., Collins et al. utilized multiple screening procedures to select student participants. Of the four student participants, two received special education services under the category of Specific Learning Disability. Disruptive behavior exhibited by students included talking to peers about nonacademic content, getting out of seat without teacher permission, and making disruptive noises. Using an ABAB design within a concurrent multiple baseline across participants design, researchers demonstrated a functional relation between CPI and increased academic engagement for all participants. This examination extended from Cook et al. by evaluating CPI with a different age group and including students receiving special education services for a portion of the school day.

In a component analysis, Narozanick & Blair (2019) evaluated CPI with three 5th-grade students with disabilities. Participants for this study were selected from two public schools that were implementing Tier 1 universal supports. Students were nominated by teachers based on their level of disruptive behavior and inadequate progress from Tier, class-wide supports alone. Two of the three student participants were diagnosed with an autism spectrum disorder (ASD) and one with a speech-language delay. FBA revealed escape to be the primary function of problem behavior for all students. Implementation of CPI resulted in a decrease of disruptive behavior and increased academic engagement for all students. In this evaluation, instead of students gaining access to a preferred activity after exchanging a pass, they were given access to a neutral activity for 5 min. Results were similar to those from Cook et al. (2014) and Collins et al. (2016) in that disruptive behavior remained at low levels following introduction of CPI. This slight change in procedure might have affected teacher acceptability of CPI. Providing students access to a neutral activity in exchange for a pass may encourage teacher buy-in and
acceptability for future implementation. Providing a neutral activity can help ensure that students are not exchanging passes for access to a highly preferred activity, but rather are exchanging the passes as a means to appropriately request a break from an instructional period.

In a further extension of the literature on CPI, Zuniga & Cividini-Motta (2019) evaluated CPI with students with and without disabilities such as ADHD. Unlike previous studies, Zuniga & Cividini-Motta included students whose problem behavior functioned as gaining access to attention and tangibles in the study. Similar to other CPI studies, the researchers examined if disruptive behavior would remain at lower levels once the number of passes allotted to students were systematically faded across sessions. Results from this study showed CPI to be an effective intervention for students whose disruptive behavior was controlled by multiple functions. Furthermore, this study demonstrated the effectiveness of CPI after the number of passes were systematically faded for all three participants. The results were consistent with findings of previous research demonstrating that CPI is an effective intervention for decreasing disruptive behavior and increasing academic engagement as well as remaining effective with the progressive reduction of passes. Similar to previous studies, this study also demonstrated CPI to be an acceptable intervention by both students and teachers.

The current literature on CPI indicates that the intervention is highly efficient concerning training and implementation time while using minimal school resources. Training sessions for teachers and students typically require 30 min, and time spent implementing the program is minimal – typically 3-6 min from the time the pass is exchanged to when the break ends and the student returns to their seat to complete the assignment. Teachers implement CPI directly with students, therefore eliminating the need for additional staff members and consequently saving costs. Blair et al. (2019) found intervention implementers to be a moderator of effects for Tier 2
interventions. Interventions where teachers served as implementers had larger effects compared to interventions implemented by other school staff. Therefore, involving classroom teachers in implementing CPI is imperative to improve student outcomes and contextual fit.

In previous studies, CPI showed an adequate contextual fit as indicated by social validity assessments with teachers and students (Andreu & Blair, 2017; Collins et al., 2016; Cook et al., 2014; Narozanick & Blair, 2018; Zuniga & Cividini-Motta, 2019). Adding to the contextual fit of this intervention, identification of neutral activities during breaks was an important variation from an earlier evaluation of CPI (Narozanick & Blair, 2018). By engaging in neutral activities, students were less likely to require additional prompting from the teacher to re-join the class. This modification has the potential to increase teaching time and further decrease implementation time for teachers for future studies. Systematic fading of the number of passes students receive further enhances contextual fit and program acceptability. Previous studies on CPI showed disruptive behavior could remain at low levels after passes were faded across sessions. If students are requiring less passes to access breaks from schoolwork, they are subsequently spending less time missing out on academic instruction and more time positively engaging with the class.

Although the outcomes of CPI are promising, current literature on CPI is limited to a small number of studies, with only five formal evaluations conducted since the program’s fruition (Andreu & Blair, 2017; Cook et al., 2014; Collins et al., 2016; Narozanick & Blair, 2018; Zuniga & Cividini-Motta, 2019). Due to the small number of studies on CPI, there is subsequently minimal evidence on the CPI outcomes for different groups of students and maintenance effects, and no evidence on the generalization effects. In addition, previous studies focused on fading the number of passes across sessions. Therefore, this study aimed to expand
the current literature on CPI by evaluating its efficacy as a Tier 2 intervention within SWPBIS in increasing academic engagement and reducing disruptive behavior of students with or at-risk for emotional and behavioral disorders (EBD) in elementary school classrooms. The focus of the study was to examine the effects of the CPI after reinforcement (the second component of CPI) was systematically thinned across sessions by increasing response effort to obtain reinforcement and its generalization effects with three students recruited from multiple schools. Specifically, this study examined whether CPI would result in increased academic engagement and decreased disruptive behavior, whether results of CPI would remain effective with the systematic fading of reinforcement across sessions, and whether the intervention effects could be generalized to nontargeted academic time periods.
METHOD

Participants and Setting

This study evaluated the CPI in three elementary school classrooms (two general education classrooms and one special classroom) at three public elementary schools in central Florida, serving children grades K through 5. The district from which schools were recruited was implementing a SWPBIS model where 77% of schools were ‘actively implementing’ the model. The three schools with study participants had been implementing SWPBIS for 1-5 years when the current study took place. In the school year when this study was conducted, the schools were assessed by the district PBIS coordinator and scored 86%-88% on the Tier 1 PBS Walkthrough Revised, a Tier 1 implementation monitoring tool (George & Childs, 2012).

Participants were two boys (Mike and David) and one girl (Lizzie) from three different schools. All students met the following inclusion criteria to be eligible for participation in the study: (a) were receiving special education services under the classification of emotional disturbance or were identified as at-risk for EBD due to problem behavior, (b) engaged in disruptive behavior daily during at least 30% of an instructional period during direct observation, (c) were between the ages of 5 and 10, and (d) were making inadequate progress with the use of Tier I supports alone. Exclusion criteria included: (a) had low cognitive functioning levels as determined by the school district, (b) consistently being absent from school, (c) received Tier 3 individualized intervention due to severe challenging behaviors, and (d) engaged in problem behavior maintained by a nonsocial function. The children’s three teachers also participated in the study. Selection criteria for teachers included: (a) teacher consent to receive training and
implementing intervention, (b) having at least one student requiring additional behavior support, and (c) interest in implementing CPI.

To recruit participants, flyers were distributed across the school district. The flyers described the purpose of the study, discussed students that have benefitted from CPI in previous studies, outlined participant eligibility, and provided the researchers’ contact information. Teachers who found interest in the study and who had potential student participants contacted the researcher via phone or email and organized an in-person meeting to further discuss pre-assessment procedures and determine teacher eligibility. Informed parental consent forms were sent to parents of potential students, and the parents were given two weeks to review and return signed forms before any formal data collection began. Additionally, verbal assents were obtained from the students.

To confirm each student’s eligibility, the researcher conducted a functional behavior assessment (FBA) by interviewing their teacher using the Functional Assessment Checklist for Teachers and Staff (FACTS; March et al., 1999; Appendix B) which identified problematic classroom academic time periods, antecedents, and consequences associated with disruptive behavior. The teacher interview meeting was approximately 20 min in duration and was conducted during the teacher’s afternoon planning period. Three 30-min direct observations were conducted during three different academic time periods (e.g., math, reading, science) throughout the student’s school day to determine the level of disruptive behavior and a hypothesized function for their disruptive behavior. Direct observations were collected using a 10-s partial interval recording system and using an ABC narrative recording procedures (Bijou et al., 1968).

**Students.** David was an 8-year-old boy who received 100% academic instruction in an EBD classroom that consisted of 3rd, 4th, and 5th grade students under the classification of
‘emotional disturbance’. This classroom contained five students and was staffed by one teacher and one instructional assistant. Students received academic instruction in accordance with their current grade levels. Of the five students in the classroom, only David and one other student were receiving instruction at a 3rd grade level. According to his records, David had been performing at his grade level in math, science, and social studies while in 2nd grade, and his academic progress was consistent with his grade level at the time of the study. During FBA with FACTS, David’s teacher reported that David engaged in activities other than what the teacher directed, called out, interrupted the teacher and peers, and walked around the classroom when. During observations, it was observed that David engaged in disruptive behavior after work was assigned or when the teacher was providing one-on-one assistance to another student. A-B-C data indicated that disruptive behavior occurred 58 times across three initial observations. For 25 of these occurrences, the antecedent was the teacher helping another student with the assignment or was busy setting up the assignment on the board. On 13 occasions, disruptive behavior occurred after one of David’s classmates made a comment or remark out loud in class (“We have art today, not music.” “I don’t want to go outside for recess!”). Consequences for these occurrences included the teacher providing attention either in the form of reprimands for calling out, or assistance with the academic assignment, and attention from peers. On 20 occasions, disruptive behavior occurred after David’s teacher gave an instruction in relation to the academic task (e.g., “Write your name and data at the top of the page”, “Turn in your book to page 60.”) On these occasions, consequences varied from David escaping having to participate, or his teacher eventually reprimanding him for being off-task. Based on the FBA results, it was hypothesized that David’s problem behavior was maintained by social negative reinforcement and social positive reinforcement. Interventions used for David and other students consisted of a
class-wide levels system in which students earned items or privileges contingent on earning points and meeting the predetermined criteria outlined for each level. Additionally, students could potentially lose privileges if they did not meet criteria outlined for that level. This system was implemented daily and students were expected to earn points during each academic period.

Lizzie was an 8-year-old Hispanic girl who was receiving special education services under the classification of ‘emotional disturbance’, with diagnoses of attention deficit hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD). Lizzie had been receiving instruction in a self-contained classroom within an EBD unit, but one month before the study began, she transitioned out of the EBD classroom and into a general education classroom serving 21 students, including Lizzie, and staffed by one teacher. Lizzie was performing at grade level for reading and math and below grade level for science according to quarterly testing administered during her 3rd grade year. The FBA with FACTS results indicated that Lizzie was most likely to engage in a high rate of disruptive behavior when difficult academic tasks were given during whole group instructions. A-B-C data showed disruptive behavior to occur 12 times during direction observations. For 10 occasions, disruptive behavior such as walking around the classroom and playing with objects in her desk occurred after the teacher instructed the class to answer a question in their workbooks independently. Consequences included escape from the assignment and an eventual reprimand from the teacher to return to her seat or remain on task. On 2 occasions, the antecedent for disruptive behavior was a peer talking to Lizzie. During one instance, a peer accused Lizzie of copying her work, to which Lizzie yelled out “No I’m not!”.

For these occasions, consequences were attention from peers. Whole group reading was identified as the most problematic period and whole group math was identified as the second most problematic academic period during the school day. When difficult tasks were presented,
Lizzie engaged in disruptive behavior to escape or avoid engaging in academic related tasks. Thus, it was hypothesized that her disruptive behavior was maintained by social negative and positive reinforcement in the form of escape and attention. Lizzie was not receiving any supplementary or individualized behavior intervention at the time that this study was conducted.

Mike was a 7-year-old White boy who received 100% of his academic instruction in a 1st-grade general education classroom. The classroom consisted of one teacher and 20 students, including Mike. After the start of the study, Mike was diagnosed with general anxiety disorder, social anxiety disorder, and ADHD, and was considered at-risk for special education referral. A review of Mike’s records indicated that he was performing at his grade level in math, science, and social sciences and below his grade level in reading and writing. At the beginning of the school year, Mike received two referrals for disruptive behavior and violation of campus safety rules. In addition to the class-wide Tier 1 behavior support that focused on setting classroom expectations and providing praise for positive behaviors, other interventions in place at the time of the study consisted of walks around the school campus with a preferred office administrator. Information gathered from the FBA with FACTS revealed that Mike was more likely to engage in disruptive behavior when his teacher was delivering whole group instructions. A-B-C data indicated disruptive behavior occurred 5 times during direct observation. On 3 of these occasions, the antecedent condition was the presentation of academic work or an academic related instruction (instructing students to sit on the carpet for reading). Mike engaged in disruptive behaviors such as leaving the classroom, going into the classroom’s storage closet, or sitting under the teacher’s desk. On these occasions, Mike’s teacher delivered no consequences and continued to teach the lesson. On 2 different occasions, the antecedent condition was a corrective statement delivered by his teacher (e.g., Please don’t hold your pencil in front of the
projector”, “You can’t be under here while I’m teaching”). Again Mike engaged in disruptive behavior that included going into the storage closet or leaving the classroom altogether. His teacher identified reading and English Language Arts as the academic time periods when he engaged in the highest rate of disruptive behavior such as calling out, getting out of his seat, going into the classroom’s storage closet, walking around areas of the classroom, engaging in a task at his desk other than what the teacher directed for that period, and task refusal. Whole group instruction consisted of the teacher holding an academic lesson either on the classroom carpet or projecting the lesson from the classroom projector onto the wall. When the teacher passed out worksheets or began a whole group instruction, Mike often engaged in disruptive behavior which resulted in avoiding or escaping from the academic task. Thus, based on the FBA results, his disruptive behavior was hypothesized to be maintained by social negative reinforcement in the form of escape from academic work.

**Teachers.** Three corresponding teachers participated in this study. Mike’s teacher was a 48-year-old woman with 26 years of teaching experience. She held a bachelor’s degree in Education, a certification in Primary Education, and a master’s degree in reading for grades K-12. Lizzie’s teacher was a female teacher in her mid-thirties with 5 years of teaching experience. She held a bachelor’s degree in Education and Psychology. David’s teacher was 60-year-old woman with two years of teaching experience. She held a bachelor’s degree in Public Safety Administration and Criminal Justice. David’s teacher was a member of law enforcement for 29 years prior to starting her teaching career. After retiring from the police force, she obtained certifications in elementary education K-6 and exceptional student education K-12. She had 2 years of teaching experience, with the current school year being the first in which she had her own classroom.
Measurement

Direct observation of student behavior. Dependent variables for this study included disruptive behavior and academic engagement. Both dependent variables were operationally defined individually for each participant. Cook et al. (2014) defined disruptive behavior to be behaviors that are distracting to others or interfere with ongoing activities in the classroom. Disruptive behavior for Mike included calling out (e.g., “I don’t understand the question”), interrupting the teacher or other students (e.g., interrupting the teacher to tell an anecdotal story unrelated to the academic topic), talking to students about topics not related to the academics, engaging in activities other than teacher-directed tasks, and leaving the classroom. Disruptive behaviors for Lizzie included talking to peers, calling out, walking around the classroom during academic instruction, and engaging in activities or with objects other than what was directed by the teacher. Disruptive behavior for David was defined as interrupting others, yelling, making noises (e.g., starting to talk when the teacher or another student is talking, raising volume of voice above a conversational level, rocking chair back and forth in a manner that produces a noise that can be heard from 5 or more feet away, tapping pencils or other materials on desk in a manner that can be heard from 5 or more feet away), being out of area, and engaging in activities other than teacher-directed tasks.

Academic engagement for all participants was defined as attending to the assignment, teacher, or board during academic instruction, raising a hand to ask questions, writing, reading, or participating with others on an academic task (e.g., touching pencil to paper to produce written words or numbers, orienting eyes toward a book or other reading material and moving eyes left to right down a page, and talking with classmates or the teacher about the current academic topic), or working individually on an academic task. If students looked away from academic
content for a brief period of time (e.g., <3 s) Disruptive behavior was measured using a 10-s partial interval recording system, and academic engagement was measured using a 10-s whole interval recording system. Data were collected during 20-30-min sessions at least two times per week when the students were participating in targeted academic activities. Targeted activities lasted approximately 40 min to 1 hr and data collection began at the time the academic period started. Reading was the targeted academic period for Mike and Lizzie. Math was identified as the targeted academic period for David.

**Individualized Behavior Rating Scale Took (IBRST).** Teachers completed the IBRST (Iovannone et al., 2014, Appendix D) across all phases. The IBRST is a 5-point Likert-type scale designed for use by classroom teachers for indirect measurement of target behaviors. Anchors were set by asking each teacher the percentage of time they estimated disruptive behavior and academic engagement behavior to occur on what they perceived as a ‘terrible day’, a ‘bad day’, a ‘moderately okay day’, a ‘good day’, and a ‘great day’ (Narozanick & Blair 2018). With guidance from the researcher, teachers individualized this tool by developing anchors for the rating scale specific for their student. For all students, a ‘terrible day’ was characterized by at least 90% disruptive behavior and less than 30% academic engagement during an observation period. A ‘great day’ was characterized by 30% or less disruptive behavior and 75% or greater academic engagement.

**Materials.** Materials for this study included laminated passes that were used as class passes, a timer to signal the researcher the end of each interval during observations, data sheets, and writing utensils. Additionally, a ‘reward menu’ was created for each participant with a list of preferred items, privileges, or activities that could be obtained through the exchange of passes at the end of the academic period. Items on the reward menu was determined through a
combination of teacher recommendations and student preferences. Some reinforcing items included Pokémon cards, kinetic sand, coloring and sketching books, and edible reinforcers. Other reward menu items included positive phone calls to the participant’s parents or choosing a peer for to spend extra free time with.

**Treatment integrity.** Treatment integrity data were collected by the researcher and research assistants (RAs) during all intervention phases across all participants. A checklist with a task analysis of implementation steps adapted from Cook et al. (2014) (Appendix E) was used to assess treatment integrity during implementation of the intervention steps. Implementation steps included: (a) passing passes out to student; (b) prompting student to use a class pass at the beginning of an instructional period; (c) directing student to the break area for a specified amount of time; (d) prompting student to return to their seat to rejoin the class during the academic period; (e) tallying the number of passes saved by student at the end of the instructional period; (f) allowing students to exchange passes that were saved for preferred items or activities from the reward menu; and (g) completing the IBRST following the academic period. Treatment integrity was calculated by dividing the number of steps completed correctly by the number of total steps in the task analysis and multiplying by 100. Treatment integrity was 100% across teachers during all intervention sessions.

**Interobserver agreement (IOA).** The researcher and three RAs collected all direct observational data. Research assistants were students enrolled in an Applied Behavior Analysis graduate program. The researcher trained the RAs on proper data collection using videos available on the internet and using behavioral skills training (BST; e.g., Parsons et al., 2012) procedures. During the rehearsal portion of BST, RAs scored a mock observation session in which they were required to reach 90% agreement with the researcher to collect data for this
study. Throughout direct observations, IOA was assessed by the RAs for an average of 35% of
the observation sessions across phases. IOA on student disruptive behavior and academic
engagement was calculated by dividing the total number of intervals with agreements by the total
number of intervals with agreements plus disagreements and multiplying by 100. IOA on
treatment integrity was calculated by dividing the number of steps with agreements by the total
number of steps and multiplying by 100. The overall mean IOA for all phases across participants
was 88.4%. For David, with the exception of the first baseline session, which was 59.4% and
required retraining of an RA, IOA averaged 86.5% (range = 83.8%-91.6%). The average IOA
was 96% for Lizzie (only one IOA session was conducted in baseline) and 98.6% (range =
97.0%-100%) for Mike. IOA averaged 91.5% (range = 79.8%-98.6%) in baseline and 88.3%
(range = 87.3%-89.4%) in intervention across participants. IOA averaged 88.4% (range = 59.4%-100%)
across disruptive behavior and academic engagement. The IOA for treatment integrity
was 100% in all sessions across participants.

Social validity. Following intervention, social validity from teachers were assessed using
the adapted Intervention Rating Profile (IRP-15; Martens et al., 1985). This tool consists of 15
statements that assess to what extent teachers find the intervention to be efficient, acceptable, and
effective using a 6-point Likert-type scale. Items range from strongly disagree to strongly agree
with higher scores being associated with higher levels of acceptability. Social validity from
students were assessed using a 6-item questionnaire rated on a 3-point scale. This questionnaire
was developed by the PI and used age-appropriate language for the students completing it.

Experimental Design

A nonconcurrent multiple baseline design across participants design was used. Phases in
this design consisted of a baseline phase, intervention phase, and fading phase. A single subject
design was chosen for this study because it appropriately examined if introduction of CPI was responsible for changes in student behavior by utilizing the individual student as the unit of analysis. Transitions through phases were made based on the stability of disruptive behavior.

**Procedures**

**Baseline.** In the baseline phase, teachers conducted their classroom practices as usual using Tier I class-wide management strategies (e.g., positively stated, age appropriate rules). Any existing behavior supports (e.g., visual supports, token economy, levels system, verbal redirection, time-out) remained in place during this phase. Teachers were instructed to complete the IBRST based on daily observations and perceptions of target students’ behavior during targeted academic times. Classroom expectations for all students included sitting at their desks in a direction facing the teacher, attending to the lesson without calling out or talking to peers, and actively reading or writing on the academic worksheet the teacher passed out that pertained to the current lesson.

Academic activities during Lizzie’s math period included completing a fluency assignment of arithmetic problems (e.g., division, multiplication), discussing answers to math problems with peers, and attending to the whiteboard while the teacher was delivering a lesson. Baseline data were collected 2-3 days per week for a period of 2-3 weeks. Academic activities during Mike’s reading period were sitting on the carpet while his teacher read the class a story, followed by students returning to their seats to answer reading comprehension questions that pertained to the story the teacher had just read. For David, academic activities during math period included watching a video of a math module and completing a work packet in accordance with the lesson, or lessons led by the teacher in which she used a combination of the classroom’s whiteboard and smartboard to teach.
Preference assessments. Prior to intervention, preference assessments were conducted with each student to identify reinforcing items (e.g., trading cards, kinetic sand, preferred edibles), activities (e.g., coloring, playing soccer with a preferred peer), or privileges (e.g., being recognized for positive behavior during morning announcements, making a positive phone call home to parents) for which the student could exchange unused passes. The researcher collaborated with each teacher to identify items, activities, or privileges that were acceptable to a classroom setting and would function as potential reinforcers for the student. Reward menus were individualized to the student and contained up to 7 items or activities. Preferred items were presented in survey format and students were asked to rank items from most preferred to least preferred. Smaller items on the menu such as edible reinforcers had a lower ‘cost’ of passes whereas larger reinforcers such as choosing an item from a treasure box or playing a game with a preferred peer required more unused passes to buy.

Teacher training. The researcher provided individual teacher training on how to implement steps of the CPI during a 30-min session, using BST procedures. Training took place during the teachers’ planning periods or when students were at lunch or attending special activities. Researcher’s training procedural integrity was assessed with each teacher by RAS using a 5-step task analysis of training procedures (Appendix H). Teachers were required to demonstrate implementation steps during three role-play scenarios to complete training. During training, teachers were provided with the treatment integrity checklist which was used to assess their treatment integrity during intervention. The researcher’s training procedural integrity was 100% for all teachers.

Student training. Student training lasted approximately 20 min and occurred during a break in the student’s school day. Using BST, the researcher explained the steps of the CPI to the
student. Following instruction, the researcher modeled how to exchange the pass to the student and described situations where it would be appropriate to use the pass. Following modeling, students practiced steps of the procedure during various role-play scenarios. The researcher provided praise for correct responses and corrective feedback and additional opportunities to practice after incorrect responses. Training was complete once the student demonstrated the correct use of the pass across three consecutive role-play scenarios.

**Intervention.** The intervention condition was the same for all students and took place during targeted academic periods. Before beginning intervention, an area of the classroom was designated as a location where the student could take a break if they used a pass. Lizzie’s designated break area was in a central area of her 3rd grade classroom pod. David’s breaks also took place in a chair outside the classroom and included access to rewards such as fidget spinners or a preferred book. Mike’s designated break area was on a bench outside of his classroom with access to a blank paper and colored pencils for drawing or coloring pictures. Due to a window in the front door of the classroom and the position of the bench outside, Mike’s teacher could still monitor Mike from inside the classroom while continuing with the reading lesson. Breaks were approximately 5 min in duration for Mike and 3 min in duration for David and Lizzie.

A timer was present in the break area and was used to alert the student at the end of the break. The number of passes provided to each student was determined based on levels of disruptive behavior and academic engagement during baseline as well as teacher acceptability. Lizzie received three passes during reading and both David and Mike received four passes during math or reading, respectively. If they used a pass in exchange for a break, they were required to wait at least 5 min after returning from the break before they were permitted to exchange another pass. During the first session of intervention, Lizzie exchanged one pass without any prompting.
from her teacher for 3 min of coloring. Mike exchanged 1 pass during two separate sessions in which he chose to sit outside for 5 min. On the second occasion that he used a pass, he opted to end his break sooner (approximately 3 min 30s) than the 5 min duration and returned to his seat and resumed the assignment. On average, Mike’s teacher had to provide 3-5 verbal prompts for Mike to exchange a pass and take a break if he began to appear frustrated with the assignment, or engaged in other disruptive behavior. David did not exchange any passes during any sessions in intervention. His teacher prompted him up to 8 times every session, on average, to use a pass for a brief break. Despite multiple prompts, David refused to take a break and instead withheld all of his passes for every session.

Before the end of the break, the students were given a verbal warning that the break was almost over and a transition back to their seat would soon be taking place. They were required to leave any reward items or activities in the break area before returning to their seat. At the end of the academic period, they were allowed to exchange unused passes for an item, activity, or privilege from their reward menu. Individualized reinforcing items included miscellaneous items such as hair accessories, coin purses, and glasses cases for Lizzie, Pokemon cards and small Pokemon figurines for David; kinetic sand and sketchbooks complete with drawing tutorials for Mike. Reward menus for all students also included edible reinforcers such as candy or fruit gummies. After the academic period ended, teachers completed the IBRST. Treatment fidelity for teachers was 100% across all teachers and intervention sessions. A fading of reinforcement began once disruptive behavior remained below 20% for three consecutive sessions. Fading procedures were individualized to each student based on teacher preference. Reinforcement was faded by increasing the ‘cost’ of items on each of their reward menus. For Mike, the ‘cost’ of
kinetic sand increased from 3 passes during intervention to 4 passes while edible reinforcers increased from costing 1 pass to 2 passes during fading.

**Generalization.** Generalization probes occurred in all experimental phases during an academic time identified as the second most problematic academic time period to determine whether changes in target behaviors generalized to other settings. The teachers did not receive training on implementation of CPI during the identified generalization period, but they chose to implement CPI with the target student during the non-targeted time period. The fidelity of teacher implementation of CPI in the non-targeted time period was assessed to examine the extent to which the teachers were implementing the intervention with fidelity without receiving training, and whether their implementation led to changes in student disruptive behavior and academic engagement.
RESULTS

Disruptive Behavior and Academic Engagement

Figure 1 displays the percentage of intervals with disruptive behavior and academic engagement for David, Lizzie, and Mike during targeted instructional periods. During baseline, all students engaged in moderate to high levels of disruptive behavior and low levels of academic engagement. Following introduction of the CPI, disruptive behavior decreased, and academic engagement increased for all students.

During baseline, David’s disruptive behavior occurred during an average of 42.8% of intervals (range, 36.1% to 50%) and academic engagement occurred during an average 57.2% of intervals (range, 50% to 63.9%). After introduction of the CPI, disruptive behavior occurred during 38.1% of intervals (range, 28.9% to 56.7%) and academic engagement occurred during 61.9% of intervals (range, 43.3% to 71.1%). Although a spike was observed in session 9, overall, his disruptive behavior showed a decreasing trend while academic engagement showed an increasing trend during intervention.

Lizzie’s disruptive behavior decreased from an average of 57.4 % of intervals (range, 31% to 56%) in baseline to an average 13% of intervals in intervention. Academic engagement increased from an average of 53% of intervals (range, 44% to 69%) in baseline to 87% in intervention. Mike’s disruptive behavior occurred, on average, during 93.6% of intervals (range, 76.1%-100%) and academic engagement occurred during 5.6% of intervals (range, 0%-23.8%). Following introduction of the CPI, a level change occurred for both behaviors. Disruptive behavior decreased to an average of 63.4% of intervals (range, 50%-71.2%) and academic engagement increased to an average of 27.1% of intervals (range, 15%-45%).
engagement increased to an average of 36.3% of intervals (range, 28.3%-50%). An increase in disruptive behavior and decrease in academic engagement occurred in sessions 9 and 10 during intervention. However, no overlapping data points were observed between baseline and intervention, and the data showed a decreasing trend for disruptive behavior and an increasing trend for academic engagement behavior in subsequent sessions.

**Fading**

In examining the effects of CPI after reinforcement was systematically thinned across sessions by increasing response effort to obtain a reinforcer, the data indicated that Mike continued to maintain improved behavior when reinforcement was faded during which the cost of kinetic sand increased from 3 passes to 4 passes while edible reinforcers increased from costing 1 pass to 2 passes. When fading was introduced, disruptive behavior began occurred an average of 36% of intervals (range, 19%-52%) and academic engagement increased to an average of 65% of intervals (range, 48%-81%).

**Generalization Effects**

Figure 1 also displays data on disruptive behavior and academic engagement during academic periods that functioned as generalization probes conducted throughout all phases of the study. The data indicated that for all students, positive changes in target behaviors were observed in intervention during the nontarget academic time period. For David, disruptive behavior decreased from 43.3% of intervals (range, 39%-47.8%) in baseline to 20.4% of intervals (range, 14%-26.7%) in intervention and academic engagement increased from 56.6% of the intervals (range, 52.2% to 61%) in baseline to 79.7% of intervals (range, 73%-80%) in intervention. Mike’s disruptive behavior decreased from an average of 97.8% of intervals (range, 93.3%-100%) in baseline to an average 52.4% of intervals (range, 25%-71.6%) in intervention whereas
academic engagement increased from an average of 2.3% of intervals (range, 0% -6.7%) to 47.4% of intervals (range, 28.3% -75%) in intervention. For Lizzie, one generalization probe was conducted during the intervention phase, which showed that her disruption during the generalization time period decreased from 50% to 17% and academic engagement increased from 50% to 83%.

**Individualized Behavior Rating Scales (IBRST)**

Figure 2 displays IBRST data on disruptive behavior and academic engagement collected by teachers after every session. Data from direct observations, which were converted to IBRST scores, are also displayed in the figure. The teachers, with the exception of Mike’s teacher, collected IBRST data after every session across all phases. Data were not collected for the first baseline session for Mike. The results indicated that the IBRST data from teachers for disruptive behavior and academic engagement were similar to researcher collected direct observational data. Although one or two anchor points were away in a few sessions, similar patterns were shown between the two data paths. Once the CPI was introduced, teachers’ rating of student disruptive behavior remained at levels similar to baseline while data on academic engagement increased following introduction of intervention. Ratings of academic engagement reported by teachers increased by 2 to 3 points once the intervention was introduced.
Figure 1. Percentage of intervals with academic engagement and disruptive behavior.

Open shapes represent generalization probes on the target behaviors throughout each phase.
Figure 2. IBRST ratings on academic engagement across phases and participants as rated by the teacher and researcher.
Figure 3. IBRST ratings on disruptive behavior across phases and participants as rated by the teacher and researcher
Social Validity

During the intervention, the researcher provided student and teacher participants with social validity surveys to evaluate and rate the CPI. Social validity with David was not obtained. Mike and Lizzie rated the CPI as an intervention they liked using, was easy to use, and wanted to keep using. Mike and Lizzie also rated the CPI high in regard to exchanging saved passes for reinforcers and indicated they wanted to continue using the CPI even after the cost of menu items slightly increased. Mike and Lizzie both reported that they liked earning items or privileges from their reinforcer menu at the end of the academic period. All students gave the highest rating of 3 for all items. Results from the teacher social validity questionnaire indicated that the CPI was acceptable, appropriate for a variety of children and classrooms, reasonable for the behavior problems in their classroom, and consistent with other interventions they have used. Teachers indicated they would be willing to use the CPI in a classroom setting with other students and reported the intervention as a fair way to handle problem behavior in the classroom. Lizzie’s and Mike’s teacher rated the CPI as effective in changing problem behavior for targeted students, whereas David’s teacher indicated the CPI did not prove effective in decreasing disruptive behavior for David. She mentioned that although she found the intervention acceptable and reasonable, she did not feel that the CPI was effective in decreasing David’s calling out behavior. Mike’s teacher reported that she was pleased with the increase in classwork Mike began to engage in with the introduction of the CPI and liked that she could alter the cost of menu items to thin the amount of reinforcer he was receiving for completing work. Across questions and teachers, the mean social validity rating was 5.3 out of 6.0, ranging 5.3 to 5.7. The ratings were 5 or 6 for all items across teachers with the exception of 4 for one item.
Table 1

*Student Social Validity Survey Results*

<table>
<thead>
<tr>
<th></th>
<th>Daivd</th>
<th>Lizzie</th>
<th>Mike</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>N/A</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>N/A</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>N/A</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>N/A</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>N/A</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>N/A</td>
<td>3</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>7.</td>
<td>N/A</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
### Table 2

**Teacher Social Validity Survey (Modified IRP-15) Results**

<table>
<thead>
<tr>
<th></th>
<th>David’s Teacher</th>
<th>Lizzie’s Teacher</th>
<th>Mike’s Teacher</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This was an acceptable intervention for the problem behavior engaged in by the targeted students in my class.</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>2. Most teachers would find this intervention appropriate for behavior problems.</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>3. This intervention proved effective in changing the overall problem behavior and academic engagement for targeted students in my class.</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>4.0</td>
</tr>
<tr>
<td>4. I would suggest use of this intervention to other teachers.</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5.0</td>
</tr>
<tr>
<td>5. The problem behavior was severe enough to warrant use of this intervention.</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5.7</td>
</tr>
<tr>
<td>6. Most teachers would find this intervention suitable for the behavior problems in their class.</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5.0</td>
</tr>
<tr>
<td>7. I would be willing to use this intervention with other students.</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>8. This intervention did NOT result in negative side effects for children in my class.</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5.7</td>
</tr>
<tr>
<td>9. This intervention would be appropriate for a variety of children and classrooms.</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5.7</td>
</tr>
<tr>
<td>10. The intervention was consistent with those I have used in classroom settings.</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5.7</td>
</tr>
<tr>
<td>11. This intervention was a fair way to handle the problem behavior in my classroom.</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5.7</td>
</tr>
<tr>
<td>12. This intervention was reasonable for the behavior problems in my classroom.</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5.7</td>
</tr>
<tr>
<td>13. I liked the procedures used in this intervention.</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>14. This intervention was a good way to handle the problem behaviors in my classroom</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>15. Overall, this intervention was beneficial for the students in my classroom.</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>16. Targeted students’ disruptive behaviors remained minimal after cost of reinforcer menu items were increased across sessions.</td>
<td>N/A</td>
<td>6</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>Mean</td>
<td>5.2</td>
<td>5.8</td>
<td>5.0</td>
<td>5.3</td>
</tr>
</tbody>
</table>
DISCUSSION

This study examined whether using CPI would decrease disruptive behavior and increase academic engagement in three students with EBD who were receiving special education services or at-risk of special education referral due to behavior problems. This study also evaluated whether the CPI remained effective after the passes were systematically faded and whether the results could generalize to other academic periods. The results indicated that CPI was responsible for a decrease in the level of disruptive behavior and an increase in the level of academic engagement for 2 of the students. The intervention demonstrated a minimal effect on one student (David). However, although David’s data did not indicate a level change from baseline to intervention, a decreasing trend was observed during intervention with the exception of the session 10 data point. This decreased trend may be indicative that the CPI could have been effective for David if it was implemented for a longer duration of time, or if an additional component such as a response cost was introduced. Further, the intervention remained effective for one student (Mike) when reinforcement was systematically thinned, and the effects generalized to non-targeted academic time periods for two students. Teacher-collected IBRST data corroborated direct observational data indicating the teachers perceived that the students’ target behaviors improved as a result of the intervention.

Results from this study are consistent with the CPI literature in that CPI is effective in increasing academic engagement and decreasing disruptive behavior in classrooms (Andreu & Blair, 2017; Cook et al., 2014; Collins et al., 2016; Narozanick & Blair, 2018; Zuniga & Cividini-Motta, 2019). All participants engaged in moderate to high levels of disruptive behavior and low to moderate levels of academic engagement during baseline. With the introduction of
the CPI, an immediate decrease in disruptive behavior and increase in academic engagement was observed for two students (Lizzie and Mike). This study was also consistent with other CPI literature that included fading procedures (Collins et al., 2016; Cook et al., 2014; Narozanick & Blair, 2018). Once fading was introduced for the one participant, Mike, disruptive behavior remained within a range similar to intervention and began to decrease in subsequent sessions.

The current study adds to the CPI literature by examining the use of CPI with children with or at-risk for EBD and assessing the systematic fading of reinforcement (the second component of CPI) and generalizability of the intervention during other problematic academic periods. Whereas all of the previous studies assessed outcomes after the number of given passes were systematically faded across sessions (Andreu & Blair, 2017; Cook et al., 2014; Collins et al., 2016; Narozanick & Blair, 2018; Zuniga & Cividini-Motta, 2019), the current study examined the effects of CPI when reinforcement was thinned across sessions. When Mike reached the criterion level for three consecutive sessions, the cost of reinforcement increased. During this reinforcement fading phase, David showed continued improvement in both academic engagement and disruptive behavior.

The results suggest that appropriate desirable behavior (academic engagement) would increase when functional communicative response or manding (using a class pass to request a break) produced escape and a highly preferred reinforcer (Athens & Vollmer, 2010). In the current study, all participating students’ disruptive behavior was considered maintained by escape with two students’ problem behavior serving dual functions. Although the students used the class passes to take a break, they often saved the passes to access preferred tangible items or activities, suggesting that when the value of alternative reinforcers increased, escape-motivated problem behavior would decrease while appropriate behavior increased, with less use of negative
reinforcement while reducing loss of instructional time. This may indicate that providing negative plus positive reinforcement would decrease disruptive behavior, increase academic engagement, and facilitate reinforcer-schedule thinning (Zangrillo et al., 2016). The study also adds to the CPI literature by examining the generalization effects. For two students (David and Mike), the effects of CPI generalized to non-targeted academic time periods. Considering that the teachers could implement the intervention with fidelity without additional training during the non-target academic time periods, CPI may be a cost-effective Tier 2 intervention that can be easily implemented by teachers, requiring minimal resources (Narozanick & Blair, 2019). As indicated by the teacher-collected IBRST data and social validity assessment results, it appeared that the teachers also observed the changes in the students’ behaviors and were satisfied with the CPI intervention goal, procedures, and outcomes. Previous studies on CPI also report that teachers who implemented CPI with their students were highly satisfied with the intervention.

One of the notable anecdotal observations was the types of instructional activities that might have affected variability in David’s data during intervention. Although math remained as the targeted academic period throughout this study, the content of the instruction varied. At the start of the academic period, David’s teacher often required each student to individually watch a learning module on a laptop and complete a corresponding worksheet. This task often lasted approximately 15 min, after which David’s teacher would start group instruction on the board with both students. Because David was able to follow along to a video and complete the work at his own pace, it is unclear whether this instruction functioned as a form of one-on-one assistance with academic tasks. His disruptive behavior was hypothesized to be maintained partially by teacher attention in the form of assistance; therefore, this method of instruction could have acted as an abolishing operation for David’s disruptive behavior.
It was also observed that once David and Mike were able to exchange passes for highly preferred reinforcers, they often saved passes and refused to exchange them for a break even after being prompted by the teacher for engagement in off-task behavior. Although they saved passes to access a reinforcer at the end of the class, they often engaged in activities outside of the teacher’s directed tasks. This included engaging with school materials not needed for the current task, drawing, or looking at books that were not related to the current academic period. It is possible that engaging in these activities could have served as a sufficient means of escape from the academic activity demands and did not require a pass to obtain, increasing the rate of disruptive behavior in several intervention sessions. To resolve this issue, Mike and David’s teachers had to re-state expectations prior to each session with students and used their own discretion for how many passes students were permitted to use to buy a reinforcer. If students continued to refuse to exchange a pass after multiple prompts from the teacher, teachers only permitted students to use a portion of the passes they saved to buy a reinforcer from their reinforcer menu. This modification was introduced to ensure that students were not obtaining reinforcers after refusing to take breaks and continuing to engage in disruptive behavior, thus preventing problem behaviors from being reinforced.

**Implications for Practice and Future Research**

Future implementers of the CPI should consider some implications for practice and research. First, they should decide on a predetermined criterion for when students can exchange passes for backup reinforcers. In the current study, students were more motivated to save passes in exchange for backup reinforcers rather than using the passes as an appropriate means to escape the academic task. Program implementers should establish the expectation that students are only permitted to buy items from their reinforcer menus contingent upon them completing
work and refraining from engaging in disruptive behavior. Teachers can decide on a criterion of academic engagement that students are expected to meet to be allowed to buy items from their reward menu. Setting this contingency may help eliminate the issue of students withholding passes despite exhibiting behaviors that warrant the need for a break and continuous prompting by the teacher to take a break. Thus, future researchers might want to examine the impact of setting the contingency or adding response cost component if students begin to withhold passes to obtain backup reinforcers while still engaging in high levels of off-task behavior.

Future implementers and researcher should also consider giving students the option of letting their passes ‘roll over’ into subsequent academic periods or days contingent on the absence of disruptive behavior during academic periods. During training for David and Mike, both students asked if they were permitted to keep unused passes over subsequent days to access a highly valued reinforcer. Although this was not an outlined procedure in this study, future researchers should investigate whether the CPI remains effective if students can accumulate passes to earn larger backup reinforcers less frequently.

A final implication for future research is combining the CPI into a token economy-based intervention to enhance the intervention outcomes. Instead of giving students a set number of passes at the start of an academic period, passes can be awarded to students for sustained academic engagement. Passes that students earn for academic engagement can then be exchanged for breaks from work, should the student choose, or can be saved for backup reinforcers at the end of the day or period. This modification in procedures may be effective in decreasing off-task behavior by requiring some amount of academic engagement before being given the opportunity to take a break or earn a backup reinforcer. The quality of the alternative reinforcers provided on reward menus could outweigh the quality of reinforcement obtained
from escape from the academic demand using class passes as discussed earlier, resulting in increases in academic engagement and saving the passes rather than exchanging them to access breaks. Thus, more research is needed to examine the impact of the quality of the alternative reinforcer in relation to the second component of CPI.

**Limitations**

One limitation to this study was the lack of procedural specification during times when students could gain access to reinforcers despite still engaging in disruptive or off-task behavior during academic activities. Per the procedures of the current study, students were provided with a prompt to exchange a pass if they exhibited behaviors that warranted the need to take a break. If students refrained from exchanging a pass after teacher prompting, no additional consequences were specified or implemented. This lack of procedural specification could have resulted in increases in disruptive behavior in some sessions across students. A second limitation is the limited number of data points during intervention for Lizzie. Changes in Lizzie’s class schedule in preparation for state mandated testing resulted in difficulty coordinating times to obtain additional data during targeted academic periods. Future research should consider implementing the CPI across all class periods during a school day to further assess generalizability and eliminate any complications that may arise due to scheduling conflicts.

Another limitation of the current study is the limited FBA conducted to identify a function for disruptive behavior. An indirect assessment using FACTS and direct observations were conducted to identify possible functions of each participating student’s disruptive behavior. Although escape (avoidance) was hypothesized to be the primary function, attention from peers and teacher may have also partially maintained disruptive behavior, especially for one student (David). Future researchers should consider using additional FBA methods when determining
function of behavior as well as conducting continual preference assessments to account for changes in student preferences throughout the study. Additionally, future researchers should consider the use of reinforcer assessments to determine whether preferential items have a reinforcing effect on academically engaged behaviors.

Despite being an efficient intervention, teachers still must pause teaching time to implement steps of CPI. Considering that the number of passes given to students and the number of breaks taken by students lead to the lose of instructional time, it may be beneficial for teachers to use the second component of CPI (positive reinforcement) effectively, based on student preference to increase appropriate behavior and instructional time. Training other school staff to implement CPI may increase generality and acceptability of the intervention, and future research should examine CPI when implemented with instructional assistants, paraprofessionals, and other support staff.
REFERENCES


PARTICIPANTS NEEDED FOR A TIER 2 INTERVENTION RESEARCH STUDY

Purpose:

The purpose of this study is to examine the effects of the Class Pass Intervention (CPI). This intervention is designed to be implemented as a Tier II intervention within School Wide Positive Behavioral Interventions and Supports for decreasing disruptive student behaviors and increasing academic engagement during targeted instructional times. Previous studies conducted by Cook et al. (2014), Collins et al. (2016), & Narozanick & Blair (2018) have shown CPI to be effective at decreasing disruptive behaviors and increasing academic engagement in student participants. Following intervention, both teachers and students reported the intervention to be effective and acceptable in a school setting.

Student Eligibility Criteria:

- Students diagnosed with EBD or at-risk for EBD
- Engage in disruptive behavior daily during at least 30% of an instructional period
- Between the ages of 5 and 7, and
- Inadequate progress being made from Tier I supports alone

If you have any questions, are interested in participating, and have students that may benefit from this study please contact:

Nicole Harris, B.A.

Master’s Student in Applied Behavior Analysis at the University of South Florida
Appendix B: FACTS

Efficient Functional Behavior Assessment: The Functional Assessment Checklist for Teachers and Staff: Part A

Step 1
Student: ___________________________  Date: ___________________________
Grade: ___________________________  Respondent(s): ____________________

Step 2
Student Profile: Please identify at least three strengths or contributions the student brings to school.

Step 3
Problem Behavior(s): Identify problem behaviors

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<th></th>
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</thead>
<tbody>
<tr>
<td>Tardy</td>
<td>Fight/physical Aggression</td>
<td>Disruptive</td>
</tr>
<tr>
<td>Unresponsive</td>
<td>Inappropriate Language</td>
<td>Insubordination</td>
</tr>
<tr>
<td>Withdrawn</td>
<td>Verbal Harassment</td>
<td>Work not done</td>
</tr>
<tr>
<td></td>
<td>Verbally Inappropriate</td>
<td>Self-injury</td>
</tr>
</tbody>
</table>

Describe problem behavior: ___________________________

Step 4
List the Routines with Behavior Support: Complete with up to 3 routines that cause the student to exhibit problem behavior listed in Step 3.

<table>
<thead>
<tr>
<th>Routines/Activities/Context</th>
<th>Problem Behavior(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine # 1</td>
<td></td>
</tr>
<tr>
<td>Routine # 2</td>
<td></td>
</tr>
<tr>
<td>Routine # 3</td>
<td></td>
</tr>
</tbody>
</table>

Part B

Step 5
Routine/Activities/Context: Which routine (only one) from Part A is assessed?

<table>
<thead>
<tr>
<th>Routine/Activities/Context</th>
<th>Problem Behavior(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Step 6
Provide more detail about the problem behavior(s):

What does the problem behavior(s) look like?

How often does the problem behavior(s) occur?

How long does the problem behavior(s) last when it does occur?

What is the intensity/level of danger of the problem behavior(s)?

Step 7
TRIGGERS

What are the events that predict when the problem behavior(s) will occur? (Predictors).

Identify the trigger generally

1. In this routine, what happens most often just before problem behavior? __________________
2. If you put this trigger in place 10 times, how often would it result in problem behavior? _________
3. Does problem behavior ever happen when trigger absent? __________________
**Step 8**

<table>
<thead>
<tr>
<th>Triggers</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasks</td>
<td>Reprimands</td>
<td>Transitions</td>
<td></td>
</tr>
<tr>
<td>Unstructured time</td>
<td>Structured/non-academic</td>
<td>Isolated, no-one around</td>
<td></td>
</tr>
<tr>
<td>activities</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please describe any needed details to trigger:

________________________________________________________________________

________________________________________________________________________

**Step 9**

**Setting Events**

1. Is there something that, when present makes it more likely that the trigger identified above sets off the behavior?

<table>
<thead>
<tr>
<th>Setting Events</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Correction/failure in previous class</td>
<td>Conflict at home</td>
</tr>
<tr>
<td>Peer conflict</td>
<td>Correction from adult earlier in day</td>
</tr>
<tr>
<td>Changes in routine</td>
<td>Assignment not completed</td>
</tr>
<tr>
<td>Hunger</td>
<td>Lack of sleep</td>
</tr>
<tr>
<td>Medication (missed or taken)</td>
<td></td>
</tr>
</tbody>
</table>

**Step 10**

**Function**

What appear most likely to maintain the problem behavior(s)?

In the routine identified, when the trigger occurs and problem behavior happens, what occurs next?

1. What do you do? What do other students do? What activities happen or stop happening

________________________________________________________________________

________________________________________________________________________

2. Is the student trying to obtain or avoid something?________________________

3. In your opinion what is the student trying to obtain or avoid?

<table>
<thead>
<tr>
<th>Things that are Obtained</th>
<th>Things Avoided or Escaped From</th>
</tr>
</thead>
<tbody>
<tr>
<td>_ adult attention</td>
<td>_ hard tasks</td>
</tr>
<tr>
<td>_ peer attention</td>
<td>_ reprimands</td>
</tr>
<tr>
<td>_ activity</td>
<td>_ peer negatives</td>
</tr>
<tr>
<td>_ physical item(___________)</td>
<td>_ physical effort</td>
</tr>
<tr>
<td></td>
<td>_ adult attention</td>
</tr>
</tbody>
</table>

Please describe the function of what the child obtains or avoids with more details:

________________________________________________________________________

________________________________________________________________________

**SUMMARY OF BEHAVIOR**

Identify the summary that will be used to build a plan of behavior support.

**Step 11**

Predictors in the environment → Problem Behavior → Function

When (BLANK) occurs, the child does (BLANK), to get/avoid (blank).

**Complete Summary Statement:**

Appendix C: Data Sheet

Participant Initials: _______  Observer: _______  Date: _______
Routine/Activity: ____________________
Participant Target Behaviors: ______________________________________
Type: Partial Interval
Code: + (occurrence)  - (nonoccurrence)

<table>
<thead>
<tr>
<th>Min</th>
<th>10 s</th>
<th>20 s</th>
<th>30 s</th>
<th>40 s</th>
<th>50 s</th>
<th>60 s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tbody>
</table>
Partial interval: single instance is observed in interval

Total number of Intervals: ___
Total number of intervals with _______ (B1): ___
Percentage of intervals with _______ (B1): ___% 
Total number of intervals with _______ (B2): ___
Percentage of intervals with _______ (B2): ___%
### Appendix D: IBRST

#### IBRST

Student: ___________________________ Teacher: ___________________________

<table>
<thead>
<tr>
<th>Target Behavior</th>
<th>Date</th>
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<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem Behavior for increase</th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriately requesting a break</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
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</tr>
</tbody>
</table>

**KEY:**

**Problem Behavior**

Definition:
- Time/Routine: □ All day □ Specific Routine/Activity (please specify) _________
- 5=Terrible day 90-100% disruptive
- 4= Bad day 70%-89%
- 3= So-so day 50%-69%
- 2= Good day 31%-49%
- 1= Great day 30% or less

**Replacement Behavior**

Definition:
- Time/Routine: □ All day □ Specific Routine/Activity (please specify) _________
- 5=Great day 75-100%
- 4= Good day 60-70%
- 3= So-so day 45-60%
- 2= Bad day 30-45%
- 1= Terrible day >30%

*From Iovannone, Greenbaum, Wang, Dunlap, & Kincaid (2013)*
Appendix E: Treatment Fidelity

<table>
<thead>
<tr>
<th>Step</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teacher gave passes to student</td>
<td></td>
</tr>
<tr>
<td>2. Prior to beginning instructional period, teacher will provide student with a verbal reminder that they have passes available to exchange for a break</td>
<td></td>
</tr>
<tr>
<td>3. Upon exchange of a pass, student goes to a predetermined break area of the classroom and teacher sets the visual timer to signify the break has started</td>
<td></td>
</tr>
<tr>
<td>4. Teacher provides student with a verbal reminder approximately 1 min prior to timer elapsing</td>
<td></td>
</tr>
<tr>
<td>5. If student does not return to seat after timer elapsed, teacher provided a verbal prompt to do so</td>
<td></td>
</tr>
<tr>
<td>6. If student does not return to seat after teacher delivered verbal prompt, teacher removed materials from break area</td>
<td></td>
</tr>
<tr>
<td>7. Teacher provided behavior specific praise to student for returning to seat</td>
<td></td>
</tr>
<tr>
<td>8. Teacher tallied the number of number of passes at the end of the instructional period</td>
<td></td>
</tr>
<tr>
<td>9. Teacher prompts student to choose items from the reward menu to exchange for unused passes</td>
<td></td>
</tr>
<tr>
<td>10. After student returns to seat or chooses reinforcer from reward menu, teacher completes IBRST for that instructional period</td>
<td></td>
</tr>
<tr>
<td><strong>Total Yes:</strong> /</td>
<td></td>
</tr>
<tr>
<td><strong>Percentage of Completed Steps:</strong></td>
<td></td>
</tr>
</tbody>
</table>
Appendix F: Social Validity for Teachers

Teacher Social Validity Questionnaire (IRP-15)

Please circle the number that best describes your agreement or disagreement with each statement using the scale below.

1= Strongly disagree  2= Disagree  3= Slightly disagree  4= Slightly agree  5= Agree  6= Strongly agree

1. This was an acceptable intervention for addressing problem behavior with the targeted student in my class.
   1 2 3 4 5 6

2. Most teachers would find this intervention appropriate for behavior problems in addition to those described.
   1 2 3 4 5 6

3. This intervention proved effective in changing the overall problem behavior for targeted students in my class.
   1 2 3 4 5 6

4. I would suggest the use of this intervention to other teachers.
   1 2 3 4 5 6

5. The problem behavior was severe enough to warrant use of this intervention.
   1 2 3 4 5 6

6. Most teachers would find this intervention suitable for the behavior problems in their class.
   1 2 3 4 5 6

7. I would be willing to use this intervention in the classroom setting with other students.
   1 2 3 4 5 6

8. This intervention did not result in negative side effects for children in my class.
   1 2 3 4 5 6

9. This intervention would be appropriate for a variety of children and classrooms.
   1 2 3 4 5 6

10. This intervention was consistent with those I have used in classroom settings.
    1 2 3 4 5 6

11. This intervention was a fair way to handle the problem behavior in my classroom.
    1 2 3 4 5 6

12. This intervention was reasonable for the behavior problems in my classroom.
    1 2 3 4 5 6

13. I liked the procedures used in this intervention.
    1 2 3 4 5 6

14. This intervention was a good way to handle the problem behaviors in my classroom.
    1 2 3 4 5 6

15. Overall, this intervention was beneficial for the students in my classroom.
    1 2 3 4 5 6

16. Targeted students’ disruptive behaviors remained minimal after the duration of breaks were decreased across sessions.
    1 2 3 4 5 6

Adapted from the IRP-15 Copyright, 1982. Brian, K. Martens, & Joseph C. Witt
Appendix G: Social Validity for Students

<p>| | | |</p>
<table>
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<tr>
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<tbody>
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<td></td>
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<td>2</td>
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<tr>
<td></td>
<td>Disagree</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

1. I liked using the Class Pass.

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<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

2. It was easy to use the Class Pass.

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<tbody>
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<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

3. I want to keep using the Class Pass.

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<tbody>
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<tr>
<td></td>
<td>Disagree</td>
<td>Neutral</td>
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</tbody>
</table>

4. I like exchanging my leftover Class Passes for a reward.

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<tr>
<td></td>
<td>Disagree</td>
<td>Neutral</td>
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</table>

5. I want to keep using the Class Pass even if rewards cost slightly more passes compared to when I first started using them.

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<tr>
<td></td>
<td>Disagree</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

6. What rating would you give your experience with the Class Pass?

<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>I liked using the Class Pass</td>
<td>I didn’t care about using the Class Pass</td>
</tr>
</tbody>
</table>
Appendix H: Teacher Training Script

Adapted from Narzanick & Blair (2019)

Greeting: Good morning/afternoon. Thank you for coming today. We are going to go over what the Class Pass Intervention is and the steps on how to implement it. After I have given you instructions on how to implement the pass, I will model to you how to implement the CPI in your own classroom. Once I have demonstrated how to use the pass, you will be given an opportunity to practice in a role play scenario in which I will be the student exchanging the pass and you will be the teacher. I will also be providing feedback to you throughout these role play scenarios but feel free to ask questions at any time during this training.

The Class Pass Intervention (CPI) is a simple Tier II intervention within SWPBIS in which students are given a certain number of passes to use during an instructional period. The purpose of the pass is to provide students the opportunity to appropriately request for a break prior to engaging in disruptive behaviors as a means to escape an academic task. Breaks will occur in predetermined areas of the classroom where students may engage in a neutral activity for a specific amount of time. Breaks can consist of getting teacher attention, putting together a simple puzzle, or taking a break in a sensory room. Research on this intervention has shown that this leads to less disruptive behavior and more academic engagement. However, there is not any research examining if this intervention will remain effective once the duration of breaks gradually decrease over time. Therefore, I’d like to examine this with your students.

These are the steps to implement CPI: *pass out fidelity sheet

1. Meet with the student to teach them the CPI and how to appropriately request a break using the class pass

2. Identify a spot where the student can break and engage in a neutral activity for 3 – 7 minutes (this depends on the predetermined amount of time by researcher and teacher)

3. Determine the rewards and/or privileges that can be earned by saving the class passes (make it such that the more passes the better the reward and/or privilege)

4. Give the student a predetermined amount of class passes (anywhere from 3 to 5)

5. When implementing the CPI, provide the following prompt to the student to use the class pass if you see him showing signs of frustration (before he engages in problem behavior)

CPI Acceptable Prompt: “Would you like to use one of your passes to take a break?”

Modified CPI Acceptable Prompt (attention): “Would you like to use one of your passes and finish your work with me?”

Modified CPI Acceptable Prompt (tangible): “Would you like to use one of your passes and get ________?”

6. Give the student feedback about how he is doing through behavior specific praise (e.g. “I really liked that you used your pass to take a break.”)

Now, I’m going to show you what this might look like. *model procedure*

Does anybody have any questions? Let’s take a few minutes and practice this. Pretend I am the student. *provide praise and corrective feedback, if any, and repeat role-play until completed correctly 3x*

Do you have any additional questions? Thank you so much for taking the time to meet with me and for wanting to try this procedure out in your classroom.
Appendix I: Researcher Training Fidelity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greeting</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Overview</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Discuss implementation steps</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Model procedures</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Provide teachers with opportunities to rehearse</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Provide feedback, if applicable</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Ask if there are questions</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>

(# of “Yes” answer: _____ / total steps) *100%

Score: _____ %
Appendix J: Teacher Script

Adapted from Naranjo-Monck & Blair (2019)

The steps to implement CPI:

1. Meet with the student to teach them the CPI and how to appropriately request a break using the class pass. Provide examples of when it is appropriate for the student to use the pass (e.g. feeling frustrated, bored, or confused)

2. Identify a spot where the student can break and engage in a neutral activity for 3 – 7 minutes (this depends on the predetermined amount of time by researcher and teacher)

3. Determine the rewards and/or privileges that can be earned by saving the class passes (make it such that the more passes that are saved, the more privileges/rewards the student can earn)

4. Give the student a predetermined amount of class passes (anywhere from 3 to 5)

5. When implementing the CPI, provide the following prompt to the student to use the class pass if you see him showing signs of frustration (before he engages in problem behavior)

   CPI Acceptable Prompt: “Would you like to use one of your passes to take a break?”

   Modified CPI Acceptable Prompt (attention): “Would you like to use one of your passes and finish your work with me?”

   Modified CPI Acceptable Prompt (tangible): “Would you like to use one of your passes and get ________?”

6. Give the student feedback about how he is doing through praise.
Appendix K: IRB Approval

October 17, 2019

Nicole Harris
ABA-Applied Behavior Analysis
Tampa, FL 33616

RE: Expedited Approval for Initial Review
IRB#: Pro00041688
Title: Implementation of the Class Pass Intervention within Schoolwide Positive Behavior Interventions and Supports to Improve Classroom Behavior

Study Approval Period: 10/16/2019

Dear Ms. Harris:

On 10/16/2019, the Institutional Review Board (IRB) reviewed and APPROVED the above application and all documents contained within, including those outlined below. Please note this study is approved under the 2018 version of 45 CFR 46 and you will be asked to confirm ongoing research annually in place of a full Continuing Review. Amendments and Reportable Events must still be submitted per USF HRPP policy.

Approved Item(s):
Protocol Document(s):
Protocol, Version #1, 8.26.19

Consent/Assent Document(s)*:
Parent consent, Version #1, 10/16/19.pdf
Teacher consent, version #1, 10/12/19.pdf

Student Verbal Assent, Version #1, 8.26.19.docx

*Please use only the official IRB stamped informed consent/assent document(s) found under the
"Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved. The Student Verbal Assent is not a stamped form.

It was the determination of the IRB that your study qualified for expedited review which includes activities that: (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45 CFR 46.110 and 21 CFR 56.110. The research proposed in this study is categorized under the following expedited review category:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

This research involving children as participants was approved under 45 CFR 46.404: Research not involving greater than minimal risk to children is presented.

Requirements for Assent and/or Permission by Parents or Guardians: 45 CFR 46.408 Permission of one parent is sufficient.

Assent is required of all children.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB via an Amendment for review and approval. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) business days.

We appreciate your dedication to the ethical conduct of human subjects research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Chairperson
USF Institutional Review Board