

Examining an Adaptive Approach to Tier II Intervention:
Using Critical Factors to Adapt Check-in, Check-out

By

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CHAPTER 1

Introduction

Students categorized as having an Emotional Disturbance (ED) under IDEA provisions demonstrate serious and persistent challenging behaviors linked to a myriad of negative academic, behavioral, and social outcomes. Academically, students with ED exhibit significant deficits in reading, math, and writing relative to their nondisabled peers (Bradley, Henderson, Monfore, 2004; Reid, Gonzalez, Nordness, Trout, & Epstein, 2004; Wagner & Davis, 2006). According to the 38th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (United States Department of Education, 2016), they are among the least likely to graduate from high school with a regular diploma and most likely to drop out of school. Behaviorally, students with ED receive educational suspensions, face expulsion, and require support in alternative education settings at a higher rate than their peers across disability categories (United States Department of Education). Although students with ED generally represent a small percentage of a school's enrollment, the behavior of students with ED has been documented as accounting for more than 50% of behavioral incidents handled by school personnel (Sugai, Sprague, Horner, & Walker, 2000) and places those that educate them at greater risk for burnout (Brunsting, Sreckovic, & Lane 2014). Social outcomes for students with ED are bleak as well. Evidence suggests students with ED demonstrate unstable employment patterns, dysfunctional interpersonal relationship, and a high rate of involvement with the justice system (Bradley, Doolittle, & Bartolotta, 2008). Given the chronic nature of behavior problems and poor outcomes associated with ED, successful and efficient early intervention for students at risk for ED is imperative. As younger children are more likely to be

responsive to and maintain positive outcomes from early prevention and intervention (Bailey, Aythch, Odom, Symons, & Wolery, 1999), schools are optimal settings such efforts.

Multi-tiered Systems of Support

Multi-tier systems of support (MTSS) in education, based on a public health model of support, represent an integrative framework for organizing school-based approaches to preventing and addressing mental, emotional, behavioral, and academic problems (Bruns et al., 2016). While the instructional focus of MTSS models varies, a common, critical feature is the delivery of a continuum of support to all students, such that the intensity of delivered supports aims to match student need and a problem's resistance to intervention efforts (Gresham, 2005; Sugai & Horner, 2006). Systematic surveillance, progress monitoring, and data based-decision making are utilized across tiers of support to determine student need and responsiveness to intervention efforts (Gresham, 2005).

Positive Behavior Intervention and Supports. Positive Behavior Intervention and Supports (PBIS) is one example of a widely-used multi-tiered service delivery model. PBIS, a behavior-focused MTSS model, integrates evidence-based assessment, intervention, and analysis into a systems-approach to effectively and efficiently prevent and address challenging behavior (Sugai et al., 2000). Within school contexts, the noncurricular model links these components across a three-tier organizational framework (Walker et al., 1996), creating a continuum of behavior support (Bradshaw, Waasdorp, & Leaf, 2015; Horner, 2017). At Tier I, behavioral, social-learning, and organizational principles are embedded consistently across settings and provided universally to all students (Bradshaw et al., 2015). The supports may include school-wide behavioral expectations, school-wide procedures to support pro-social behaviors and prevent problem behavior, evidence-based instructional and classroom management practices,

and assessment and data analysis methods to monitor students' behavioral performance (Lewis & Sugai, 1999). At Tier II, interventions are applied to support at-risk students exhibiting behaviors inadequately responsive to universal supports. Tier II 'targeted' interventions are designed for sustainable and efficient use as an estimated 10-15% of a school's population may be identified as at-risk; thus, a common approach to Tier II support involves the use of a group intervention that can be applied for several students in the same manner, limiting resource expenditures. At Tier III, highly intensive and individualized interventions are developed and applied to address severe and persistent challenging behavior inadequately responsive to universal and targeted supports. Tier III support generally includes the use of functional behavior assessment (FBA) to determine settings events and contingencies maintaining the challenging behavior; although the assessment process requires considerable technical expertise and resources, information gleaned from the assessment can facilitate the development of an effective intervention tailored to address a student's unique needs.

Although the conceptual and procedural underpinnings of three-tiered models of support have been widely described (e.g., Anderson & Freeman, 2000; Carr et al., 2002; Carr & Sidener, 2002; Johnston, Foxx, Jacobson, Green, & Mulick, 2006; Sugai & Horner, 2006) and empirically substantiated in research (e.g., Bradshaw et al., 2015; for a review, see Horner, Sugai, & Anderson, 2010), evidence suggests an estimated 3% (1.5 million students) of students require intensive intervention (Danielson & Rosenquist, 2014; National Center of Intensive Intervention, 2013). This population of students may be recognized by behavior inadequately responsive to research-derived and evidenced-based practices that have been implemented with fidelity at tiers I and II, respectively; alternately, they may have received such practices inconsistently and are recognized by an extremity of behavior requiring accelerated intensification efforts (National

Center on Intensive Intervention, 2016). Collectively, they represent a large group of ‘non-responders’ for whom existing approaches to targeted intervention are incompatible or inadequately effective.

Intervention Intensification

Consonant with the logic of MTSS, intervention intensification is warranted when a Tier II intervention fails to adequately address a targeted behavior. A traditional approach to intervention intensification is to shift from targeted and likely standardized supports at Tier II to individualized and more resource-intensive supports at Tier III. The process of intervention intensification along the framework’s continuum, though, is not clearly delineated. Early conceptualizations of intervention intensification within tiered models of behavior support grouped students along a severity-of-risk continuum, matching the groups to a distinct level of intervention (Baker, 2005; e.g., Walker, 1996; Lewis & Sugai, 1999; Sugai et al., 2000). Recent conceptualizations, however, reflect the use of a process-oriented, adaptive approach in which a continuum of responsive intensifications connect the framework’s tiers (e.g., McIntosh, Brown, Borgmeier, 2008; Scott, Alter, Rosenberg, Borgmeier, 2010).

Adaptive approach to intervention intensification. Wehby & Kern (2014) detailed the integration of an adaptive intervention model and multi-tiered systems of behavior support as a responsive approach to intervention intensification for non-responders of Tier II support. An adaptive approach to intensification aims to increase the impact of an intervention by considering the treatment recipient throughout a systematic decision-making process (August, Gewirtz, & Realmuto, 2010). Akin to data-based program modification (DBPM; Deno & Mirkin, 1977), adaptive interventions utilize assessment data, validated interventions, and research-based adaptation strategies to tailor an intervention to accommodate the needs, preferences, and

responses of the treatment recipient (August et al., 2010). Thus, intervention intensification is treated as an ongoing calibration process through which a continuum of individualized intensifications is produced (see Figure 1; adapted with permission from Lewis & Wehby, 2017). The resulting interventions consist of not only treatment components but of treatment components coupled with a multi-element process for responsive treatment intensifications (Collins, Murphy, & Bierman, 2004).

Using adaptive intervention models outlined in applied, preventative, and clinical psychology literature as its basis (e.g., Lei, Nahum-Shani, Lynch, Oslin, & Murphy, 2012), Wehby and Kern (2014) detailed four requisite elements of a systematic adaptation process: (a) critical factors, (b) adaptations, (c) tailoring variables, and (d) decision rules. The authors described *critical factors* as significant variables that may interact with a treatment (e.g., academic delays, behavioral function). *Adaptations* were presented as modifications made to an existing treatment protocol (e.g., a standardized Tier II treatment) to address each of the identified critical factors in a manner that strengthens the likelihood of positive intervention outcomes (e.g., adding the provision function-based reinforcement to a standard treatment protocol). *Tailoring variables* were identified as measurements to determine the effectiveness of an adapted intervention and guide treatment decisions related to additional modifications (e.g., student engagement index), and *decision rules* use tailoring variables to determine whether continuation of or further adaptation to an existing treatment is warranted (e.g., level of student improvement). Together, the elements support an iterative, data-based process of intervention intensification (Wehby & Kern, 2014); when applied to multi-tiered models of behavior support, the process bridges the gap between Tier II and Tier III levels of support, creating a natural progression of treatment intensity. While each of the interdependent elements of an adaptive

process is important, the identification of critical factors is foundational to a strong adaptive intervention (Collins et al., 2004).

Critical factors. Critical factors, sometimes referred to as tailoring variables in psychological science and medical domains, can be stable or malleable characteristics of a student or environment that moderate the influence of a treatment and may provide pretext for treatment adaptations (Noser, Cushing, McGrady, Amaro, & Huffhines, 2017). When identified in an adaptive intervention model, critical factors inform systematic variations of a standard treatment protocol, allowing interventionists to address heterogeneity in treatment recipients' need for and response to treatment (Bierman, Nix, Maples, & Murphy, 2006; Noser et al., 2017). Parental functioning (e.g., Bierman et al., 2006), academic performance and individual growth trajectories (Collins et al., 2004), medication adherence (e.g., Modi, Rausch, & Glauser, 2011), previous experience with side effects (e.g., Almirall & Chronis-Tuscano, 2016), problem solving and parenting skills (e.g., August, Piehler, & Bloomquist, 2016), and ethnic identity and racial socialization (Yasui & Dishion, 2007) are examples of critical factors. Although a formal framework for adaptive interventions within multi-tiered systems of behavior support is under development by researchers, examples of individualization based on student characteristics demonstrate the significance of critical factors to intervention intensifications within school-based multi-tiered models.

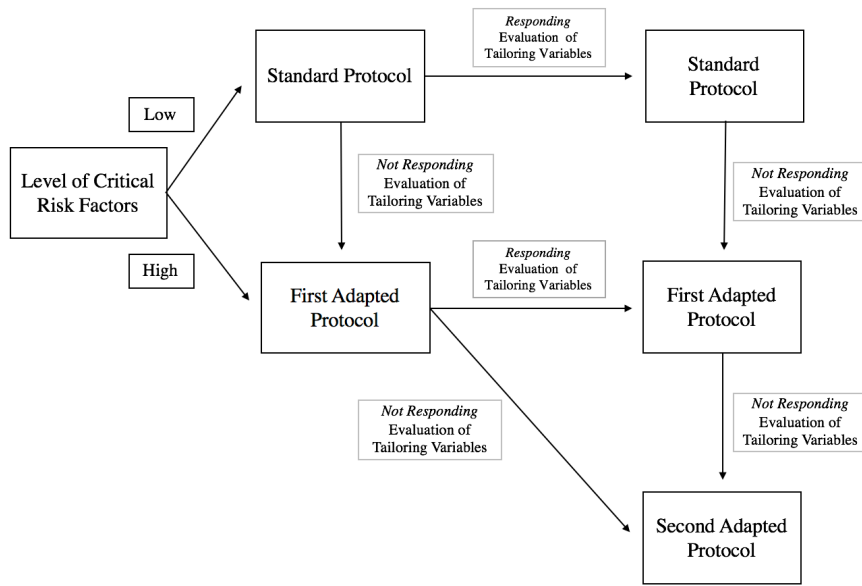


Figure 1. Schematic overview of an adaptive process to intensifying behavioral interventions (adapted with permission from Lewis & Wehby, 2017).

Examples of an adaptive approach at Tier II. Examples of an adaptive approach to intervention intensification in Tier II research demonstrate the value of adaptations to a standard treatment protocol informed by critical factors. Carter and Horner (2009) identified behavioral function as a critical factor influencing the efficacy of First Step to Success (First Step; Walker et al., 1998), an evidence-based targeted intervention designed to address antisocial behavior patterns through consultant-based intervention and parent training. After implementation of the standard protocol failed to produce desired treatment outcomes for three 5- to 7-year old students, individualized, function-based supports were integrated with First Step to more directly address the students’ needs. The implementation of function-based supports was associated with decreased problem behavior and increased academic engagement across students.

Cheney et al. (2009) examined an adaptive approach to intervention intensification in a randomized controlled trial of Check, Connect, and Expect. Check, Connect, and Expect provides progressively intensive levels of treatment to students at risk for ED through a systematic intensification process. With each level of intensification, the standard treatment

protocol is adapted based on consideration of three critical factors – incomplete classwork, social skills performance deficits, and behavioral function. Results of the experimental study revealed three standardized problem behavior measures significantly decreased to normative levels for graduates of the program, providing evidential support for an adaptive approach to intervention intensification. Additionally, ratings on adaptive and maladaptive screeners were associated with differential responsivity to treatment, suggesting behavioral screener ratings may be critical factors to consider when initially matching students to the intervention.

More recently, Kilgus, Fallon, and Feinberg (2016) examined the effectiveness of Check-in, Check-out (CICO; Crone, Hawken, & Horner, 2010) when adapted to address research indicating the targeted intervention may be less effective for students whose behavior functions to escape academic demands or social activities (e.g., March & Horner, 2002; Maggin, Zurheide, Pickett, & Baille, 2015). CICO, the most commonly researched targeted intervention (Bruhn, Lane, & Eisner Hirsch, 2014; Mitchell, Stormont, & Gage, 2011), is an evidence-based treatment designed to improve students' behavior through frequent, structured feedback and monitoring of behavioral progress. The standard CICO protocol utilizes a daily 'check-in/check-out' cycle, in which multiple components of support are provided to target student behavior. The cycle includes the following core elements: (a) a morning check-in with a school-based mentor, (b) a daily progress report (DPR) outlining behavioral goals, (c) teacher feedback delivered regularly via the DPR and verbal interaction, (d) afternoon check-outs with a school-based mentor and receipt of a reward (e.g., verbal praise, school-wide PBIS token, or preferred tangible) contingent on the student meeting a pre-established behavior goal, and (e) home-school collaboration (i.e., behavior report card is sent home daily, signed by parent or guardian, and returned to school the next day). Kilgus et al. (2016) adapted the standard protocol to permit students with escape-

maintained behavior to escape portions of a supplemental assignment contingent upon appropriate behavior; results indicated that relative to both baseline and traditional CICO, the modified CICO effectively promoted academic engagement and decreased disruptive behavior. Although the experimental design (i.e., alternating treatments) was intended to compare treatments and adaptations were not made because of inadequate responsiveness to the standard protocol, the study underscores the value of considering critical factors when addressing persistent challenging behaviors at Tier II.

Behavioral function a critical factor. As highlighted by the previous examples, evidence suggests one critical factor – behavioral function – may be particularly important to an adaptive approach to intervention intensification for students demonstrating persistent challenging behavior. Behavioral function characterizes the effect of a behavior on the environment (Carr, 1977). Behavior maintained or strengthened by the delivery of socially mediated consequences is categorized as having a social positive reinforcement function (e.g., Iwata, Dorsey, Slifer, Bauman, & Richman, 1994), while behavior maintained or strengthened by the contingent removal of socially mediated reinforcement is categorized as having a social negative reinforcement function (e.g., Carr & Durand, 1985). Challenging behavior not mediated by the social environment and maintained or strengthened by the act of engaging in the behavior itself is categorized as having a sensory, or automatic, reinforcement function (Kennedy, 1994; Vaughan & Michael, 1982; Vollmer, Marcus, & LeBlanc, 1994). Across multiple evidence-based targeted interventions, evidence suggests an understanding of the functional relationships between environmental events and challenging behavior can improve the potency of the standard treatment protocol when used to inform treatment decisions (e.g., Carter & Horner, 2009; Hansen, Wills, & Kamps, 2014; Kilgus et al., 2016).

Teacher practices as a critical factor. While existing evidence points the utility of behavioral function as a critical factor, the United States Office of Special Education Programs (OSEP) prioritizes teacher-level variables as essential to the success of supporting and responding to student behavior within a school-wide multi-tiered behavior framework. In an OSEP technical assistance document summarizing responsive classroom behavior intervention and support strategies for teachers (United States Department of Education, 2015), the acknowledgement of appropriate or desired behavior is identified as one of four evidence-based teaching practices educators should use to support all students across tiers. As a preventative element of class-wide behavior management, OSEP recommends the use of acknowledgement to teach and reinforce desired behaviors of a class; when used as a responsive behavior support in conjunction with other evidence-based foundational supports (e.g., effective classroom layout, predictable routines, clearly defined and taught expectations active supervision high rates of OTR), OSEP suggests the practice may be amplified to address more intense behavioral needs of student groups or individual students. Behavior-specific praise, specifically, is identified as a form of acknowledgement critical to supporting student behavior (p. 12).

Behavior-specific praise. While definitions of behavior-specific praise within educational research vary, the distinct form of acknowledgement is generally understood to include statements of approval that definitively identify a characteristic of the behavior demonstrated (Floress, Beschta, Meyer, & Reinke, 2017; e.g. *Student, you've remembered to raise your hand all morning. Excellent work!*); general praise, in contrast, includes verbal or nonverbal expressions of approval without recognition of a specific behavior or behavioral characteristic (Jenkins, Floress, & Reinke, 2015; e.g., *Student, good job!*). When examined in the context of a classroom, behavior-specific praise is among the simplest teaching practices with the strongest

empirical evidence for supporting student behavior (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008).

Teachers' contingent use of behavior-specific praise is associated with effectively increasing a range of appropriate student behaviors, student disability and grade-level notwithstanding (Moore Partin, Robertson, Maggin, Oliver, & Wehby, 2010). At the level of class-wide behavior, increased rates of behavior-specific praise have been shown to increase students' on-task behavior in both general education (e.g., Blaze, Olmi, Mercer, & Dufrene, 2014) and self-contained classrooms (e.g., Sutherland, Wehby, & Copeland, 2000); additionally, associations between increased behavior-specific praise and increased correct academic responding (Sutherland & Wehby, 2001) and decreased student disruptions (e.g., Blaze et al., 2014; Reinke, Lewis-Palmer, & Merrell, 2008) have been demonstrated. At the level of influencing the behavior of individual students, increased behavior-specific praise is associated with increased student compliance and engagement (e.g., Broden, Bruce, Mitchell, Carter, & Hall, 1970; Fergusen & Houghton, 1992; Fullerton, Conroy, & Correa, 2009) as well as decreased disruptive behavior (e.g., Matheson & Shriver, 2005). While behavior-specific praise is clearly established as an influential variable on disruptive behavior supported by Tier I and III interventions, its influence on the disruptive behavior of students supported by targeted behavioral interventions is unclear. Given its prioritization by OSEP as a teacher practice essential to responsive intervention efforts, research is needed to examine the potential influence of behavior-specific praise on intervention intensifications within an adaptive intervention model.

Purpose

Adaptive intervention design relies on the identification of critical factors to inform responsive adaptations to a standard treatment protocol. Evidence suggest behavioral function and teacher practices have the potential to bolster the effects of targeted behavioral interventions for students whose behavior is inadequately responsive to the standard protocol. Additional research is need to examine the use of these variables as critical factors within an adaptive approach to intervention intensification at Tier II.

The purpose of the current study is to examine the distinct and relative influence of Tier II treatment adaptations informed by two critical factors, behavioral function and teacher practices. Using CICO as a model Tier II intervention and behavior-specific praise as the distinguished teacher practice, the study will address the following research questions: (1) Relative to the standard CICO protocol, is there a functional relation between CICO with a function-based adaptation and a decrease in disruptive behavior of students at risk for EBD?; (2) Relative to the standard CICO protocol, is there a functional relation between increased use of behavior-specific praise with implementation of CICO and a decrease in disruptive behavior of students at risk for EBD?; and (3) What are the relative effects of CICO adapted to address behavioral function and CICO implemented with an enhanced teacher practice, behavior-specific praise?

CHAPTER 2

Method

Setting

The study was conducted in two public elementary schools in an urban school district in the southeastern region of the United States. To participate, schools were required to demonstrate evidence of the provision of multi-tiered systems of behavior support (e.g., PBIS), with implementation of school-wide practices assessed through the (a) *School-wide Evaluation Tool* (SET; Sugai, Lewis-Palmer, Todd, & Horner, 2001) or (b) *School-wide PBIS Tiered Fidelity Inventory* (TFI; Algozzine et al., 2014). At a minimum, schools were required to evidence a SET total score and *Expectations Taught* sub-score greater than or equal to 80% or a TFI *Tier I* sub-score greater than or equal to 70%; reported scores were required to be derived from assessments administered within the academic year in which the study was conducted. Both schools reported a TFI *Tier I* sub-score greater than 70% (School A, reported sub-score = 90%; School B, reported sub-score = 83%).

Participants

Students. Student participants were three elementary students meeting the following inclusion criteria: (a) the student's teacher or administrator nominated the student for participation in the study based on an observed pattern of persistent and disruptive behavior that interfered with the student's learning or the learning of others, (b) parent consent and student assent for the student's participation in the study were obtained, (c) English was reported to be the student's primary language, (e) the student received instruction from his or her primary teacher for at least 75% of academic instructional blocks, and (f) the student was identified as at-risk for challenging, anti-social behavior based on a *Student Risk Screening Scale* (SRSS;

Drummond, 1994) categorization of Moderate or High Risk for externalizing behaviors.

Evidence that the student participants met the inclusion criteria was gathered via teacher report and a review of existing school records. Additionally, event-based recording of the students' disruptive behavior using observation methods identical to those used throughout the study was conducted prior to the onset of the study to confirm the presence of persistent and elevated rates of disruptive behavior. Table 1 shows characteristics of each participating student, including the student's grade, total SSRS score for externalizing behavior, SSRS risk categorization, and pre-baseline rate of disruptive behavior, as defined in the Method section.

Teachers. Teacher participants were the primary instructor of each participating student. A key responsibility of participating teachers was to facilitate the completion of a participating student's DPR daily. Additionally, the teacher used self-management procedures to implement intervention components during portions of the study. For inclusion in the study, teachers were required to meet the following criteria: (a) the teacher was the primary instructor of the instructional block determined to be most problematic for the participating student; (b) English was the teacher's primary language for instructional delivery; and (c) the teacher consented to participation in the study.

CICO coordinators. One on-site adult served as the site CICO coordinator for each participating student. The primary role of the coordinator was to facilitate students' participation in the CICO program and variations of the program through brief student-coordinator meetings that occurred twice daily. Additionally, the coordinator managed materials associated with the implementation of the treatments. For inclusion in the study, the coordinator was required to: (a) work in the school of the participating student; (b) have a positive relationship with the participating student; and (c) consent to participation in the study.

Participant 1. Participant 1 was a 6-year-old African American girl in first grade. The student's teacher reported having six years of teaching experience and two years of experience implementing CICO. The student was not eligible for special education services. The student's areas of strength, as reported by her teacher, included proficiency across academic content areas, a willingness to utilizing 'calming' strategies following escalated disruptive behavior, and a desire to please the teacher, while the primary area of weakness was not following initial teacher directions. The student was nominated for participation in the study based on an observed pattern of disruptive behavior that included frequent call-outs, non-compliance, property destruction, and off-task behaviors. Ratings on the *SRSS* indicated aggressive behavior was also 'sometimes' problematic. The student's pre-baseline rate of disruptive behavior was 40.8, on average, across 15-min observation periods. A second-grade teacher at the student's school served as the student's CICO coordinator; the CICO coordinator reported having one year of teaching experience and no experience implementing CICO.

Participant 2. Participant 2 was a 5-year-old Caucasian boy in kindergarten. Although the student spoke in English at school, Arabic was the student's primary spoken language in the home setting. The student's teacher reported having 10 years of teaching experience and no experience implementing CICO. The student was not eligible for special education services. The student's areas of strength, as reported by his teacher, included an eagerness to make friends, enjoyment of learning, and a positive attitude toward attending school. The primary area of reported weakness was the student's desire to 'control' classroom activities. The student was nominated for participation in the study based on an observed pattern of disruptive behavior that included frequent call-outs, leaving designated areas without permission, unwelcomed but non-harmful physical contact with peers (e.g., tapping peers' shoulders during instruction), and verbal

aggression toward peers. Ratings on the *SRSS* indicated peer rejection and dishonesty were also problematic for the student. During the pre-baseline phase, the student's average rate of disruptive behavior across 15-min observation sessions was 33. A kindergarten teacher at the student's school served as the student's CICO coordinator. The coordinator reported having six years of teaching experience and no experience implementing CICO.

Participant 3. Participant 3 was a 9-year-old African American girl in the fourth grade. The student's teacher reported having 10 years of teaching experience and 3 years of experience implementing CICO. Areas of strength, as reported by the classroom teacher, included consistent work completion, proficiency across academic content areas, and persistence toward desired outcomes. The primary area of reported weakness was a tendency to socialize with peers during academic instruction. The student was not eligible for special education services. The student was nominated for participation in the study based on an observed pattern of disruptive behavior that included off-task behaviors (e.g., talking with peers without permission during academic instruction), non-compliance, and arguing with the teacher. Ratings on the *SRSS* indicated lying, cheating, and sneaking were also frequent behaviors exhibited by the student. During the pre-baseline phase, the student's average rate of disruptive behavior across 15-min observation sessions was 23.3. The school librarian served as the student's CICO coordinator; she reported having seven years of experience as a school librarian and six years of experience implementing CICO.

Measures

School-wide PBIS Tiered Fidelity Inventory. The *School-wide PBIS Tiered Fidelity Inventory* (TFI; Algozzine et al., 2014) was administered by both participating schools to evaluate their existing PBIS practices. The TFI is a 45-item inventory designed to assess the

extent to which the core features of school-wide PBIS are applied by school-personnel. Items are categorized into three sections: (a) Tier I: Universal School-wide PBIS Features, (b) Tier II: Targeted School-wide PBIS Features, and (c) Tier III: Intensive School-wide PBIS Features. The sections can be completed separately or in combination to guide both implementation and sustained use of school-wide PBIS. Evaluation of the psychometric properties of the TFI suggests the inventory has strong internal consistency for assessing fidelity at all tiers (overall $\alpha = .96$; Tier I $\alpha = .87$) as well as strong relations with other research-validated measures of SWPBIS implementation (for correlations with four research-validated assessments, see McIntosh et al., 2017).

Student Risk Screening Scale. The *Student Risk Screening Scale* (SRSS; Drummond, 1994), a widely-used universal screener designed to identify students at risk for externalizing behavior problems, was used to identify participating students. The teacher-completed screener requires the respondent to rate the frequency with which a student displays seven indicators of externalizing problems across a 4-point Likert-type scale (i.e., never = 0, occasionally = 1, sometimes = 2, frequently = 3). The indicators include: (a) stealing; (b) lying, cheating, sneaking; (c) behavior problems; (d) peer rejection; (e) low academic achievement; (f) negative attitude; and (g) aggressive behavior. Item ratings are summed to produce a total score and determine a student's level of risk (low-, moderate-, or high-risk). Evidence corresponding to the measure's reliability and validity indicates the SRSS has good internal consistency ($\alpha = .83$) and is a valid indicator of both social and behavioral outcomes ($r = .52$; Kilgus, Eklund, Maggin, Taylor, & Allen, 2017).

Functional Assessment Checklist for Teachers and Staff. Prior to the baseline phase, participating teachers completed the *Functional Assessment Checklist for Teachers and Staff*

interview (FACTS; March et al., 2000d) with a researcher possessing a graduate-level certification in behavior analysis (i.e., Board Certified Behavior Analyst®). The FACTS is a semi-structured functional behavior assessment interview designed to help identify specific problem behaviors, contexts in which the behavior is most and least likely to occur, and possible maintaining behavioral functions. The interview requires the respondent to (a) provide basic demographic information about the student, (b) describe positive characteristics of the student, (c) describe the disruptive behavior of the student, (c) identify *where, when, and with whom* the disruptive behavior is most likely to occur, and (d) describe setting events and likely consequences of the disruptive behavior that commonly occur in the setting identified as most problematic for the student. Functional assessment data was limited to information gathered via the FACTS as the assessment approach reflects a realistic and feasible approach to school-based FBAs at Tier II. Assessment data guided the development of function-based adaptations evaluated during the intervention phase of the study.

Experience interview. Participating teachers and CICO coordinators participated in a 3-item, open-ended interview to gather information related to the participants' role in the school setting and previous experience implementing CICO. The interview was conducted by a research assistant prior to the baseline phase. The interview questions included: (1) *What is your current school-based position?*; (2) *How many years of experience do you have in your current position?*; and (3) *What is your previous experience implementing CICO?*

Direct observation. Direct observation data was collected across conditions for formative and summative assessment purposes. Data collection occurred three to four times per week during baseline and intervention phases using continuous, event-based recording methods. For each data collection session, student- and teacher-level behaviors were measured during the

instructional block indicated by the teacher as most problematic for the participating student. Behaviors of the participating student and teacher were collected concurrently across 15-min observation sessions.

Event-based recording. The *Multiple Option Observation System for Experimental Studies* software program (MOOSES; Tapp, Wehby, & Ellis, 1995) was used to quantify eight student-related and four teacher-related dependent variables during the 15-min observation sessions. The MOOSES program allowed for continuous and concurrent, event-based recording across the 12 dependent variables in real time, permitting both frequency and duration measurement.

Student behavior. Measurement of the duration of the following student-related dependent variables was obtained during each 15-min observation: (a) *academic engagement*, (b) *passive engagement*, and (c) *disengagement*. Additionally, the frequency of the following student-related dependent variables was recorded: (d) *hand-raise*, (e) *academic response*, (f) *behavior response*, (g) *non-response*, and (h) *disruptive behavior*. The frequency of *disruptive behavior* was the primary dependent variable measured during each observation session. *Disruptive behavior* was defined as a verbal or physical action that interfered with classroom participation or productivity. Definitions, examples, and non-examples of the student-related dependent variables measured via the MOOSES program are located in Table 2.

Teacher behavior. The frequency of the following teacher-related dependent variables was recorded during each 15-min observation: (a) *academic OTR*, (b) *behavioral OTR*, (c) *behavior-specific praise*, and (d) *reprimand*. Measurements of *behavior-specific praise* were used to monitor treatment fidelity; *behavior-specific praise* was defined as a verbal statement from the teacher to the participating student or a group inclusive of the participating student that

indicated approval of academic or social behavior beyond acknowledgement of adequacy or accuracy. Definitions, examples, and non-examples of each teacher-related dependent variable measured via the MOOSES program are located in Table 3.

Training. A three-step process was used to train data collectors to observe and record dependent variables using the MOOSES program before the start of the study. First, data collectors reviewed a coding manual and memorized behavior definitions and corresponding data collection codes. Second, after memorizing the definitions and codes, data collectors viewed videotaped segments of classroom interactions and practiced inputting data codes corresponding to observed behaviors using the MOOSES program. Observers were required to demonstrate evidence of three consecutive practice sessions in which .80 agreement with a master code file was obtained across codes to advance to the third step of the training process. Third, data collectors observed randomly selected, non-participating students in non-participating classrooms to practice coding in a naturalistic setting. To collect data for purposes of the current study, observers were required to achieve a minimum of .80 observer agreement across codes for two consecutive sessions, each with a different qualified data collector. To address the threat of observational drift, observers were retrained over the course of the study, beginning in the baseline phase, during weekly meetings held to review operational definitions and discuss examples and non-examples of the dependent variables. Additionally, after the baseline phase and before observations during the comparison phase commenced, observers were required to view a second videotaped segment of classroom instruction and demonstrate evidence of two consecutive practice sessions in which .80 agreement with a master code file across codes was obtained.

Inter-observer agreement. Inter-observer agreement was evaluated by having a primary and secondary data collector simultaneously and independently collect observational data using identical measurement procedures. Agreement estimates were obtained using a point-by-point method and procedures outlined by MacLean, Tapp, and Johnson (1985). Event frequency agreement was calculated using a 5-s window of agreement around each coded dependent variable in the primary data collector's electronic data file. Responses coded by both observers within a 5-s window were identified as agreements, while responses coded by only one observer were identified as disagreements. Agreement percentages were calculated by dividing the total number of agreements by the sum of agreements and disagreements and multiplying the quotient by 100.

Across participants and experimental conditions, IOA data were collected during a total of 40.2% of sessions (33 out of 82 sessions), with the number of IOA sessions per condition varying by participant but not less than one. The mean percentage of agreement across dependent variables, participants, sessions, and observers was 82% (range = 52% - 97%). The mean percentages of agreement for the primary dependent variables, *disruptive behavior* and *behavior-specific praise*, across participants, sessions, and observers were 82% (range = 56%-100%) and 89% (range = 0% - 100%), respectively. Table 4 provides the mean percentage of agreement across all measured dependent variables and for each of the primary dependent variables by participant and experimental condition.

Intervention Rating Profile-15. At the conclusion of the study, participating teachers completed the *Intervention Rating Profile-15* (IRP-15; Martens, Witt, Elliott, & Darveaux, 1985) to assess the acceptability of each of the three compared treatments. The IRP-15 consists of 15 items scaled on a six-point Likert format ranging from *strongly disagree* to *strongly agree*. Total

scores generated by the instrument range from 15 to 90, with higher scores indicating higher social validity; treatments rated above 52.5 are considered acceptable. The instrument has been shown to have strong internal consistency ($\alpha = .98$; Martens et al., 1985). Each participating teacher completed the rating scale three times, once for each compared treatment. To support the participants' ability to discriminate among and differentially rate the three treatments, each scale completed by a participant was printed on a distinct color of paper corresponding to condition-correlated stimuli used throughout the study. All rating scales were completed before results of the study were provided to the participating teachers.

Social validity interview. In addition to the completing the IRP-15, teachers participated in a seven-question, researcher-developed interview to assess their beliefs on the efficacy of the compared treatments and preferences toward the adaptations at the end of the study. The teacher interviews were conducted during brief (approximately 20 min.), one-on-one meetings with first author, during which the compared treatment adaptations were described in greater detail (e.g., programmed praise rates revealed) and results from the study were shared. Four of the seven questions were asked before the results were presented; the initial questions were: 1) *Given the opportunity to continue one of the studied treatments, which treatment would you continue and why?*; 2) *Which of the studied treatments do you believe was the most effective at reducing the disruptive behavior of your student and why?*; 3) *Which of the studied treatments do you believe was the least effective at reducing the disruptive behavior of your student and why?*; and 4) *Is there anything you would like to share about your experiences implementing each of the compared treatments?* The remaining three questions were asked after the results were presented to the participants; the final questions were: 5) *Why do you believe that increasing the rate at which you delivered praise was the most effect treatment for your student?*; 6) *Why do you*

believe the function-based adaptation (i.e., the addition of a contingent, function-based reward) was a less effective adaptation than increasing the rate at which you delivered praise?; 7) Given the presented results, which of the three treatments would you choose to support your student in the future, if given the opportunity?

Experimental Design

An alternating treatments single-case design (ATD; Barlow & Hayes, 1979) was used to provide a direct comparison of the effects of a standard Tier II treatment, CICO, and two adapted versions of the treatment on participating students' disruptive behavior. Across experimental phases, the rate of disruptive behavior was the primary dependent variable used to make design-related decisions. Initial data collection corresponded to a pre-baseline phase, in which observed rates of disruptive behavior were used to confirm participating students' excesses of externalizing challenging behavior. The pre-baseline phase was followed by a baseline phase in which the standard CICO treatment protocol was implemented across school days; the baseline phase was used to identify participating students for whom the standard treatment protocol was inadequately effective. Following the baseline phase, a comparison phase was used to compare the effects of the standard CICO treatment protocol to two adapted versions of the same treatment via rapid and repeated alternation of three conditions; the alternating conditions were sequenced randomly – one condition per school day - with the stipulation that no more than two consecutive observations of the same condition were conducted. Across conditions, condition-correlated discriminative stimuli (i.e., color of intervention materials and verbal cues) were presented to facilitate participants' discrimination of the in-effect condition for any given session. A minimum of five observations per condition (Wolery, Gast, & Ledford, 2018) were conducted to evaluate the effects of the compared conditions on the primary dependent variable,

with the replication of differences between conditions quantified by calculating the percentage of non-overlapping data between compared conditions.

Procedures

Following approvals from the Institutional Review Board (IRB) and school district, initial contact with schools was made to identify those interested in participating in the current study. Interested schools were asked to provide the results from one of two district-approved inventories designed to evaluate school-wide implementation of PBIS, the SET or TFI. Schools' meeting inclusion criteria for implementation fidelity of school-wide PBIS based on SET or TFI results then identified teachers of students for whom behavior support was requested. The identified teachers were then contacted by email to provide basic information about the study's purpose. Teachers expressing interest in the study were invited to attend a formal meeting during which an informed consent document was provided and reviewed. Upon obtained teacher consent for participation, participating teachers were interviewed for basic information relating to their previous experience teaching and implementing CICO. The teachers then nominated student participants based on the study's inclusion criteria for students. For those nominated students who met the inclusion criteria, parent consent for further assessment was obtained. Thereafter, nominated students were further screened for participation using the SRSS; for students identified by the assessment as having moderate or high risk for externalizing behavior problems, student assent for participation was then obtained and the FACTS was conducted. Subsequently, participating teachers were asked to nominate a prospective CICO coordinator for each participating student. The nominated individuals were then approached for participation in the study using recruitment procedures identical to the described teacher recruitment procedures.

Pre-baseline. Pre-baseline measurement across dependent variables occurred prior to the baseline phase using event-based recording procedures. No changes to the classroom context or behavioral supports received by the participating students were made. Repeated measurement of the dependent variables across consecutive observation sessions remained in effect until 1) the direction of the student's disruptive behavior indicated a zero celerating or accelerating trend along the ordinate scale and 2) disruptive behavior data points were considered stable (i.e., 80% of values were within $\pm 25\%$ of the median value of the condition; Lane & Gast, 2014). In cases of variable disruptive behavior during the pre-baseline phase and a strong a priori assumption that a condition change would result in a large level change, a phase change was made after at least four disruptive behavior data points were collected, as opposed to a recommended minimum of five data points (Ledford, Lane, & Severini, 2017); this decision-rule was made given that pre-baseline data collection was not intended to strengthen experimental control and time limitations for observation opportunities existed.

Baseline. During the baseline phase, the standard CICO protocol was implemented across consecutive school days. The intervention included the following core elements implemented within a daily 'cycle': (a) a morning check-in with the CICO coordinator, (b) a DPR on which student behavior was rated (see Appendix A for an example DPR), (c) teacher feedback delivered regularly via the DPR and verbal interaction, (d) an afternoon check-out with the CICO coordinator and positive feedback contingent on the student meeting a pre-established behavior goal (i.e., 80% of possible points), and (e) home-school collaboration (i.e., behavior report card is sent home daily, signed by parent or guardian, and returned to school the next day). Repeated measurement of dependent variables across consecutive observation sessions remained in effect until 1) the direction of the student's disruptive behavior indicated a zero celerating or

accelerating trend along the ordinate scale and 2) disruptive behavior data points were considered stable (i.e., 80% of values were within $\pm 25\%$ of the median value of the condition). Given variable disruptive behavior during the baseline phase and a strong a priori assumption that a condition change would result in a large level change, a phase change was made after at least five disruptive behavior data points were collected. A detailed description of CICO procedures is provided below as the standard CICO protocol served as the basis for subsequent treatment adaptations in the comparison phase of the experiment.

CICO procedures.

Check-in. Upon arrival to school, each participating student briefly met with a CICO coordinator to initiate the CICO cycle. The CICO coordinator directed the meeting using an implementation guide including the essential components of the check-in process (see Appendix B, ‘Check-in’ section). The CICO coordinator (a) initiated the check-in process with the student, (b) attempted to retrieve a home-school communication form sent home with student at the end of the previous school day (see Appendix C); (c) provided the student with new DPR, printed on an 8” x 11” piece of white paper (a condition-correlated stimulus) for use during the school day; (d) indicated to the student the intervention in effect for the day by stating the color of paper on which the DPR was printed (e.g., *Today, you’ll be using a white a CICO sheet*; a second condition-correlated stimulus); (e) reviewed with the student behavioral expectations outlined on the DPR; (f) reviewed with the student how DPR ratings were earned based on the student meeting the behavioral expectations; (g) informed the student of the student’s point goal; (h) checked to see if student had all necessary materials for the day; and (i) ended the meeting with a positive statement that encouraged appropriate behavior. The CICO coordinator’s implementation guide, like the student’s DPR form, was printed on an 8” x 11” piece of white

paper. For each student participant, the student's DPR was tailored to include the school-wide expectations unique to the student's school and the instructional blocks or natural transition periods (e.g., end of recess) in which the DPR was to be completed, as determined by the student's classroom teacher.

DPR completion. Throughout the school day, participating students received teacher feedback delivered at regular intervals via DPR ratings and verbal interaction. Feedback was provided during brief and private student-teacher conferences at the end of each instructional block or natural transition period indicated on the student's DPR. The participating teacher used an implementation guide outlining the treatment components essential to the completion of the DPR to lead the conference (see Appendix B). During the conference, the student's teacher (a) rated the student's behavior performance on the DPR (e.g., '0' = behavioral expectations were not met; '1' = behavioral expectations were somewhat met; '2' = behavioral expectations were met) and (b) praised the student if behavioral expectations were met or provided neutral feedback, reminding the student of how points could be earned in the future, if the behavioral expectations were not met.

Check-out. Upon completion of all instructional blocks, participating students returned to their CICO coordinator for a brief meeting to conclude the CICO cycle. The CICO coordinator directed the meeting using an implementation guide that outlined the essential components of the check-out process (see Appendix B). During the check-out, the CICO coordinator (a) reviewed the student's DPR for the day, determining with the student whether the student's daily point goal was met, (b) praised the student if the point goal was met or provided neutral feedback, reminding the student how points could be earned in the future, if the point goal was not met, and (c) sent a completed home-school report home with the student for a parent or guardian signature

(see Appendix C). While parent participation in the treatment via signed home-school reports was encouraged, it was not included as a procedural component of the CICO treatment. At the end of the check-out meeting, the CICO coordinator was asked to record the number of points the student earned on a DPR data log (see Appendix D) and file the student's DPR in a binder provided by the researcher.

Training.

Teacher and coordinator training. Each participating CICO coordinator and teacher participated in a one-on-one training session prior to the onset of the baseline phase. The first author led the session using a training script; as needed, language used in the script was adjusted slightly to reflect variations in DPR rating scales across participants (i.e., use of smiling face icons rather than numeric ratings). The script provided an overview of the CICO cycle and instruction, modeling, rehearsal, and feedback opportunities for each essential component of the treatment for which the participant was responsible. Appendix E provides the scripts used during coordinator and teacher training sessions. Each training lasted approximately 30 min.

Student training. Each participating student participated in a one-on-one training session prior to the student's initial check-in meeting. The student's CICO coordinator was asked to lead the session using a training script. The script provided an overview of CICO and an opportunity to check the student's understanding of the treatment. While adherence to the script was requested, its use was not monitored or measured. The student training script for the baseline phase is included in Appendix E. Student training sessions were estimated to last approximately 10 minutes.

Comparison phase. Upon conclusion of the baseline phase, traditional CICO was compared to two variations of the treatment through rapid and repeated alternation of three

conditions. CICO procedures were identical to baseline procedures, while procedures for the comparison treatments were adapted to address distinct critical factors. One variation of the standard CICO protocol addressed a teacher practice (CICO + TP), while the other addressed behavioral function (CICO + F). CICO coordinators and teachers facilitated the change of conditions (CICO, CICO + TP, and CICO + F) using a schedule for the randomly sequenced condition changes as well as condition-correlated implementation guides. Condition correlated stimuli (i.e., color of participant materials and verbal cues) were used across conditions to support participants' discrimination of conditions.

CICO procedures. During the comparison phase, CICO procedures were nearly identical to the standard CICO procedures implemented during the baseline phase, with the exception pertaining to the addition of procedures designed to maintain teachers' baseline rates of behavior-specific praise delivered to participating students during instruction. During the CICO condition, self-management procedures were used to hold constant participating teachers' rates of behavior-specific praise to rates not exceeding those measured during baseline. Across sessions, each participating teacher wore a MotivAidor®, a personal electronic device designed to cue desired behavior; the device was programmed to cue the delivery of praise at regular intervals during the entire instructional block; interval lengths varied by teacher and were based on the number of praise statements needed during a 15-min period to demonstrate continued baseline rates of the instructional practice. When cued by the device, the teacher was asked to deliver one behavior-specific praise statement to the participating student or a group containing the participating student; the teacher was asked to withhold the delivery of praise to the student at all other times.

To facilitate participating teachers' maintenance of baseline rates of praise delivery and to distinguish the CICO procedures from those of the compared treatments, the teachers were provided a revised implementation guide reflecting the condition's procedures (see Appendix F). Additionally, a 1" x 3" white label with the words, 'praise only when cued', was affixed to the praise cuing device. Participating CICO coordinators were also provided a revised implementation guide; as no procedural changes were made with regards to the check-in and check-out processes, the guide was merely updated to reflect the experimental phase in which it was to be used (see Appendix F). No changes were made to the participating students' DPR. All printed participant materials, including the implementation guides and DPRs, were printed on 8" x 11" white paper.

CICO + TP procedures. Procedures of the CICO + TP condition were nearly identical to CICO procedures implemented during the baseline phase, with the exception pertaining procedures designed to enhance the instructional context in which the standard CICO protocol was implemented. Prior to the onset of the comparison phase, teachers' baseline rates of behavior-specific praise were evaluated against recommended criteria (i.e., 6 praise statements in a 15-min period; Sutherland, Wehby, & Copeland, 2000). During the CICO + TP condition, self-management procedures were used to increase participating teachers' delivery of behavior-specific praise to optimal rates or beyond. As in the CICO comparison condition, an electronic device was used to cue the delivery of praise at regular intervals, with the interval length varying by teacher. In the CICO + TP condition, however, interval lengths were based on the number of praise statements needed during a 15-min period to demonstrate (a) optimal rates or (b) a 25% rate increase given an optimal average baseline rate. Teachers were asked to deliver one praise statement to the participating student or a group containing the participating student when cued

by the device; additionally, and in contrast to the other comparison conditions, teachers were told they could praise freely during the instructional block, or at any time, in addition to when cued. Table 5 provides the average baseline rate of behavior-specific praise observed for each participating teacher and the treatment adaptation made to the standard CICO treatment protocol to enhance the teacher's naturally occurring rate.

To facilitate the programmed rate of praise delivery and to distinguish CICO + TP procedures from those of the compared treatments, participating teachers were provided an implementation guide reflecting the adapted procedures for the condition printed on an 8" x 11" piece of yellow paper (see Appendix G). Additionally, a 1" x 3" yellow label with the words, 'praise when cued and whenever', was affixed to the praise cuing device for the condition. Participating CICO coordinators were also provided a yellow implementation guide for the condition (see Appendix G); while the check-in and check-out procedures reflected in the guide were nearly identical to those of the CICO condition, they differed by the condition correlated stimuli (i.e., color of DPR to be given to student; verbal cue of the in-effect intervention). No changes were made to the student DPR except the color of paper, yellow, on which it was printed.

CICO + F procedures. Procedures of the CICO + F condition were nearly identical to those implemented during the CICO condition, with the exception pertaining to the addition of a procedural adaptation designed to address the behavioral function of each participating student. Prior to the onset of the comparison phase, the first author evaluated the FBA results for each participating student and developed a hypothesis of the primary consequence maintaining the student's disruptive behavior. The first author then determined an adaptation to the standard CICO protocol designed to address the student's behavioral function; selected adaptations were

evidenced in extant literature examining the effects of function-based adaptations to CICO (e.g., Campbell & Anderson, 2008; March & Horner, 2002; MacLeod, Hawken, O'Neill, & Bundock, 2016). Across participants, the function-based procedural adaptation was the addition of a procedure providing the student the opportunity to earn a function-based reward contingent on the student meeting his or her daily point goal. Table 6 provides the hypothesized behavioral function for each participant and the corresponding function-based adaptation made to the standard CICO treatment protocol during the CICO + F condition.

To facilitate the implementation of CICO + F procedures and to distinguish them from those of the compared treatments, participating teachers were provided an implementation guide reflecting the adapted procedures for the condition printed on an 8" x 11" piece of blue paper (see Appendix H). Additionally, a 1" x 3" blue label with the words, 'praise only when cued', was affixed to the praise cuing device for the condition. Because the programmed rate of behavior-specific praise for the CICO and CICO + F conditions were identical, the same cuing device was used for both conditions; thus, the single device had two labels, one white and one blue, prompting controlled praise delivery for the conditions. Participating CICO coordinators were also provided a blue implementation guide for the CICO + F condition; the guide contained an added procedure during the check-out – delivery of the function-based reward contingent upon the student meeting his or her point goal – and reflected changes to the condition correlated stimuli (i.e., color of DPR provided to the student; verbal cue of the in-effect intervention; see Appendix H). The DPR of each participating student was revised to include an indication of the reward the student was working to earn; the DPR was printed on blue paper.

Training.

Teacher and coordinator training. Prior to the onset of comparison phase, each participating CICO coordinator and teacher participated in a one-on-one training session. The first author led the trainings using a script that provided an overview of the procedural differences across conditions as well as instruction, modeling, rehearsal, and feedback opportunities for all essential component of the comparison treatments. Appendix I provides the scripts used during the coordinator and teacher training sessions. Each training lasted approximately 30 min.

Student training. Student training consisted of a brief one-one meeting between each participating student and his or her CICO coordinator prior to the first session of the comparison phase. The coordinator was asked to follow a training script to provide the student with a brief overview of the three treatments the student would receive during the phase as well as a ‘check for understanding’ at the closing of the meeting. While use of the script was requested, the coordinators’ adherence to it was not monitored or measured. The student training script is included in Appendix I. Student training sessions were estimated to last 10 min.

Procedural Fidelity

Direct observations were conducted to evaluate treatment implementation across four broad procedural areas: a) check-in, b) DPR completion and feedback, c) check-out, and d) adaptation delivery. A treatment integrity checklist was used during the observations to assess the presence or absence of a total of 19 treatment components, each corresponding to one of the broad procedural areas. To evaluate each of the four areas and 19 corresponding treatment components, treatment integrity observations were necessary at three distinct time-points in a participating student’s school day: during morning check-ins, during the instructional block in

which the student's disruptive behavior was measured (i.e., the most problematic instructional block for the student), and during afternoon check-outs. Across participants, each of the 19 treatment components was assessed for at least 20% of sessions that occurred in each phase and condition.

Fidelity of implementation was calculated by dividing the total number observed treatment components by the total number of assessed treatment components and multiplying the quotient by 100. Overall, fidelity of implementation was 97% for Participant 1, 99% for Participant 2, and 92% for Participant 3. Table 7 provides the fidelity of implementation by participant and experimental phase or condition. Table 8 provides the fidelity of implementation of each treatment component across participants for each experimental phase or condition.

CHAPTER 3

Results

Visual Analysis

Visual inspection of data using guidelines outlined by Barton, Lloyd, Spriggs, and Gast (2018) and Wolery, Gast, and Ledford (2018) was used for formative and summative analysis purposes. Formative analysis included ongoing graphing and inspection of data as it was collected; rates of behavior-specific praise observed during baseline were used to inform procedural decisions for the comparison phase, while assessment of level, trend, and variability of the primary dependent variable, disruptive behavior, guided decisions to change experimental phases. Summative analysis included visual inspection of data characteristics of disruptive behavior within the comparison phase. The consistency of differentiation between data paths was the primary data characteristic used to determine the presence of a functional relation between changes in the independent variable and changes in disruptive behavior, although level, trend, variability, consistency, overlap, and immediacy were also considered.

Behavior-specific praise. Figures 2, 3 and 4 show the observed rates of behavior-specific praise for each participant across experimental phases and conditions as well as the programmed rates of praise for the comparison phase. In general, participating teachers adhered to the programmed rates of praise using the established self-monitoring procedures. For Participant 1, actual praise rates exceeded the programmed praise rates during the initial CICO and CICO + F sessions (sessions 12 and 14, respectively, of Figure 2). Thereafter, a procedural change was made to the conditions, such that the observer provided the teacher with a visual cue (a stop sign printed on a 6.5" x 3.5" piece of paper) once the teacher's delivery of praise reached the programmed rate for the condition; the teacher was instructed to withhold further praise upon

receiving the cue. For all other participants, the visual cue was in place at the onset of comparison phase.

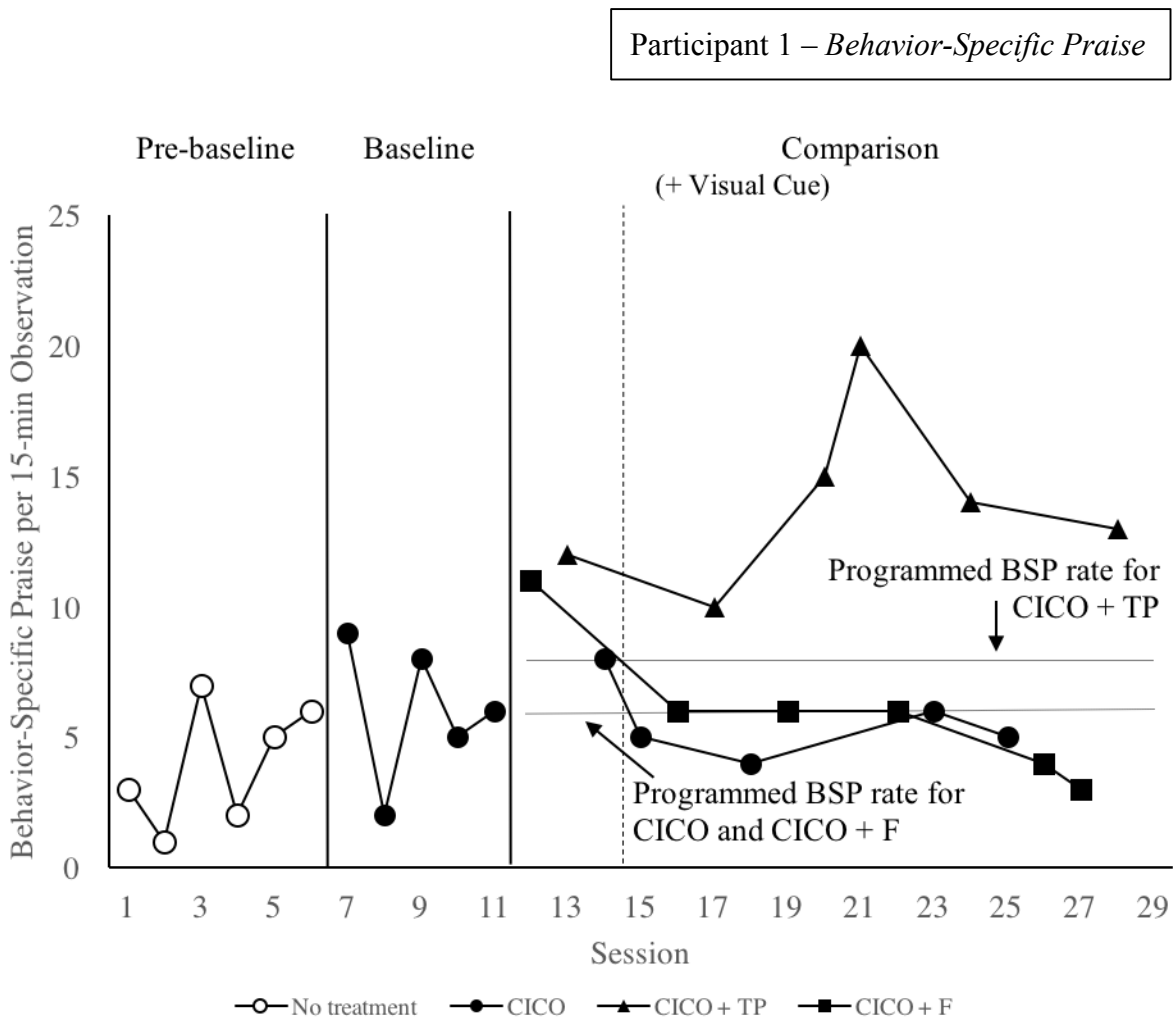


Figure 2. Rates of *behavior-specific praise* across experimental phases for Participant 1. Given that an optimal rate of *behavior-specific praise* was observed during the baseline phase, the programmed rate of *behavior-specific praise* for the CICO + TP condition was the average rate of the response observed during the baseline phase increased by 25%.

Participant 2 – Behavior-Specific Praise

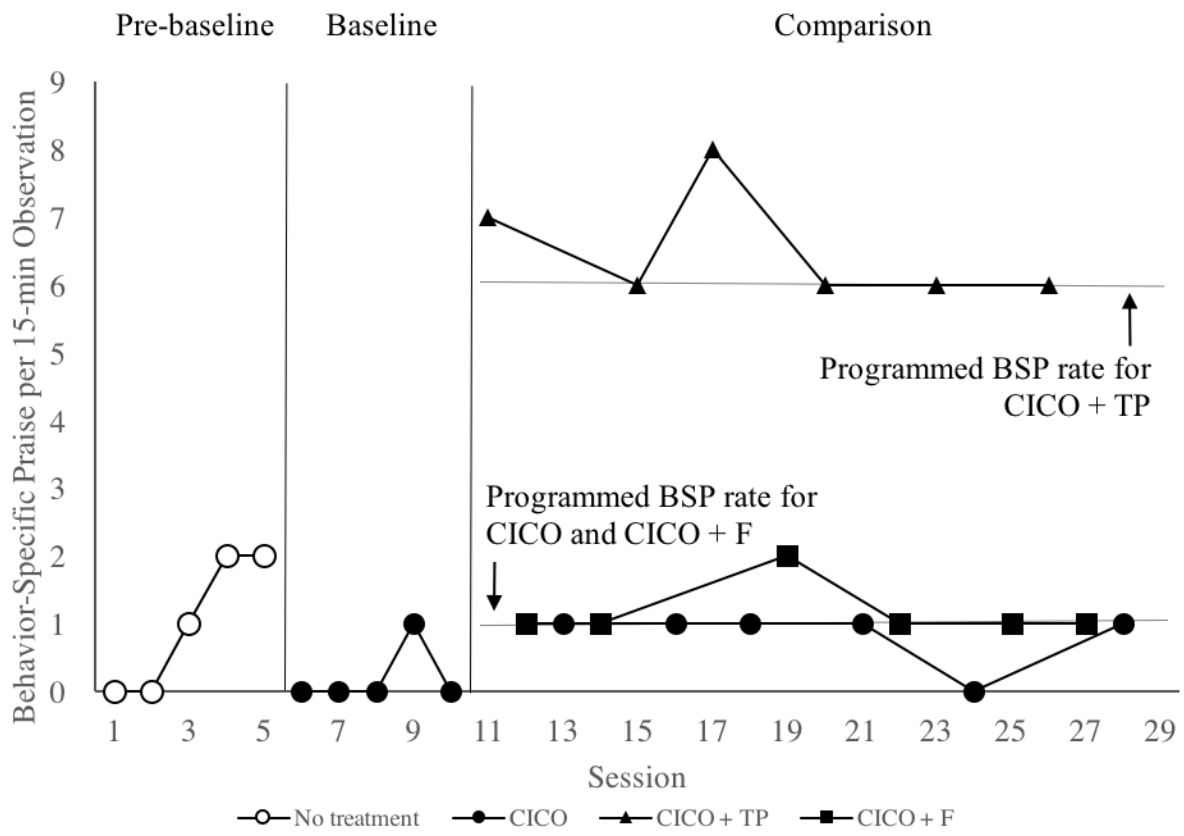


Figure 3. Rates of behavior-specific praise across experimental phases for Participant 2.

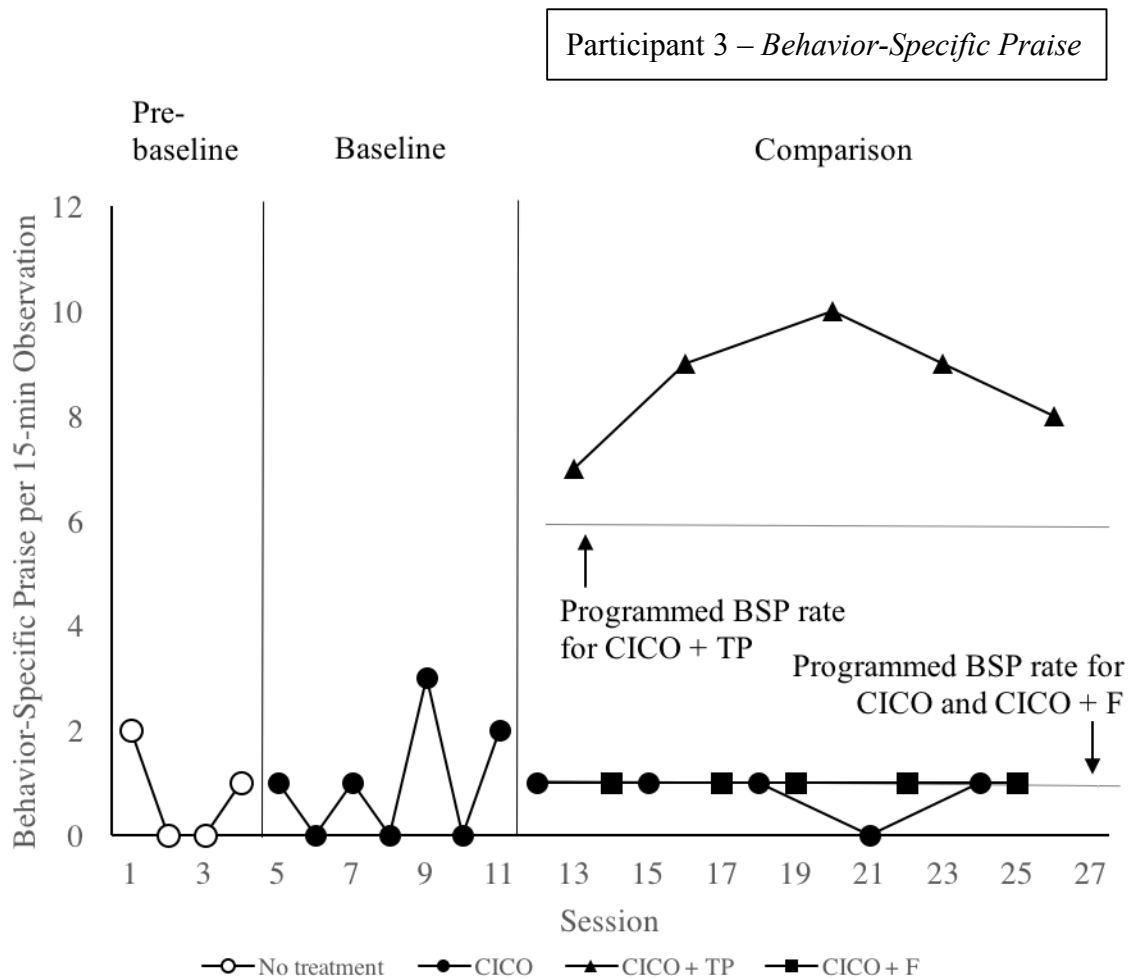


Figure 4. Rates of behavior-specific praise across experimental phases for Participant 3.

Disruptive behavior.

Participant 1. In the pre-baseline phase, Participant 1 displayed high levels of disruptive behavior, with rates of the behavior ranging from 30 to 57 occurrences per 15-min session. Although rates were stable, with 83% of values falling within $\pm 25\%$ of the median value of the condition, a gradual accelerating trend within the condition was observed. With the introduction of the baseline phase, levels of the behavior remained high and a zero celerating trend with increased stability was observed (range = 36 - 56; 100% of values fell within $\pm 25\%$ of the median value of the condition).

During the comparison phase, levels of disruptive behavior remained high with continued implementation of CICO. However, the stability of the data values decreased (40% of values fell within $\pm 25\%$ of the median value of the condition), and disruptive behavior ranged from 22 to 69 occurrences per 15 min. Relative to the CICO condition, levels of disruptive behavior in the CICO + F condition were consistently higher. Contra-therapeutic changes in levels were observed for four of five adjacent data points of the compared conditions, precluding the determination of a functional relation between CICO + F and decreased disruptive behavior relative to the standard treatment protocol. Levels of disruptive behavior in the CICO + TP condition were consistently lower than observed levels in the CICO condition. Differentiation in responding was immediate and consistent across sessions, producing five demonstrations of effect. Thus, a functional relation was demonstrated between CICO + TP and decreased rates of disruptive behavior relative to implementation of CICO. Likewise, levels of disruptive behavior in the CICO + TP condition were consistently lower than observed levels in the CICO + F condition, with the comparison producing six demonstrations of effect; thus, a functional relation between type of adaptation made to the standard CICO protocol and observed rates of disruptive behavior was demonstrated, with evidence supporting CICO + TP as the superior adapted treatment.

Participant 1 – *Disruptive Behavior*

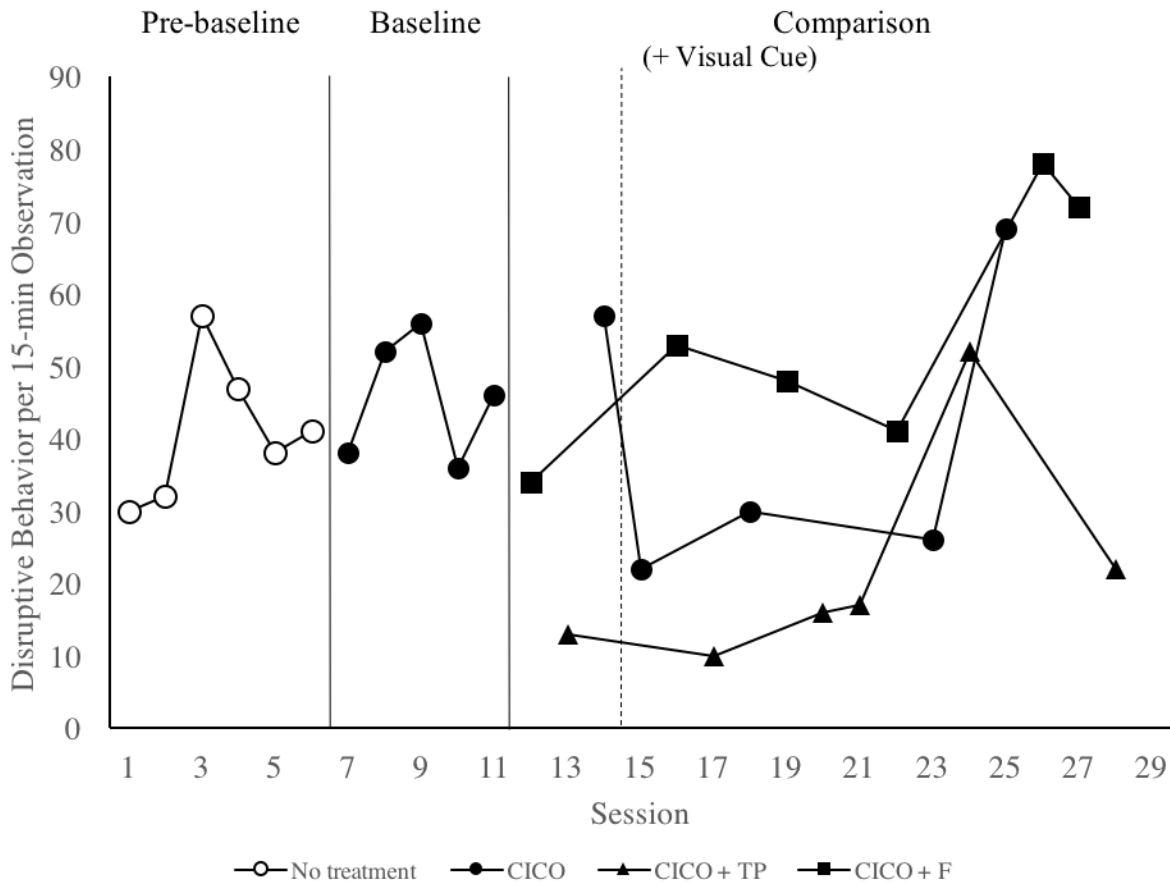


Figure 5. Rates of disruptive behavior across experimental phases for Participant 1.

Participant 2. During the pre-baseline phase, Participant 2 displayed high levels of disruptive behavior, with rates ranging from 19 to 50 occurrences per session. Rates were variable (40% of values falling within $\pm 25\%$ of the median value of the condition) and a gradual accelerating trend was observed. As with Participant 1, levels of the behavior remained high and a zero accelerating trend with increased stability was observed with the introduction of the baseline phase (range = 25 – 48; 80% of values fell within $\pm 25\%$ of the median value of the condition).

During the comparison phase, levels of disruptive behavior decreased with continued implementation of the standard CICO protocol, while variability in the data values increased

(67% of values fell within $\pm 25\%$ of the median value of the condition). As with Participant 1, levels of disruptive behavior observed during the CICO + F condition were consistently higher than those of the CICO condition. As contra-therapeutic changes in levels were observed for five of six adjacent data points of the compared conditions, a functional relation between CICO +F and decreased disruptive behavior was not demonstrated. Likewise, a functional relation between CICO +TP and decreased rates of disruptive behavior was not demonstrated given inconsistent differentiation between the data paths of the CICO + TP and CICO conditions (PND = 66.7%). A functional relation was demonstrated, however, between disruptive behavior and the type of adaptation made to the standard CICO protocol. As with Participant 1, levels of disruptive behavior in the CICO + TP condition were consistently lower than those observed in the CICO + F condition, with differentiation observed for five of six adjacent data points of the compared conditions. Thus, evidence in support of CICO + TP as the superior adapted treatment was again demonstrated.

Participant 2 – Disruptive Behavior

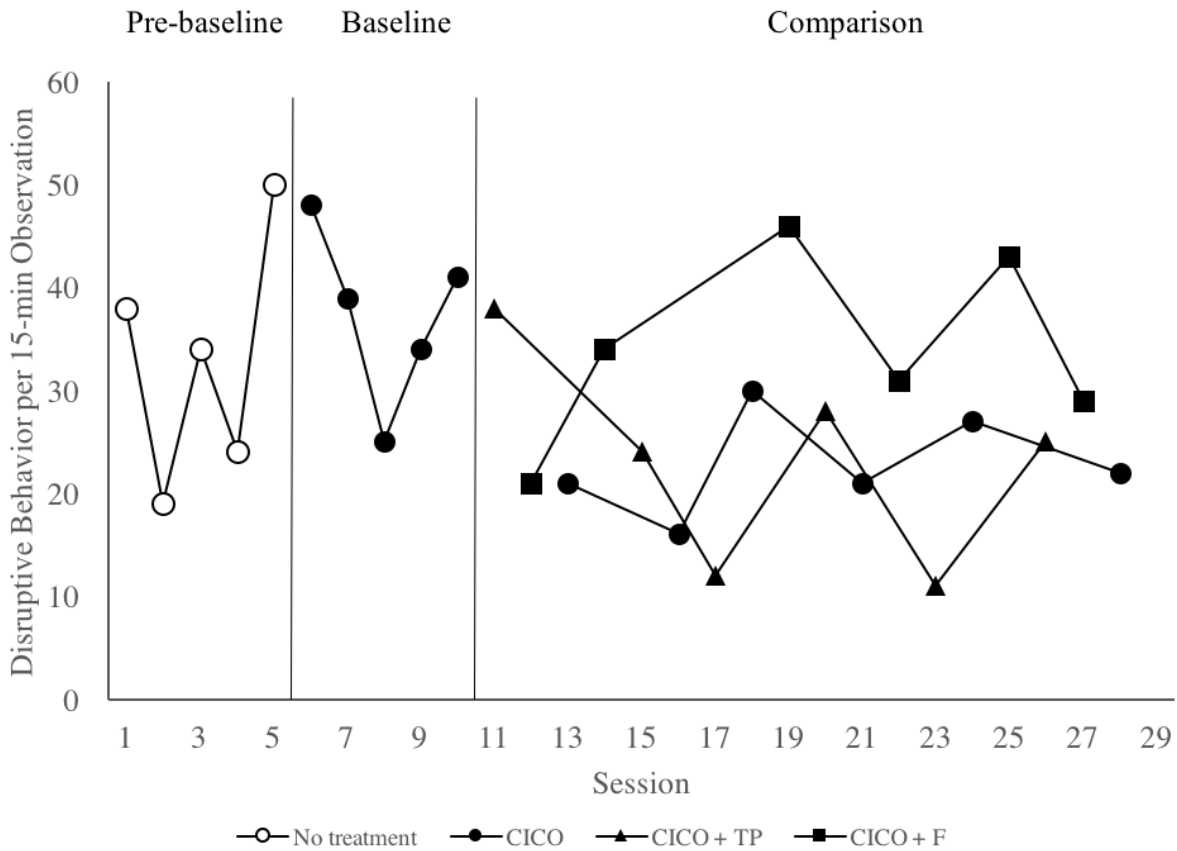


Figure 6. Rates of disruptive behavior across experimental phases for Participant 2.

Participant 3. For Participant 3, variability in levels of responding was observed in both the pre-baseline and baseline phase. During the pre-baseline phase, levels were highly variable, with response rates ranging from 15 to 38 occurrences per session and 0% of data values falling within $\pm 25\%$ of the median value of the condition. During the baseline phase, levels were somewhat variable, and response rates ranged from 4 to 36 occurrences per session with 71% of data values falling within $\pm 25\%$ of the median value of the condition (median = 30).

During the comparison phase, levels of disruptive behavior decreased and stabilized and a zero celerating trend was observed with continued implementation of CICO (100% of range =

12 – 17; 100% of values fell within $\pm 25\%$ of the median value of the condition). Inconsistent differentiation between levels of disruptive behavior in the CICO and CICO + F conditions occurred, providing insufficient evidence of a functional relation between the conditions (PND = 40%). As with Participant 1, levels of disruptive behavior in the CICO + TP condition were consistently lower than observed levels in the CICO and CICO + F conditions. The differentiation in responding between CICO + TP and CICO produced five demonstrations of effect, providing clear evidence of a functional relation between CICO + TP and decreased disruptive behavior. Five demonstrations of effect were also evidenced by the differentiation in responding between CICO + TP and CICO + F sessions, again providing clear evidence of a functional relation between adaptation type and observed rates of disruptive behavior and again providing evidence in support of CICO + TP as the superior adapted treatment.

Participant 3 – Disruptive Behavior

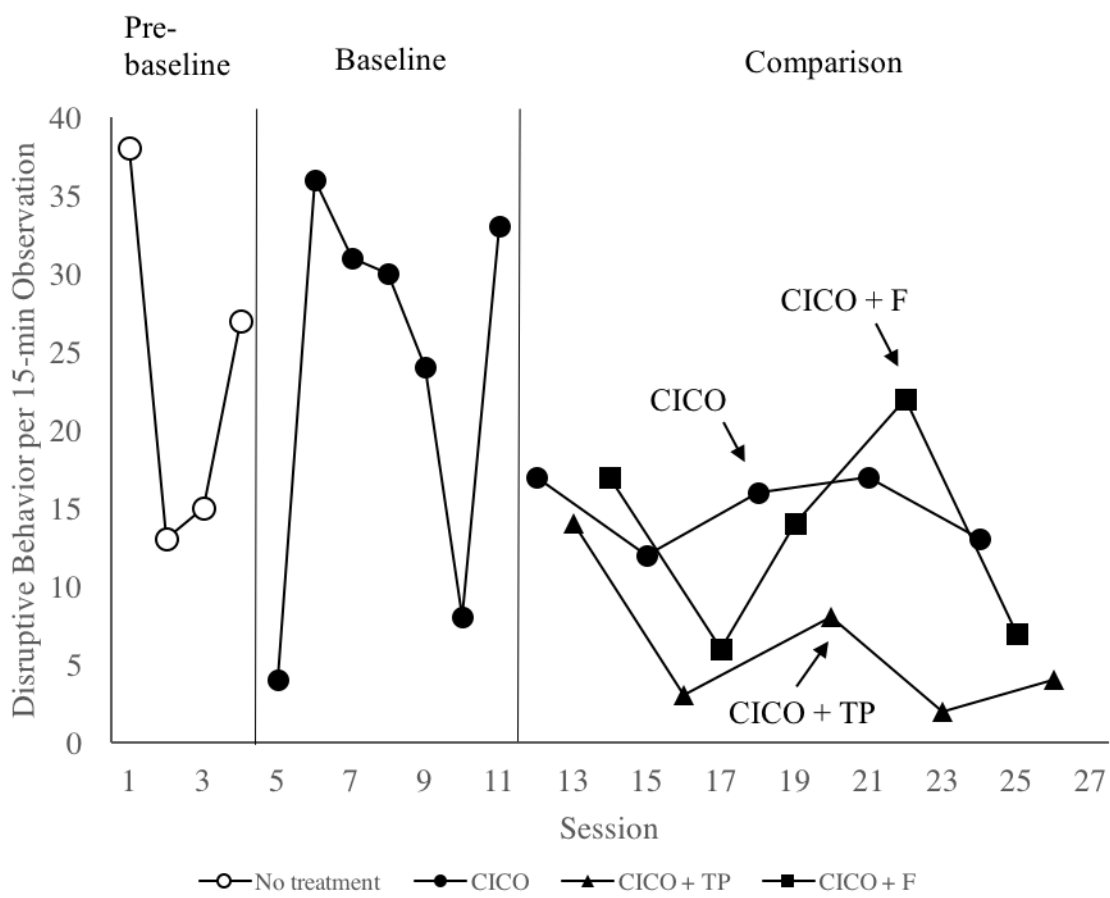


Figure 7. Rates of disruptive behavior across experimental phases for Participant 3.

Social Validity

Intervention Rating Profile-15. Table 9 presents the IRP-15 total scores generated by teacher ratings of the three comparison treatments. CICO + TP was the only treatment rated as acceptable by all teachers. Both CICO and CICO + F were rated as acceptable by two of the three teachers. CICO + TP was the highest rated treatment, on average (average total score = 73.7; range = 54 - 86), while average total scores for CICO and CICO + F were nearly identical (CICO average total score = 62; CICO + F average total score = 62.3; CICO range = 50 - 79; CICO + F range = 51 - 70).

Social validity interview. Prior to receiving result from the present study, the teacher of Participant 1 reported a preference for CICO + F during the post-intervention interview; although she reported the belief that CICO + TP was the most effective treatment for the student and most ‘natural’ to implement, the teacher felt her student was more motivated when provided the opportunity to work toward a reward. The teacher reported the belief that CICO was the least effective treatment for her student. Similarly, the teacher of Participant 2 favored CICO + F, indicating that she, too, believed the treatment was the most motivating for her student and that her student seemed to ‘think about his own behavior’ more often when the intervention was in-effect. She believed CICO + F was the most effective treatment while CICO was the least effective intervention given that the student ‘didn’t get anything out of it’. Unlike the other respondents, the teacher of Participant 3 reported a preference for CICO + TP, noting she had an unfavorable attitude toward the provision of rewards for behaviors she believed her student should already exhibit. She did, however, believe CICO + F was the most motivating treatment for her student. The teacher indicated she believed that both CICO and CICO + F were ineffective.

After result of the study were presented, all three teachers indicated they would choose to implement CICO + TP over CICO and CICO + F due to its effectiveness. However, two of the three teachers indicated the treatment was difficult to implement, with one describing the associated praise rate as ‘unrealistic’ and the other citing difficulty delivering praise to an individual student when working directly with other students. When asked why they believed CICO + F was less effective relative to CICO + TP, the teachers provided divergent beliefs. The teacher of Participant 1 believed the reward opportunity provided with CICO + F was too delayed, while the teacher of Participant 2 believed her student became discouraged and ‘gave-

up' midday when he believed he wasn't going earn the programmed reward. The teacher of Participant 3 believed the treatment was less effective due to its lower programmed praise rate.

CHAPTER 4

Discussion

Effective behavior intervention within multi-tiered systems of support relies on treatment options matching student need and a problem's resistance to intervention efforts. For the approximated 1.5 million students for whom existing research-derived and evidenced-based Tier II practices are ineffective, adaptive intervention design is a promising approach to increasing the impact of Tier II interventions in a responsive manner. An adaptive approach to intervention intensification considers variables that may moderate the influence of a standard treatment – critical factors – and builds treatment intensity through treatment adaptations that accommodate the treatment recipient's resulting needs, preferences, and treatment response. The identification of adaptations that address critical factors commonly explored in applied behavioral research has the potential to bridge the gap between evidence-based, targeted treatment options and highly intensive interventions for students with persistent behavior problems.

The purpose of the present study was to evaluate the distinct and relative influence of Tier II treatment adaptations to CICO informed by two critical factors, behavioral function and teacher practice. Results indicated that, relative to traditional CICO, CICO adapted to address behavioral function was ineffective in producing differentiated levels of disruptive behavior. That is, when a procedure providing students with the opportunity to earn a function-based reward was added to the standard treatment protocol, levels of disruptive behavior were either like or greater than levels observed with implementation of the standard protocol. To the contrary, CICO adapted to strengthen a teaching practice – the delivery of behavior-specific praise – was effective in producing differentiated levels of disruptive behavior relative to

the standard treatment protocol for two of three participants. When compared with the CICO + F, results indicated CICO + TP was the superior adapted treatment across participants.

Treatment Adaptations Informed by Behavioral Function

Results of this study build upon prior research examining the significance of behavioral function to intervention intensification by exploring treatment adaptations informed by behavioral function at Tier II. While function-based adaptations to CICO have previously been associated with improved behavior outcomes for students with problem behavior, results of the current study deviate from previous findings, providing evidence of their relative ineffectiveness. Several possible reasons for the discrepant findings warrant consideration – namely, the extent to which the standard protocol was modified in previous investigations of function-based adaptations to CICO and the approach to functional assessment applied in the current study.

In a review of studies that examined function-based modifications to CICO, Klingbeil, Dart, and Schramm (2018) identified 11 studies in which modifications were made to at least one of the five core components of CICO. As in the present study, four of the reviewed studies adapted the standard protocol to provide a function-based incentive at the end of the day contingent upon goal attainment (Campbell & Anderson 2008; Kilgus et al., 2016; March & Horner, 2002; Turtura, Anderson, & Boyd, 2014). All four studies reported outcomes suggestive of a functional relation between implementation of the modified treatment and improved student behavior. Although the findings seem to support the potential of function-based adaptations at Tier II, interpretation of the studies' outcomes is less clear when considering those modifications made to the standard protocol simultaneously and in addition to a function-based incentive. March and Horner (2002), for example, incorporated five additional modifications (i.e., seating change; clear directions; limited frequency of seat work; task difficulty matched to skill level;

teacher-interrupted peer responses to problem behavior). As noted by Klingbeil et al., such concurrent changes make unclear which adaptation resulted in behavior change and limit conclusions regarding the efficacy of function-based adaptations.

In addition to differences in the extent to which the standard CICO protocol was modified, the approach to functional assessment applied in the present study must also be considered when evaluating the relative ineffectiveness of the CICO + F treatment. In the present study, a single, indirect assessment method – administration of the FACTS - was used to hypothesize the primary maintaining consequence of disruptive behavior. Prior investigations resulting in effective function-based modifications to CICO, however, have largely relied on a multi-method approach to assessment that included both indirect and descriptive assessment methods (see Klingbeil et al., 2018). Although administration of the FACTS alone has been recommended as an abbreviated approach to functional behavior assessment at Tier II (e.g., McIntosh, Campbell, Carter, & Dickey, 2009), evidence suggests indirect assessments may be an unreliable method of determining behavioral function (see Oliver, Pratt, & Normand, 2015). Therefore, it is possible the hypothesized functions generated by the FACTS were inaccurate, leading to misalignment between the adaptations of the CICO + F condition and actual behavioral functions.

Given the preliminary nature of the present findings and limitations of interpreting existing research on function-based adaptations to CICO, more research examining systematic intensifications to CICO informed by behavioral function is clearly needed before dismissing or promoting the significance of the variable as a critical factor at Tier II. Previous evidence supporting the use of function-based adaptations to CICO appears to indicate intensifications to a standard treatment protocol can be made in an inefficient manner, at Tier II. Such research is

promising as a principle aim of adaptive intervention design is to efficiently match treatment intensifications to student need while minimizing the number adaptations over time (Fuchs, Fuchs, & Malone, 2017). Additional research examining isolated function-based adaptations informed by a more precise approach to FBA might support future applications of an adaptive approach to building treatment intensity within multi-tiered models of behavior support.

Treatment Adaptations Informed by Teacher Practice

While the present study builds upon previous research examining Tier II treatment adaptations informed by behavioral function, it is among the first to demonstrate evidence in support of enhancing a Tier II treatment through intensification of an evidence-based teaching practice, the delivery of behavior-specific praise. For two of three participants, Participant 1 and Participant 3, the use of teachers' baseline rates of behavior-specific praise to inform adaptations to CICO resulted in superior treatment effects for the adapted treatment relative to the standard protocol. For all three participants, systematic variations to CICO informed by baseline rates of behavior-specific praise proved to be more effective than variations informed by behavioral function. Taken together, these findings are noteworthy as they provide evidence in support of OSEP recommendations suggesting teacher practices should be amplified to address intense behavioral needs before more intensive behavior support, such as function-aligned support, is provided. Such evidence is encouraging as it opens the door to future research in which a range of other teacher practices might be explored more broadly as moderators of treatment effect, or critical factors, rather than mere components of a treatment package.

Beyond alignment with current OSEP recommendations, evidence supporting the use of teacher practices to intensify Tier II treatment options aligns with recent conceptual frameworks for building treatment intensity for at-risk students, including the Taxonomy of Intervention

Intensity described by Fuchs et al. (2017). Akin to the adaptive intervention model detailed by Wehby and Kern (2014), the Taxonomy systematizes a process by which intervention platforms may be intensified and improved by strengthening the match between student need and seven dimensions of intervention intensity. Within the seven dimensions, teacher practices are included as ‘fruitful directions’ (p. 195) for tailoring an intervention. Results of the present study seem to support this notion and suggest that perhaps an initial adjustment to the context in which a Tier II treatment is delivered – such as enhancing a teacher practice – may be more advantageous than a more complex intensification requiring additional resources – such as the time and expertise necessary to conduct an FBA.

Social Validity of Compared Treatments

Assessment of the acceptability of the compared treatments revealed two interesting findings. Two of three teachers reported favoring CICO + F above the other treatment options when interviewed to assess their beliefs on the efficacy of the compared treatments and preferences toward the adaptations before the results of the study were presented. Their provided rationale suggests perceived student motivation was a highly influential factor in selecting a treatment for hypothetical continuation, perhaps more influential than perceived treatment efficacy. In addition, two of three teachers expressed unfavorable opinions of CICO + TP, noting that delivery of behavior-specific praise at the recommended rate was difficult and interfered with other teaching responsibilities. Taken together, these findings may signal the need for research evaluating the impact of teachers’ attitudes and beliefs on the selection, implementation, and effects of treatment adaptations.

Limitations

Results of the present study should be interpreted with consideration of the following limitations. Foremost, comparative experimental designs present unique threats to the internal validity of single case research. Two of these threats, multitreatment interference and separation of treatments (Holcombe, Wolery, & Gast, 1994), may have impacted observed levels of disruptive behavior in the comparison phase of the present study. Related to multitreatment interference, observations of disruptive behavior during CICO sessions of the comparison phase deviated from baseline patterns of the response across participants despite counterbalanced conditions. This change in response patterns suggests participants' experience with one condition of the comparison phase may have influenced the effectiveness of the other conditions. Related to the issue of separation of treatments, although clear differences in response patterns of the compared conditions were observed for each participant during the comparison phase, the examined treatments may have functioned differently when used alone in contrast to when rapidly alternated with other conditions; this separation of treatments issue prevents the attribution of ultimate behavior change to only treatment (Wolery, Gast, & Ledford, 2018). As the present study did not use a 'best alone' condition to examine the data pattern of the superior treatment in the absence of rapid alternation with other conditions, its ultimate, 'separate' effects are unclear.

Second, while controlling the delivery of behavior-specific praise across conditions was intended to strengthen experimental control, the utilized procedures may have inadvertently changed the tendency of a teacher to use praise to prevent or address disruptive behavior. For example, during the CICO and CICO + F conditions, the delivery of praise was constrained to follow programmed cues; it is possible praise delivered freely (i.e., when desired) but at an

identical rate would have resulted in different observed levels of disruptive behavior during the conditions.

Finally, caution must be used in interpreting adaptation superiority from these preliminary findings. For all participants, FBA results yielded an attention-related hypothesis. Assuming the hypotheses were accurate, it is possible increased rates of praise in the CICO + TP condition inadvertently produced an abolishing operation, with the provision of praise – a form of attention – decreasing the value of other forms of attention available in the learning environment (e.g., peer attention or reprimands from the teacher following disruptive behavior) and, therefore, rates of disruptive behavior. In other words, increased praise delivery may have unintentionally addressed the participant's behavioral function within the CICO + TP condition.

Future Directions

Additional research is needed to determine how critical factors can be used to build treatment intensity at Tier II through effective and responsive treatment adaptations. Given the preliminary nature of the present findings, replication of the current study is needed to strengthen their validity. Future replications might include hypothesis testing procedures to confirm results generated by the FACTS before function-based adaptations are made to the standard CICO protocol. Additionally, as FBA results yielded attention-related hypotheses for all participants included in the present study, replication with participants whose behavior is believed to be maintained by disparate consequences (e.g., escape maintained behavior) is needed.

Future research might also address questions not examined in the current study. First, only one teacher practice was examined as a critical factor. Researchers might examine the use of other evidence-based teacher practices (e.g., opportunities for student response; precorrection; instructional scaffolding) as critical factors within adaptive intervention design; beyond the

examination of a singular practice, classroom management as a construct might also be evaluated as a moderator of Tier II treatment efficacy. Second, the current study examined one form of function-based adaptation across participants – an incentive for point goal attainment. Comparative research examining the efficacy of other forms of function-based adaptation relative to both the standard CICO protocol and CICO adapted to enhance evidence-based teacher practices is needed to more clearly understand if and how function-based adaptations might be used to build treatment intensity at Tier II. Based on the findings of Klingbeil et al., such research should strive investigate the adaptations in isolation to more clearly understand their effects on problem behavior. Finally, CICO was adapted in the present study after implementation of the standard protocol was deemed inadequately effective. Future research should explore how critical factors might be more efficiently used by adjusting a treatment for persistent behavior problem before the treatment is initially applied.

CHAPTER 5

Conclusion

An adaptive approach to intervention intensification at Tier II increases the efficacy of standard Tier II treatments through a systematic intensification process. Treatment adaptations informed by critical factors can be used to build treatment intensity at Tier II in a responsive manner. The present study examines the distinct and relative influence of Tier II treatment adaptations informed by two critical factors, an evidence-based teacher practice (i.e., delivery of behavior specific praise) and behavioral function. Results demonstrate the potential of intensifying teacher practices at Tier II to strengthen the efficacy of traditional treatment options. In addition, the findings suggest further examination of behavioral function as a critical factor is needed to more clearly understand how function-based adaptations can be used to systematically build treatment intensity. With continued research, a broad range of critical factors might be used to inform effective and responsive treatment adaptations at Tier II.

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TABLES

Table 1
Student Characteristics

Student	Grade	SRSS-E Total Score	SRSS-E Risk Categorization	Pre-Baseline Rate of <i>Disruptive Behavior</i> per 15 min
Participant 1	First	9	High	40.8
Participant 2	Kindergarten	10	High	33
Participant 3	Fourth	12	High	23.3

Note: SRSS-E = *Student Risk Screening Scale - Externalizing* (Drummond, 1994); a total score within the 0-3 range on the SRSS-E constitutes a ‘low’ risk categorization; a total score within the 4-8 range constitutes a ‘moderate’ risk categorization; a total score within the 9-21 range constitutes a ‘high’ risk categorization.

Table 2
Student-Level Dependent Variables

Level	Variable	Measure	Definition	Examples	Nonexamples
Student	Active engagement	Duration	Appropriately working on an assigned/approved activity	Completing an assigned task; reading aloud when asked to do so; asking the teacher a task-related question	Talking to peers without permission; target student is watching teacher model instruction; attending to instruction but not raising a hand to offer a response when given the opportunity to respond
	Passive engagement	Duration	Appropriately attending to an assigned/approved activity	Quietly listening to the teacher; looking at materials or task; waiting appropriately for the teacher to begin or continue instruction; watching the teacher model instruction; attending to instruction but not raising a hand to offer a response when given the opportunity to respond	Independently reading a book when asked to do so; resting head on desk during instruction; listening to choral reading
	Disengagement	Duration	Not participating in an approved/assigned activity	Out of seat without permission; staring out the window; non-compliance with a teacher directive	Reading aloud with the class; attending to the appropriate text while peers aloud
	Hand-raise	Frequency	Extending an arm in the air following an academic-related OTR	Extending an arm in the air to provide a response to an academic-related question	Extending an arm in the air to participate in a non-academic class-wide poll; extending an arm to ask a question

(continued)

Level	Variable	Measure	Definition	Examples	Nonexamples
	Academic response	Frequency	A response to an academic-related question, request, or directive occurring within 5 s of the instruction	Answering the teacher's academic-related question; beginning an assignment when prompted to do so; reading a sentence aloud with the class	Providing a response to non-academic related question; raising a hand to provide an academic-related response but not getting called on
	Behavior response	Frequency	An appropriate response to a teacher's non-academic, behavioral request or command occurring within 5 s of the request or command	Cleaning up area/materials when directed to do so; transitioning between activities when directed to so; moving seats when directed to do so; opening a book or taking out supplies upon request	Answering the teacher's academic-related question; ignoring a teacher's behavioral redirection
	Non-response	Frequency	Failure to respond or begin to respond to an academic OTR within 5 s	Refusing to follow a teacher's directions; ignoring a teacher's request to respond chorally with the class; remaining silent when called on to provide an answer	Failing to comply with a command to push-in a chair within 5 s
	Disruptive behavior	Frequency	Verbal or physical actions that interfere with classroom participation or productivity	Verbal protests; throwing materials; repetitive noises or motions; property destruction; misuse of materials; calling-out without permission	Kneeling on a chair or leaning forward to more clearly see instructional material; resting head on desk; appropriately asking a peer to borrow a supply; appropriately asking a peer a question related to the activity at hand

Note: A 5-s coding delay was used to pause the recording of *active engagement*; the coding delay required the observer to observe the absence of the response for 5 s before recording of the response was paused. Recording of the response resumed immediately upon its observation. A 5-s coding delay was also used to record *passive engagement* and *disengagement*; the coding delay required the observer to observe the response for 5 s before the response was recorded. Related to *academic response* and *behavior response*, a chain of sequential linked behavior units necessary to the performance of a requested response (e.g., when instructed to write a word, writing each letter of the word; when instructed to move seats, pushing in a chair, walking to a new location, and sitting down) constituted a single occurrence of a response. OTR = opportunity to respond. Consecutive occurrences of a single behavior topography qualified as *disruptive behavior* were coded as a single response unless a 3-s interresponse interval lapsed between occurrences; in such cases, each distinct occurrence was coded as single response. Given consecutive occurrences of disruptive behavior in which the

topography of the actions varied, each distinct topography was be coded as a single response. A continuous occurrence of a single behavior topography qualified as *disruptive behavior* was coded as single response unless the duration of the occurrence was greater than 7 s; a continuous occurrence of a response lasting longer than 7 s seconds was coded as single response every 7 s until the response ended.

Table 3

Teacher-Level Dependent Variables

Level	Variable	Measure	Definition	Examples	Nonexamples
Teacher	Academic OTR	Frequency	A question, statement, or gesture from the teacher to the target student or a group inclusive of the target student that seeks a response to an academic request	Teacher asks the target student to define a vocabulary word; teacher asks the target student to solve a problem on the board; teacher holds up flashcard for the target student to read aloud; teacher asks the target student to solve the first problem on a worksheet	Teacher asks student to sit down; teacher poses a rhetorically question to the class; teacher prompts students to continue working quietly
	Behavioral OTR	Frequency	A question, statement, or gesture from the teacher to the target student or a group inclusive of the target student that seeks a response to a procedural request and does not indicate disapproval of the students' social behavior	Teachers requests the target student to stand and push in his/her chair; teacher prompts the entire class to take out a textbook; teacher prompts a group of students including the target student to meet at a cooperative learning table	Teacher asks the target student to explain his thinking related to an academic response; teacher redirects the target student's noncompliant behavior
	Behavior-Specific Praise	Frequency	A verbal statement from the teacher to the target student or a group inclusive of the target student that indicates approval of academic or social behavior beyond acknowledgement of adequacy or accuracy	<i>Good work keeping your hands to yourself, Chris; thank you for raising your hand and not calling out; everyone is sitting quietly - great job; Your handwriting is improving!</i>	<i>That's correct; right; thank you; good job</i> targeted to no specific student or context;
	Reprimand	Frequency	A verbal statement made by the teacher to the target student or a group of students indicating disapproval of student's social behavior; the statement may command the cessation of the behavior; indicate impending negative consequences resulting from the behavior, or redirect the behavior toward a more desirable alternative behavior	<i>Stop bothering your classmates; I told you to sit down; if you don't finish your work, you'll lose a privilege; you need to come to class prepared next time</i>	<i>That is incorrect; I know you can do better;</i> teacher uses a gesture to redirect student behavior

Note: OTR = opportunity to respond. Consecutive *behavior-specific praise* statements related to the same behavior were coded as a single response unless a 3-s interresponse interval occurred between statements; in such cases, each distinct statement was coded as single response. Consecutive *reprimand* statements related to the same behavior were coded as a single response unless a 3-s interresponse interval occurred between statements; in such cases, each distinct statement was coded as single response. Given consecutive *behavior-specific praise* or *reprimand* statements in which each statement was related to a distinct behavior, each statement was coded as a single response.

Table 4

Inter-Observer Agreement by Dependent Variable(s), Participant, and Experimental Condition

Participant	Pre-Baseline	Baseline	Comparison			Across Sessions
			CICO	CICO+TP	CICO+F	
<i>Across dependent variables</i>						
Participant 1	85.1%	86.8%	83.3%	75.2%	79.2%	82.5%
Participant 2	81.4%	88.8%	68.1%	79.3%	64.4%	75.6%
Participant 3	84.1%	76.3%	89.2%	91.4%	96.5%	86.4%
Across participants	84.5%	80.1%	80.2%	81.6%	81.0%	81.6%
<i>Disruptive Behavior</i>						
Participant 1	81.3%	92.0%	75.5%	78.1%	63.6%	79.9%
Participant 2	91.0%	90.9%	72.7%	85.3%	81.0%	84.3%
Participant 3	76.1%	68.7%	85.3%	96.4%	87.3%	81.0%
Across participants	81.8%	81.7%	77.8%	86.4%	80.0%	81.8%
<i>Behavior-Specific Praise</i>						
Participant 1	87.9%	80.0%	85.7%	89.0%	66.6%	84.0%
Participant 2	100%	.	100%	90.7%	100%	96.5%
Participant 3	100%	50.0%	100%	100.0%	100%	88.9%
Across participants	92.7%	65.0%	95.2%	92.9%	93.3%	89.3%

Note: For Participant 1, only one IOA session occurred during the CICO + F condition. For Participant 2, *praise* was not observed during baseline IOA sessions (n = 2).

Table 5

Baseline Mean Rate of Behavior-Specific Praise and Treatment Adaption for CICO + TP Condition by Participant

Participant	Baseline Mean	
	Rate of BSP	CICO + TP Adaptation
Participant 1	6	Increase BSP by .25, to 8
Participant 2	.2	Increase BSP to 6
Participant 3	1.0	Increase BSP to 6

Note: BSP = behavior-specific praise

Table 6

Hypothesized Behavioral Function and Treatment Adaption for CICO + F Condition by Participant

Participant	Hypothesized behavioral function	CICO + F Adaptation
Participant 1	Access adult attention	Teacher helper (15 min) contingent on earning 80% of possible daily points
Participant 2	Access peer attention	Free-choice activity with preferred peer (15 min) contingent on earning 80% of possible daily points
Participant 3	Access peer attention	<i>Lunch Bunch</i> with preferred peer (15 min) contingent on earning 80% of possible daily points

Note: During *Lunch Bunch*, Participant 3 ate her lunch in the library, rather than the cafeteria, with a preferred peer.

Table 7

Procedural Fidelity by Participant and Experimental Phase or Condition

Participant	Pre-Baseline	Baseline	Comparison			Across Sessions
			CICO	CICO +TP	CICO+F	
Participant 1	100%	92.7%	100%	96.8%	96.5%	97.1%
Participant 2	100%	94.7%	100%	98.9%	100%	98.8%
Participant 3	100%	87.5%	95%	90.2%	94.7%	92.3%
Across participants	100%	91.2%	95%	96.2%	97.2%	96.3%

Table 8

Procedural Fidelity Across Participants by Component and Experimental Condition

Component	Pre-Baseline	Baseline	Comparison		
			CICO	CICO+TP	CICO+F
Check-in					
CICO cycle initiated with meeting	100%	100%	100%	100%	100%
Home-school report retrieval attempted	100%	86%	81%	80%	100%
Behavior expectations reviewed	100%	100%	100%	100%	100%
Behavior expectations connected to possible behavior ratings	100%	57%	94%	93%	87%
Point goal stated	100%	100%	100%	100%	94%
Materials checked	100%	57%	88%	80%	94%
Encouragement provided	100%	100%	100%	100%	94%
DPR Completion and Feedback					
Feedback session occurred at end of instructional block	100%	94%	87%	100%	100%
Student behavior rated on DPR	100%	100%	87%	100%	100%
Positive or neutral feedback provided based on ratings	100%	81%	87%	100%	100%
Check-out					
CICO cycle concluded with meeting	100%	100%	100%	100%	100%
Points earned totaled	100%	100%	100%	100%	100%
Positive or neutral feedback provided	100%	100%	100%	100%	83%
Home-school report completed	100%	88%	100%	100%	100%
Adaptation Delivery					
DPR provided in condition-correlated color during check-in	100%	100%	100%	100%	100%
Verbal indication of in-effect adaptation provided during check-in by stating condition-correlated color	100%	71%	100%	93%	100%
Praise delivery systematically cued during instruction, as appropriate	100%	100%	100%	100%	100%
Programmed praise rate achieved during instruction	na	na	94%	100%	89%
Function-based reward available during check-out, as appropriate	100%	90%	100%	100%	100%
Across components	100%	91%	95%	96%	97%

Note: CICO = Check-in, Check-out; na = not applicable. During the pre-baseline phase, a ‘yes’ rating was scored for the observed absence of each component as no treatment was programmed during the phase. During the pre-baseline and baseline phases, a ‘yes’

rating was scored for the component, *praise delivery systematically cued, as appropriate*, if an electronic device (i.e., MotivAidor) was not used to control the teacher's rate of behavior specific praise. During pre-baseline, baseline, CICO, and CICO + TP sessions, a 'yes' rating was scored for the component, *function-based reward available, as appropriate*, for the observed absence of the component. Evaluation of the component, *home-school report retrieval attempted*, began after completion of students' first DPR during the baseline phase, or during the student's second CICO cycle.

Table 9
*Teacher-Generated IRP-15 Total Scores by Participant
 and Comparison Treatment*

Participant	CICO	CICO + TP	CICO + F
Participant 1	50	81	70
Participant 2	66	54	66
Participant 3	70	86	51
Average	62.0	73.7	62.3

Note. IRP-15 = *Intervention Rating Profile-15*
 (Martens, Witt, Elliott, & Darveaux, 1985).

Appendix A

CICO Daily Progress Report Example

CICO Daily Progress Report

Student: _____ Date: _____

Coordinator: _____ Teacher: _____

2 = I did it by myself! 1 = I did it with reminders. 0 = I did not meet the expectation.

	Be Safe			Be On-task			Act Responsibly			Show Respect			Teacher Initials
Check-in	2	1	0	2	1	0	2	1	0	2	1	0	
	2	1	0	2	1	0	2	1	0	2	1	0	
	2	1	0	2	1	0	2	1	0	2	1	0	
	2	1	0	2	1	0	2	1	0	2	1	0	
	2	1	0	2	1	0	2	1	0	2	1	0	
	2	1	0	2	1	0	2	1	0	2	1	0	
	2	1	0	2	1	0	2	1	0	2	1	0	
	2	1	0	2	1	0	2	1	0	2	1	0	
	2	1	0	2	1	0	2	1	0	2	1	0	
Check-out	2	1	0	2	1	0	2	1	0	2	1	0	
Point Goal = _____			Points Earned = _____			Goal met: Yes			No				

Appendix B

Baseline Phase, CICO Implementation Guides

Intervention A Coordinator Implementation Guide

CHECK – IN

Procedure	Example Wording
1 Initiate Check-in	<i>Good morning. It's great to see you today.</i>
2 Retrieve Home-School Behavior Report	<i>Did your parents sign your behavior report from yesterday, and do you have it with you to turn in?</i>
3 Provide New White DPR	<i>Here is your white CICO sheet for today.</i>
4 Identify the Color of the CICO Sheet and Intervention for the Day	<i>With this white CICO sheet, you'll earn points in class, and then we'll meet at the end to see if you met your point goal.</i>
5 Review Behavior Expectations	<i>Work hard to follow each of our school's behavior expectations today: Be Safe, Be On-task, Act Responsibly, and Show Respect.</i>
6 Review How Points May Be Earned	<i>You can earn 2 points for following each of the expectations in your classes. Remember, 'Be Safe' means to keep your hands to yourself always, even when someone is bothering you. You will earn 1 point if your teacher must give a reminder about the expectation. You will earn 0 points if you do not meet the expectation, even after a reminder.</i>
7 Inform Student of Point Goal	<i>Your point goal for today is ____.</i>
8 Check Student's Materials	<i>Do you have everything you need to have a great day? Pencils? Paper? Agenda?</i>
9 Provide Positive Statement	<i>You're ready for a great day! I know you can meet your point goal!</i>

CHECK – OUT

Procedure	Example Wording
10 Initiate Check-out	<i>Hello! How was your day? Let's look at your CICO sheet.</i>
11 Determine if Student Met Point Goal	<i>You earned ____ points today.</i>
12 Provide Positive or Neutral Feedback	<i>Way to go! You met your goal! (or) You barely missed your goal today. It looks like you had trouble keeping your hands to yourself. Let's work on that tomorrow.</i>
12 Send Behavior Report Home	<i>Let's put this Behavior Report in your backpack. It's time to go home.</i>

Appendix B

Baseline Phase, CICO Implementation Guides

Intervention A Teacher Implementation Guide

DPR Completion

Procedure	Example Wording
<p data-bbox="396 646 734 699">1 Rate Student's Behavior</p>	<p data-bbox="753 636 1208 709"><i>Thank you for remembering to bring me your CICO at the end of class. Let me grab a pen. [Teacher then rates student's behavior on DPR.]</i></p>
<p data-bbox="396 877 734 930">2 Provide Positive or Neutral Feedback</p>	<p data-bbox="753 730 1208 1066"><i>Let's look at the expectations on your CICO sheet. The first expectation is, 'Be Safe'. You were safe today. I didn't need to give you any reminders about keeping your hands to yourself. You certainly earned two points for meeting that expectation! You were also on-task and responsible as you completed your assignments today, so you earned two points for 'Be On-task' and two points for 'Act Responsibly' as well. The last expectation is, 'Show Respect'. I heard you use unkind words, even after a reminder. You didn't earn points for 'Show Respect' today, but I know you'll work hard to earn them in your next class.</i></p>

Appendix C

Home-School Behavior Report

Home-School Behavior Report

Student: _____ Date: _____ Points earned: _____

Today,

I met my CICO point goal!

I did not meet my CICO point goal.

Tomorrow,

I will keep up the great work!

I will work hard to _____.

Parent Signature: _____

Appendix D

DPR Data Log

Student: _____ Coordinator: _____ School: _____

CICO Data Log

Week of:	Check-in	DPR Color	Point Goal	Check-out	Points Earned	Points Possible	% Earned	Goal Met
Monday	Y N			Y N				Y N
Tuesday	Y N			Y N				Y N
Wednesday	Y N			Y N				Y N
Thursday	Y N			Y N				Y N
Friday	Y N			Y N				Y N
Week of:	Check-in		Point Goal	Check-out	Points Earned	Points Possible	% Earned	Goal Met
Monday	Y N			Y N				Y N
Tuesday	Y N			Y N				Y N
Wednesday	Y N			Y N				Y N
Thursday	Y N			Y N				Y N
Friday	Y N			Y N				Y N
Week of:	Check-in		Point Goal	Check-out	Points Earned	Points Possible	% Earned	Goal Met
Monday	Y N			Y N				Y N
Tuesday	Y N			Y N				Y N
Wednesday	Y N			Y N				Y N
Thursday	Y N			Y N				Y N
Friday	Y N			Y N				Y N
Week of:	Check-in		Point Goal	Check-out	Points Earned	Points Possible	% Earned	Goal Met
Monday	Y N			Y N				Y N
Tuesday	Y N			Y N				Y N
Wednesday	Y N			Y N				Y N
Thursday	Y N			Y N				Y N
Friday	Y N			Y N				Y N

Appendix E

Baseline Phase, Training Scripts

Coordinator Training Script - Baseline

INTRODUCTION

Thank you for taking the time to meet with me today to learn the procedures of CICO. Our training will last approximately 30 minutes. During that time, we'll review all CICO materials and procedures you will be responsible for during the first portion of the study. Feel free to ask questions throughout the training. You'll have the opportunity to ask questions at the end of our training, too. Let's get started.

MATERIALS OVERVIEW

- [Provide teacher with CICO Coordinator Binder.]

This is a CICO Coordinator's Binder. You will use it throughout this study to organize materials associated with the intervention. It will contain 1) helpful guides to walk you through your responsibilities as CICO Coordinator as well as 2) copies of the CICO sheet, which your student will use during the study, and a 3) data log to track your student's progress.

CHECK-IN PROCEDURES

Instruction

The first tab in your binder says, 'Intervention A'. Behind the tab, you'll find materials you'll need to implement CICO. One of the most important materials is the, 'Intervention A - Coordinator Implementation Guide'. You should use this guide as a reminder of what to do when implementing CICO procedures. As you can see, the procedures on the guide are separated into two different sections: (a) Check-in and (b) Check-out. CICO is a Tier II intervention in students participate in a daily CICO 'cycle'. The cycle will begin each morning with a brief 'check-in' meeting between you and the student and will end each afternoon with a brief 'check-out' meeting.

During the check-in meeting you will implement the following procedures:

1. *First, you will initiate the check-in with the student. This can be done through a simple greeting.*
2. *Second, you will attempt to retrieve a home-school behavior report from the student.*
 - [Show coordinator the 'Home-School Report' located in the Coordinator's binder.]

This will be a report that is sent home with the student each day to communicate the student's behavioral progress using CICO. While parents should be encouraged to sign and the return the report to school the following day, students should not be punished for unreturned reports.

3. *Third, you will provide the student with a copy of a daily progress report (DPR). Your student may simply call it a 'CICO sheet'. During, the initial portion of the study, the CICO sheet will always be printed on white paper.*
 - [Show the CICO sheet located in the Coordinator Binder.]
4. *Fourth, you will point out to the student the color of his/her CICO sheet for the day, and you will indicate to the student the intervention he/she will be using. To do this, you will*

Appendix E

Baseline Phase, Training Scripts

Coordinator Training Script - Baseline

5. *provide a statement that states what the intervention will look like that day. For this intervention, it will look like checking-in, completing a CICO sheet in class, and check-out at the end of the day.*
6. *Fifth, you will remind the student of the school-wide expectations. The reminder may include simply stating the expectations listed on the CICO sheet. There may be times, however, when it is appropriate to provide the student with examples of what each expectation looks like behaviorally. For example, on the day you introduce the CICO sheet to the student, you will provide examples of behaviors that align with each school-wide expectation.*
7. *Sixth, you will review how students may earn CICO points by meeting the school-wide expectations. The review will include a simple reminder of how '2', '1', and '0' points (or 'yes' and 'no' rating) may be earned.*
8. *Seventh, you will inform the student of his/her point goal, and you will write the point goal on the student's CICO sheet. This goal will be 80% of the total number of points possible each day.*
9. *Eighth, you will check with the student to see if he/she has all necessary materials for the day. If the student does not, you will help to the student to access missing materials before he or she goes to class.*
10. *Ninth, you will provide the student with a positive statement before sending the student to class. The statement should encourage positive behavior for the day.*

Modeling

Now, you'll have the opportunity to watch me model the components of a check-in meeting. I'm going to use the example wording provided in the 'Coordinator Implementation Guide'.

- [Use the 'Intervention A – Coordinator Implementation Guide' to model the check-in process.]

Rehearsal

It's your turn to practice the check-in procedures. You may use the wording provided in the 'Intervention A - Coordinator Implementation Guide', or you may use your own as long as you implement each of the eight procedures.

- [Provide the coordinator with the opportunity to practice check-in procedures.]

Feedback

- [Provide positive feedback on each procedure implemented with fidelity. For procedures implemented incorrectly, provide corrective feedback and require the teacher to re-rehearse procedures implemented incorrectly until fidelity is reached across procedures.]

CHECK-OUT PROCEDURES

Instruction

After the morning check-in, you will send the student to class with his/her CICO sheet. The CICO sheet will be used throughout the day during brief teacher-student conferences. The conferences will occur after each class or period or transition listed on the sheet. During the conference, the teacher will record the number of points the student has earned for each expectation and provide brief positive or neutral feedback to the student. At the end of the day, you will meet with the student for a brief check-out meeting.

Appendix E

Baseline Phase, Training Scripts

Coordinator Training Script - Baseline

During the check-out meeting you will implement the following procedures:

1. *First, you will initiate the check-out by asking the student to show you his/her CICO sheet.*
2. *Second, you will count with the student the number of points the student earned throughout the day. You will record that number on the student's CICO sheet and determine with the student if the student's point goal was met.*
3. *Third, you will provide the student with positive feedback if the student met his/her point goal. If the student did not his/her goal, you will provide neutral feedback. Neutral feedback is feedback delivered in a nonjudgmental tone stating what the student 'should do' to earn points next time. The neutral feedback should not be delivered as a reprimand.*
4. *Fourth, you will conclude the check-out meeting by sending a home-school behavior report home with the student. You may complete the report for the student, or the student may work with you to complete the report. The report, like the feedback you provide, should be positive or neutral in nature.*

At the conclusion of the meeting, the student will be dismissed. You'll then record the student's performance for the day on the CICO Data Log and file the student's CICO sheet in the binder.

- [Show the teacher the 'Data Log' located in the binder.]

Modeling

Now, you'll have the opportunity to watch me model the components of a check-out meeting. I'm going to use the example wording provided in the 'Intervention A - Coordinator Implementation Guide'.

- [Use the 'Intervention A – Coordinator Implementation Guide' to model the check-out process, including completion of the 'Data Log' and 'Home-School Behavior Report'.]

Rehearsal

It's your turn to practice the check-out procedures. You may use the wording provided in the 'Coordinator Implementation Guide', or you may use your own as long as you implement each of the eight procedures.

- [Provide the coordinator with the opportunity to practice check-out procedures.]

Feedback

- [Provide positive feedback on each procedure implemented with fidelity. For procedures implemented incorrectly, provide corrective feedback and require the teacher to re-rehearse procedures implemented incorrectly until fidelity is reached across procedures.]

QUESTIONS and NEXT STEPS

Do you have any questions about the procedures we've discussed today?

You will begin the intervention on _____. There is a Student Training Script for you to follow as you introduce the student to CICO that day. You'll read the script to the student, and then you'll begin the first Check-in meeting using your 'Intervention A - Coordinator Implementation Guide'.

- [Direct the Coordinator to the Student Training Script in the Coordinator Implementation Binder.]

Appendix E

Baseline Phase, Training Scripts

Coordinator Training Script - Baseline

*If questions arise throughout the study, please email me at _____. I'll be present on the first day of CICO to provide support if you need it Thank you for your time today!
Thank you for your time today!*

Appendix E

Baseline Phase, Training Scripts

Teacher Training Script - Baseline

INTRODUCTION

Thank you for taking the time to meet with me today to learn the procedures of CICO. Our training will last approximately 30 minutes. During that time, we'll discuss the CICO intervention broadly, and we'll review the specific components you will be responsible for implementing during the first portion of the study. Feel free to ask questions throughout the training. You'll have the opportunity to ask questions at the end of our training, too. Let's get started.

Students participating in CICO will participate in a daily intervention 'cycle'. A participating student will begin his/her day by checking in with the school's CICO coordinator. During the meeting, the coordinator will provide the student with a Daily Progress Report (DPR), or 'CICO sheet'.

- [Show the teacher an example DPR.]

The student will bring his/her CICO sheet to class each day. During instruction, the student will participate in class as usual. At the end of the instructional block, the student will bring the CICO sheet to you for a brief, private conference. During the conference, you will rate the student's behavioral performance, or the extent to which the student met each school-wide expectation during the class period. Additionally, you will provide brief positive or neutral feedback to the student on his/her behavioral performance.

The student will continue to complete the CICO sheet throughout the school day. At the end of the school day, the student will return to his/her CICO coordinator for a brief check-out meeting. During the meeting, the student and coordinator will determine if the student met a pre-established goal for points earned throughout the day. The coordinator will provide the student with additional feedback, and he/she will also communicate the student's behavioral performance to student's parent(s) or legal guardian(s) via a home-school behavior report.

- [Show the teacher an example 'Home-School Report'.]

MATERIALS OVERVIEW

As you can see, the CICO sheet contains the following important components: (a) school-wide expectations, (b) instructional blocks which indicate when the student's behavior will be rated, (c) space to rate the student's behavioral performance across school-wide expectations for each instructional block, (d) space for the teacher to initial that he/she has rated the student's behavior, and (e) information related to the student's behavioral point goal.

DPR COMPLETION PROCEDURES

Instruction

Now that we've discussed CICO broadly, let's discuss the procedures you will be responsible for implementing.

- [Provide the teacher with a copy of the 'Intervention A - Teacher Implementation Guide'.]

This is an 'Intervention A – Teacher Implementation Guide'. You should use this guide as a reminder of what to do when implementing CICO DPR completion procedures. As you can see, you will be responsible two procedures related to DPR completion.

Appendix E

Baseline Phase, Training Scripts

Teacher Training Script - Baseline

Let's go over each procedure:

1. *First, you will rate the student's behavior. The rating should take place in a private conference with the student at the end of the instructional block. You may need to occasionally remind the student to bring his/her CICO sheet to you so the student's behavior can be rated. As you rate the student's behavior, you will use the rating scale at the top of the CICO sheet to provide a fair rating of the student's behavior related to each of the school-wide expectations listed on the CICO sheet. Remember, your evaluation of the student's behavior – not the student's evaluation of his/her own behavior – should be recorded on the CICO sheet.*
 - a. *The student should receive a '2' if the student met the school-wide expectation without assistance. The student should receive a '1' if the student needed to be reminded of the expectation and met the expectation after receiving a reminder. The student should receive a '0' if the expectation was not met.*
-OR-
 - b. *The student should receive a 'Yes' rating if the student met the school-wide expectation without or with minimal assistance or reminders. The student should receive a 'No' rating if the student did not meet the school-wide expectation, even after minimal assistance or reminders were provided.*

You will provide one rating for each school-wide expectation. To do this, you will circle the rating that aligns with the student's behavioral performance during the instructional block just completed.

2. *Second, you will provide the student with positive feedback for school-wide expectations the student met. If the student did not meet a school-wide expectation, you will provide neutral feedback related to the expectation. Neutral feedback is feedback delivered in a nonjudgmental tone stating what the student 'should do' to earn points next time. The neutral feedback should not be delivered as a reprimand.*

After conferencing with the student, you will return the CICO sheet to the student, and the student will continue to complete the CICO sheet using the process just described throughout the school day.

Modeling

Now, you'll have the opportunity to watch me model the components of DPR completion, or completion of the CICO sheet. I'm going to use the example wording provided in the 'Intervention A- Teacher Implementation Guide'.

- [Use 'Intervention A - Teacher Implementation Guide' to model the DPR Completion process.]

Rehearsal

It's your turn to practice the check-in procedures. You may use the wording provided in the 'Intervention A - Teacher Implementation Guide', or you may use your own as long as you implement each procedure.

- [Provide the teacher with the opportunity to practice DPR Completion procedures.]

Appendix E

Baseline Phase, Training Scripts

Teacher Training Script - Baseline

Feedback

- [Provide positive feedback on each procedure implemented with fidelity. For procedures implemented incorrectly, provide corrective feedback and require the teacher to re-rehearse procedures implemented incorrectly until fidelity is reached across procedures.]

QUESTIONS and NEXT STEPS

Do you have any questions about the procedures we've discussed today?

You will begin the intervention on _____. Remember, you can follow the implementation guide for support.

If questions arise throughout the study, please me at _____. Thank you for your time today!

Appendix E

Baseline Phase, Training Scripts

Student Training Script - Baseline

INTRODUCTION

Hi, (Student)! It's great to see you! We are meeting today to talk about a new program you are going to use at school. The program is called Check-in/Check-out. What is it called?

- [Provide student will opportunity to repeat the name of the program].

That's right, Check-in/Check-out. It is called Check-in/Check-out because you are going to 'check-in' with me every morning when you get to school and 'check-out' with me every afternoon before you go home. I am going be your Check-in/Check-out coordinator, or coach. It is my job to help you use the Check-in/Check-out program.

CICO OVERVIEW

This is a Check-in/Check-out sheet. I am going to give you one of these every day during our morning check-in meeting.

- [Show the student a copy of the CICO sheet].

Let's look at the what's on the Check-in/Check-out sheet. There are spots for your name and the date. You will write you name on and the date on your sheet each day. There is also a list of each of the classes that you learn in. Let's read the list.

- [Read the instructional blocks (and transition periods, in some cases) with or to the student].

The school-wide expectations are also on the Check-in/Check-out sheet. Let's read the school-wide expectations.

- [Read the school-wide expectations with or to the student].

Can you tell me what these expectations mean?

- [Discuss examples and non-examples of behaviors aligned with each expectation].

Great job telling me about our school-wide expectations. At the bottom of the Check-in/Check-out sheet it says, 'Point Goal'. That's because you are going to work to earn points in each of your classes, and I am going to give you a goal for the number of points you will try to earn. You can earn points by following your classroom rules. At the end of a class period, like Reading, for example, you will give your teacher your Check-in/Check-out sheet. Your teacher is going to rate your behavior for each expectation, or give you points. He/she will also initial your sheet.

- If you meet an expectation and follow the rules without any help, your teacher will circle the '2' under the expectation. This means you earned 2 points. If your teacher must give you a reminder about an expectation and you do a great job following its rules after the reminder, your teacher will circle a '1'. This means you earn 1 point. If you do not meet the expectation even after your teacher reminds you of the rules, you will zero points, and your teacher will circle the '0'.*

-OR-

- If you meet an expectation and follow the rules without any help or just a little bit of help, you teacher will circle 'Yes'. If you not meet an expectation and break its rules, even after*

Appendix E

Baseline Phase, Training Scripts

Student Training Script - Baseline

- c. *your teacher gives you a reminder, your teacher will circle 'No'. You will earn 1 point if your teacher circles a 'Yes'. You will not get a point if your teacher circles 'No'.*

Remember, you can earn points in every class. This means if you make a mistake in one class and you do not earn all of your points, it's ok - you can try again in your next class!

At the end of the school day, you are going to meet with me again. We will count how many points you earned during the school day and write that number on your sheet. Then we will see if you met your point goal, and I will send a note home with you to let your parent(s)/guardian know how you did. The next day, we'll start-over - I will give you a new Check-in/Check-out sheet during our morning check-in, and you will take the sheet with you to your classes.

CHECK FOR UNDERSTANDING

Before you start the Check-in/Check-out program, I want to be sure you understand how it works. You can ask me as many questions as you want today, or any other day, about what to do.

- *[Ask the student the series of questions below. Provide clarification when necessary and positive feedback for accurate responses and appropriate participation].*

1. *Who will you check-in with at the start of each school day?*
2. *When will you get your Check-in/Check-out sheet?*
3. *When can you earn points on your Check-in/Check-out sheet?*
4. *How do you earn points?*
5. *How many points can you earn?*
6. *Who decides how many points you get?*
7. *Who will you check-out with at the end of each school day?*
8. *What will we do during the check-out meeting?*

CLOSING

You will start using the Check-in/Check-out program on _____. I will help you to remember to meet with me when you get to school that day. I'm excited to be your coach!

Appendix F

Comparison Phase, CICO Implementation Guides

Intervention A – Comparison Phase Teacher Implementation Guide

DPR Completion

Procedure	Example Wording
1 Start Timer	(no verbal indication of procedure necessary)
2 Deliver Praise ONLY When Cued	<i>(cue)...Excellent job sounding the word out, (Student)!</i>
3 Rate Student's Behavior	<i>Thank you for remembering to bring me your CICO at the end of class. Let me grab a pen. [Teacher then rates student's behavior on DPR.]</i>
4 Provide Positive or Neutral Feedback	<i>Let's look at the expectations on your CICO sheet. The first expectation is, 'Be Safe'. You were safe today. I didn't need to give you any reminders about keeping your hands to yourself. You certainly earned two points for meeting that expectation! You were also on-task and responsible as you completed your assignments today, so you earned two points for 'Be On-task' and two points for 'Act Responsibly' as well. The last expectation is, 'Show Respect'. I heard you use unkind words, even after a reminder. You didn't earn points for 'Show Respect' today, but I know you'll work hard to earn them in your next class.</i>

Appendix F

Comparison Phase, CICO Implementation Guides

Intervention A – Comparison Phase Coordinator Implementation Guide

CHECK – IN

Procedure	Example Wording
1 Initiate Check-In	<i>Good morning. It's great to see you today.</i>
2 Retrieve Home-School Behavior Report	<i>Did your parents sign your Behavior Report from yesterday, and do you have it with you to turn in?</i>
3 Provide New White DPR	<i>Here is your white CICO sheet for today.</i>
4 Identify the Color of the CICO Sheet and Intervention for the Day	<i>With this white CICO sheet, you'll earn points in class, and then we'll meet at the end of the day to see if you met your point goal.</i>
5 Review Behavior Expectations	<i>Work hard to follow each of our school's behavior expectations today: Be Safe, Be On-task, Act Responsibly, and Show Respect.</i>
6 Review How Points May Be Earned	<i>You can earn 2 points for following each of the expectations in your classes. Remember, 'Be Safe' means to keep your hands to yourself always, even when someone is bothering you. You will earn 1 point if your teacher must give a reminder about the expectation. You will earn 0 points if you do not meet the expectation, even after a reminder.</i>
7 Inform Student of Point Goal	<i>Your point goal for today is ____.</i>
8 Check Student's Materials	<i>Do you have everything you need to have a great day? Pencils? Paper? Agenda?</i>
9 Provide Positive Statement	<i>You're ready for a great day! I know you can meet your point goal!</i>

CHECK – OUT

Procedure	Example Wording
10 Initiate Check-out	<i>Hello! How was your day? Let's look at your CICO sheet.</i>
11 Determine if Student Met Point Goal	<i>You earned ____ points today.</i>
12 Provide Positive or Neutral Feedback	<i>Way to go! You met your goal! (or) You barely missed your goal today. It looks like you had trouble keeping your hands to yourself. I know you can earn those points tomorrow.</i>
12 Send Behavior Report Home	<i>Let's put this Behavior Report in your backpack. It's time to go home.</i>

Appendix G

Comparison Phase, CICO + TP Implementation Guides

Intervention B – Comparison Phase Teacher Implementation Guide

DPR Completion

Procedure	Example Wording
1 Start Timer	(no verbal indication of procedure necessary)
2 Deliver Praise When Cued and Whenever Appropriate	<i>Excellent job sounding the word out, (Student)! You are also doing a great job staying seated.</i>
3 Rate Student's Behavior	<i>Thank you for remembering to bring me your CICO at the end of class. Let me grab a pen. [Teacher then rates student's behavior on DPR.]</i>
4 Provide Positive or Neutral Feedback	<i>Let's look at the expectations on your CICO sheet. The first expectation is, 'Be Safe'. You were safe today. I didn't need to give you any reminders about keeping your hands to yourself. You certainly earned two points for meeting that expectation! You were also on-task and responsible as you completed your assignments today, so you earned two points for 'Be On-task' and two points for 'Act Responsibly' as well. The last expectation is, 'Show Respect'. I heard you use unkind words, even after a reminder. You didn't earn points for 'Show Respect' today, but I know you'll work hard to earn them in your next class.</i>

Appendix G

Comparison Phase, CICO + TP Implementation Guides

Intervention B – Comparison Phase Coordinator Implementation Guide

CHECK – IN

Procedure	Example Wording
1 Initiate Check-in	<i>Good morning. It's great to see you today.</i>
2 Retrieve Home-School Behavior Report	<i>Did your parents sign your behavior report from yesterday, and do you have it with you to turn in?</i>
3 Provide New Yellow DPR	<i>Here is your yellow CICO sheet for the day.</i>
4 Identify the Color of the CICO Sheet and Intervention for the Day	<i>With this yellow CICO sheet, you'll earn points in class, and then we'll meet at the end to see if you met your point goal. Your teacher will also make changes to the way you he/she teaches you.</i>
5 Review Behavior Expectations	<i>Work hard to follow each of our school's behavior expectations today. Remember, the expectations are....</i>
6 Review How Points May Be Earned	<i>You can earn 2 points for following each of the expectations in your classes. You will earn 1 point if your teacher must give a reminder about the expectation. You will earn 0 points if you do not meet the expectation, even after a reminder.</i>
7 Inform Student of Point Goal	<i>Your point goal for today is ____.</i>
8 Check Student's Materials	<i>Do you have everything you need to have a great day? Pencils? Paper? Agenda?</i>
9 Provide Positive Statement	<i>You're ready for a great day! I know you can meet your point goal!</i>

CHECK – OUT

Procedure	Example Wording
10 Initiate Check-out	<i>Hello! How was your day? Let's look at your CICO sheet.</i>
11 Determine if Student Met Point Goal	<i>You earned ____ points today.</i>
12 Provide Positive or Neutral Feedback	<i>Way to go! You met your goal! (or) You barely missed your goal today. It looks like you had trouble keeping your hands to yourself. Let's work on that tomorrow.</i>
12 Send Behavior Report Home	<i>Let's put this Behavior Report in your backpack. It's time to go home.</i>

Appendix H

Comparison Phase, CICO + F Implementation Guides

Intervention C – Comparison Phase Teacher Implementation Guide

DPR Completion

Procedure	Example Wording
1 Start Timer	(no verbal indication of procedure necessary)
2 Deliver Praise ONLY When Cued	<i>(cue)...Excellent job sounding the word out, (Student)!</i>
3 Rate Student's Behavior	<i>Thank you for remembering to bring me your CICO at the end of class. Let me grab a pen. [Teacher then rates student's behavior on DPR.]</i>
4 Provide Positive or Neutral Feedback	<i>Let's look at the expectations on your CICO sheet. The first expectation is, 'Be Safe'. You were safe today. I didn't need to give you any reminders about keeping your hands to yourself. You certainly earned two points for meeting that expectation! You were also on-task and responsible as you completed your assignments today, so you earned two points for 'Be On-task' and two points for 'Act Responsibly' as well. The last expectation is, 'Show Respect'. I heard you use unkind words, even after a reminder. You didn't earn points for 'Show Respect' today, but I know you'll work hard to earn them in your next class.</i>

Appendix H

Comparison Phase, CICO + F Implementation Guides

Intervention C – Comparison Phase Coordinator Implementation Guide

CHECK – IN

Procedure	Example Wording
1 Initiate Check-in	<i>Good morning. It's great to see you today.</i>
2 Retrieve Home-School Behavior Report	<i>Did your parents sign your behavior report from yesterday, and do you have it with you to turn in?</i>
3 Provide New Blue DPR	<i>Here is your blue CICO sheet for the day.</i>
4 Identify the Color of the CICO Sheet and Intervention for the Day	<i>With this blue CICO sheet, you'll earn points in class, and then we'll meet at the end to see if you met your point goal. If you meet your point goal today, you will earn special time at the end of the day with your friend, ____.</i>
5 Review Behavior Expectations	<i>Work hard to follow each of our school's behavior expectations today. Remember, the expectations are....</i>
6 Review How Points May Be Earned	<i>You can earn 2 points for following each of the expectations in your classes. You will earn 1 point if your teacher must give a reminder about the expectation. You will earn 0 points if you do not meet the expectation, even after a reminder.</i>
7 Inform Student of Point Goal	<i>Your point goal for today is ____.</i>
8 Check Student's Materials	<i>Do you have everything you need to have a great day? Pencils? Paper? Agenda?</i>
9 Provide Positive Statement	<i>You're ready for a great day! I know you can meet your point goal!</i>

CHECK – OUT

Procedure	Example Wording
10 Initiate Check-out	<i>Hello! How was your day? Let's look at your CICO sheet.</i>
11 Determine if Student Met Point Goal	<i>You earned ____ points today.</i>
12 Provide Positive or Neutral Feedback	<i>Way to go! You met your goal! (or) You barely missed your goal today. It looks like you had trouble keeping your hands to yourself. Let's work on that tomorrow.</i>
13 Deliver Reward, If Earned	<i>Because you met your goal today, you've earned ____. OR, You didn't meet your goal today, so you didn't earn _____. You can try again on the time you receive a blue CICO sheet.</i>
14 Send Behavior Report Home	<i>Let's put this Behavior Report in your backpack. It's time to go home.</i>

Appendix I

Comparison Phase, Training Scripts

Teacher Training Script – Comparison Phase

INTRODUCTION

Thank you for taking the time to meet with me today to discuss the second phase of the CICO study. Our training will last approximately 30 minutes. During that time, we'll discuss two variations of the CICO intervention that you are already familiar with, and you'll learn about the procedures you will be responsible for. Feel free to ask questions throughout the training. You can ask questions at the end of the training, too. Let's get started.

The second phase of this study will compare three interventions.

- 1. Intervention A – The first intervention will be the CICO program that you are already familiar with and have been implementing up to this point.*
- 2. Intervention B – The second intervention will also involve the same CICO intervention procedures you have already been implementing. However, the student will use CICO in an 'enhanced' instructional context, meaning you will increase your delivery of praise as the student uses CICO in the classroom.*
- 3. Intervention C – The third intervention will be an adapted version of CICO. One adaptation, or change, to the intervention will be made based on the student's needs. For your student, the adaptation will provide the student with the opportunity to earn a function-based reward contingent upon the student meeting his or her CICO point goal at the end of the day. Let's determine an appropriate reward together that is based on the hypothesized function of your student's behavior.*

Reward:

- Reward should be available on the same day and provided at the closing of the check-out meeting or upon the student's return to his or her classroom.

As I mentioned earlier, this phase of the study will compare these three interventions. To do this, the intervention the student receives may change from day to day. You will facilitate the change of interventions by changing the procedure you follow with each of the different treatments.

MATERIALS OVERVIEW

The CICO coordinator will be responsible for determining which intervention the student will receive each day. He/she will use this schedule to keep track of the order in which the interventions will be delivered. You can also use the schedule to keep track of which intervention procedures to follow each day.

- Provide the teacher with an Intervention Schedule.]

I'm now going to give you two new implementation guides - a yellow guide for Intervention B and a blue guide for Intervention C - in addition to the white guide you are familiar with for Intervention A. You will use all three guides in this phase of the study to help you follow the procedures for each of the three different interventions. Although the procedures will be similar for three interventions, there will be differences. Therefore, it will be very important to follow the color-coordinated implementation guides.

Appendix I

Comparison Phase, Training Scripts

Teacher Training Script – Comparison Phase

INTERVENTIONS A and B

Instruction

As I mentioned earlier, the student will continue to participate in Intervention A during this phase of the study just as he/she did before. The student will check-in with his/her mentor, bring his/her CICO sheet to class, and receive behavioral ratings by you following each designated class period or transition on his/her CICO sheet.

With Intervention A, the goal will be to implement the intervention similarly to how you have already been implementing it. One way you will try to implement the intervention similarly will be to deliver praise at a rate similar to what you've already demonstrated. To do this, you will wear a timing device that will cue you to deliver praise at set points in time. You will only deliver praise to the student when cued by the device.

Let's look at the white implementation guide for Intervention A for this phase of the study.

- [Point out the 'Intervention A – Teacher Implementation Guide.]

When implementing Intervention A, you will turn the device on just before you begin instruction. As you teach, the device will vibrate at pre-set intervals. When it vibrates, you will provide the student with a behavior-specific praise statement as soon as possible.

Behavior-specific praise indicates approval of a specific academic or social behavior beyond acknowledgement of adequacy or accuracy. An example of a behavior-specific praise statement is, "Joe, excellent job sounding the word out." A non-example is, "Joe, good job," as it does not specify a behavior nor does it indicate approval beyond an acknowledgement of adequacy.

Throughout instruction, you will continue to praise the student, but only when cued by the timer to do so. At the end of instruction, you'll conference with the student privately to rate his or her behavior using the CICO sheet.

Modeling

Now, you'll have the opportunity to watch me implement the procedures for Intervention A. I'm going to use the white implementation script to help me remember the procedures. Today, the timer will cue me using very short intervals. In the actual study, the cues will be spaced, or will occur, further apart.

- [Model Intervention A procedures using the 'Intervention A – Teacher Implementation Guide. Deliver praise only when cued, using a timer set at 30-s intervals, for 3-4 intervals.]

If I was actually teaching, I would continue to use the timer to praise statements until the end of the instruction block. At the end of the instructional block, I would then conference with the student and rate the student's behavior...just as the implementation guide indicates.

- [Use 'Intervention A - Teacher Implementation Guide' to model the DPR Completion process.]

Rehearsal

It's your turn to practice the procedures for Intervention A. You can use the scripts provided in the implementation guides as you practice.

- [Provide the teacher with the opportunity to practice the procedures for Intervention A.]

Appendix I

Comparison Phase, Training Scripts

Teacher Training Script – Comparison Phase

Feedback

- [Provide positive feedback on each procedure implemented with fidelity. For procedures implemented incorrectly, provide corrective feedback and require the teacher to re-rehearse procedures implemented incorrectly until fidelity is reached across procedures.]

Do you have any questions about Intervention A before we begin discussing Intervention B?

INTERVENTION B

Instruction

Now let's talk about Intervention B. The student will also participate in CICO as usual during Intervention B, and you will rate the student's behavior using the CICO sheet at the end of each class period. However, you will be enhancing the instruction you provide by increasing the number of praise statements you deliver to the student. Just as with Intervention A, you will use a MotivAidor to cue your praise statements.

Let's look at the yellow implementation guide for Intervention B.

- [Point out the 'Intervention B – Teacher Implementation Guide.]

When implementing Intervention B, you will turn on the device just before you begin instruction. As you teach, the device will vibrate. When it vibrates, you will provide the student with a behavior-specific praise statement as soon as possible. You may also provide praise whenever appropriate. So, unlike with Intervention A, with Intervention B, you may praise the student as often as you like in addition to praising the student when cued by the MotivAidor.

Modeling

Now, watch me model Intervention B procedures. I'm going to use the yellow implementation guide to help me remember the procedures. You'll see me turn on the timer and provide a behavior-specific praise statement immediately after the timer provides me with a cue. You will also see me deliver additional praise when appropriate.

- [Model Intervention b procedures using the 'Intervention b – Teacher Implementation Guide. Deliver praise when cued, using a timer set at 30-s intervals, for 3-4 intervals. Additionally, provide intermittent praise for appropriate behavior.]

Again, if I was actually teaching, I would continue to use the timer to praise statements until the end of the instruction block. At the end of the instructional block, I would then conference with the student and rate the student's behavior...just as the implementation guide indicates.

- [Use 'Intervention B - Teacher Implementation Guide' to model the DPR Completion process.]

Rehearsal

It's your turn to practice the procedures for Intervention B. You can use the Implementation Guide script as you practice.

- [Provide the teacher with the opportunity to practice the procedures for Intervention B.]

Feedback

- [Provide positive feedback on each procedure implemented with fidelity. For procedures implemented incorrectly, provide corrective feedback and require the teacher to re-rehearse procedures implemented incorrectly until fidelity is reached across procedures.]

Appendix I

Comparison Phase, Training Scripts

Teacher Training Script – Comparison Phase

INTERVENTION C

Instruction

You now know exactly how to implement Interventions A and B. Now, let's learn about intervention C. Find your implementation guide for Intervention C, and let's discuss the adapted procedures.

With Intervention C, you will continue to use the MotivAidor to cue your delivery of praise. You will provide praise only when cued, and you will conference with the student as usual. The following CICO procedure, however, will be tailored to meet the student's needs: Your student's CICO coordinator will deliver the following reward to your student at the end of the day contingent upon your student meeting his or her CICO point goal:

Modeling

Now, you'll have the opportunity to watch me model the procedures of Intervention C. I'm going to use the example wording provided in the 'Intervention C - Teacher Implementation Guide'.

- [Use the 'Intervention C – Teacher Implementation Guide' to model the procedures.]

You likely noticed that the procedures for which you are responsible for are identical to the procedures of Intervention B. That is because it will be the CICO Coordinator's responsibility to deliver the function-based reward to the student.

- If the reward involves the teacher (i.e., special activity with the teacher), explain that the coordinator will inform the student that he or she earned the reward and the teacher will provide the reward when the student returns to class following the check-out.

Rehearsal

It's your turn to practice the procedures of Intervention C. You may use the wording provided in the implementation guide, or you may use your own as long as you implement each of the procedures.

- [Provide the coordinator with the opportunity to practice check-out procedures.]

Feedback

- [Provide positive feedback on each procedure implemented with fidelity. For procedures implemented incorrectly, provide corrective feedback and require the teacher to re-rehearse procedures implemented incorrectly until fidelity is reached across procedures.]

QUESTIONS AND NEXT STEPS

Do you have any questions about the procedures we've discussed today?

You will begin the Intervention Schedule on _____. As you can see on the schedule, you will be implementing Intervention ___ on that day.

Please email me at _____ if you have any questions moving forward. Thank you for your time today!

Appendix I

Comparison Phase, Training Scripts

Coordinator Training Script – Comparison Phase

INTRODUCTION

Thank you for taking the time to meet with me today to discuss the second phase of the CICO study. Our training will last approximately 30 minutes. During that time, we'll discuss two variations of the CICO intervention that you are already familiar with, and you'll learn about the procedures you will be responsible for. Feel free to ask questions throughout the training. You can ask questions at the end of the training, too. Let's get started.

The second phase of this study will compare three interventions.

- 1. Intervention A – The first intervention will be the CICO program that you are already familiar with and have been implementing up to this point.*
- 2. Intervention B – The second intervention will also involve the same CICO intervention procedures you have already been implementing. However, the student will use CICO in an 'enhanced' instructional context, meaning you will increase your delivery of praise as the student uses CICO in the classroom.*
- 3. Intervention C – The third intervention will be an adapted version of CICO. One adaptation, or change, to the intervention will be made based on the student's needs. For your student, the adaptation will provide the student with the opportunity to earn a function-based reward contingent upon the student meeting his or her CICO point goal at the end of the day. The student's teacher has agreed to the following reward (read below). Do you agree this would be a feasible reward to provide the student at the end of his or her check-out, provided the student meets his or her point goal?*

Reward:

- Reward should be available on the same day and provided at the closing of the check-out meeting *or* upon the student's return to his or her classroom.

As I mentioned earlier, this phase of the study will compare these three interventions. To do this, the intervention the student receives may vary from day to day. You will facilitate the change of interventions during your morning check-in meetings with the student.

MATERIALS OVERVIEW

Let's look at an intervention schedule for the student. The schedule shows which of the three interventions – intervention A, B, or C – the student should receive each day. You will follow the schedule in order; if a student is absent from school on the day he/she is supposed to receive a treatment, you will deliver that treatment on the day the student returns to school. In other words, you should not skip a treatment or deliver the treatments out of this order.

- [Provide the coordinator with an Intervention Schedule.]

Your Coordinator Binder now contains two additional tabs – one labeled 'Intervention B' and one labeled 'Intervention C'. These tabs are for the two new treatments we will discuss today. You'll notice all papers behind the 'Intervention B' tab are yellow and all papers behind the 'Intervention C' tab are blue. This is purposeful – the different colors will help you and the student to know which intervention is in effect on a given day.

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Comparison Phase, Training Scripts

Coordinator Training Script – Comparison Phase

Your binder now also contains two new implementation guides - a yellow guide for Intervention B and a blue guide for Intervention C - in addition to the white guide you are familiar with for Intervention A. You will use all three guides in this phase of the study to help you follow the procedures for each of the three different interventions. Although the procedures will be similar for three interventions, there will be differences. Therefore, it will be very important to follow the color-coordinated implementation guides.

INTERVENTIONS A & B

Instruction

Let's look at the implementation guides more closely, starting with the yellow guide for Intervention B. Notice, it's almost exactly the same as the guide you used for intervention A. The differences can be found in Procedures 3 and 4.

For procedure 3, you will deliver the student a yellow CICO sheet.

For procedure 4, you will tell the student that he/she will check-in and -out, as usual, and that the teacher will also make changes to the way he/she teaches the student.

Modeling

Now, you'll have the opportunity to watch me model the components of Intervention A and B. I'll model Intervention A first. I'm going to use the example wording provided in the 'Coordinator Implementation Guide'.

- [Use the 'Intervention A - Coordinator Implementation Guide' to model the components of Intervention A.]

Now, watch me model the components of Intervention C. Once again, I'm going to use the example wording provided in the 'Coordinator Implementation Guide'.

- [Use the 'Intervention B - Coordinator Implementation Guide' to model the components of Intervention B.]

As you saw, the procedures of interventions A and B are almost the same. The difference was found in Procedures 3 and 4.

Rehearsal

It's your turn to practice the procedures of A and B. You can begin with Intervention A. You're welcome to use the scripts provided in the implementation guides as you practice.

- [Provide the coordinator with the opportunity to practice the procedures for Intervention A and B.]

Feedback

- [Provide positive feedback on each procedure implemented with fidelity for both interventions. For procedures implemented incorrectly, provide corrective feedback and require the teacher to re-rehearse procedures implemented incorrectly until fidelity is reached across procedures.]

Appendix I

Comparison Phase, Training Scripts

Coordinator Training Script – Comparison Phase

INTERVENTION C

Instruction

You now know exactly how to implement Interventions A and B. Now, let's learn about intervention C. Find your implementation guide for Intervention C, and let's discuss the adapted procedures.

On days in which the student receives a blue CICO sheet, which is Intervention C, the student will have the opportunity to earn _____ if he or she meets his or her point goal that day. The student may only earn a reward on blue days. On days when the reward is earned, you will provide the reward at the end of your check-out meeting with the student. If the reward involves the student's teacher, you will tell the student he or she will receive the reward from the teacher when the student returns to class immediately following the check-out.

As you can see, this new procedure is reflected in your implementation guide as Procedure 13. You may also notice that during the check-in, you will continue to tell the student the intervention for the day.. When you do this, you will say the color of the intervention – Procedure 3 – and tell the student what he or she is working to earn – Procedure 4.

Modeling

Now, you'll have the opportunity to watch me model the procedures of Intervention C. I'm going to use the example wording provided in the 'Intervention C - Coordinator Implementation Guide'.

- [Use the 'Intervention C - Coordinator Implementation Guide' to model the procedures.]

Rehearsal

It's your turn to practice the procedures of Intervention C. You may use the wording provided in the implementation guide, or you may use your own as long as you implement each of the procedures.

- [Provide the coordinator with the opportunity to practice check-out procedures.]

Feedback

- [Provide positive feedback on each procedure implemented with fidelity. For procedures implemented incorrectly, provide corrective feedback and require the teacher to re-rehearse procedures implemented incorrectly until fidelity is reached across procedures.]

QUESTIONS and NEXT STEPS

Do you have any questions about the procedures we've discussed today?

You will continue with study on _____. There is a Student Training Script for you to follow as you introduce the student to the new variations of CICO on that day.

- [Direct the Coordinator to the Student Training Script in the Coordinator Implementation Binder.]

You'll read the script to the student and then begin the Check-in meeting with student. As you can see on the Intervention Schedule, you will be implementing Intervention ____ on that day.

- [Use the Intervention Schedule with the to point out the first intervention to be implementing during the alternating treatments phase.]

Please email me at _____ if you have any questions moving forward. I'll be present on the first day of our new intervention schedule to provide support if you need it. Thank you for your time today!

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Comparison Phase, Training Scripts

Student Training Script – Comparison Phase

INTRODUCTION

Hi, (Student)! It's great to see you again! We are meeting today to talk about a few changes we'll be making to the CICO program. Beginning today, your CICO sheet will be different colors.

OVERVIEW

On some days, I will give you a white CICO sheet just like the white sheets you have already been using. The white sheet will mean you will use your CICO sheet just as you always do. You'll take the sheet to class, and your teacher will rate your behavior on the sheet after class. You still want to earn as many points as you can!

On other days, you may receive a yellow CICO sheet. When you receive a yellow CICO sheet, you'll use it just as you always do – you'll take the sheet to class, and your teacher will rate your behavior at the end of the class. On days when you have a yellow sheet, your teacher will also make a change to the way he/she teaches you. You don't need to worry about the change; just try to earn as many points as you can!

Finally, there may be days when you receive a blue CICO sheet. When you get a blue sheet, one thing will change about CICO. The blue sheet means the you will have the opportunity to earn

at the end of the day for meeting your point goal. In other words, if you meet your point goal on 'blue' days, you will earn the reward; if you do not meet your point goal, you will not earn the reward. When you get a blue sheet, you will still use the CICO sheet in class as you always do. Your teacher will rate your behavior at the end of class, and you will try to earn as many points as you can!

CHECK FOR UNDERSTANDING

Remember, no matter what color sheet you get, you will try to earn as many points as you can. The white and yellow sheet mean you will use CICO in the same way that you always use it. The yellow sheet just means your teacher is going to change how she teaches you.

What does the blue sheet mean?

- [Provide student with positive feedback for correct response; provide error correction for inaccurate responding by restating what the 'new' procedure for the blue sheet and repeating the question to the student.]

CLOSING

I will help you to remember what the colors mean. You just focus on working hard to earn points!