AN EVALUATION OF A SECONDARY INTERVENTION FOR REDUCING PROBLEM BEHAVIORS AND IMPROVING ACADEMIC OUTCOMES IN SCHOOLS

by

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Doctor of Philosophy

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Title: An Evaluation of a Secondary Intervention for Reducing Problem Behaviors and Improving Academic Outcomes in Schools

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Schools today are faced with a growing number of student discipline problems and increasing rates of academic underachievement. To effectively meet the needs of all students, schools must utilize strategies and interventions that are both effective and efficient. Secondary interventions are designed to support students who are at risk for developing more severe behavior and academic problems. One secondary intervention that is supported by a growing research base is the Check-in/Check-out (CICO) program. Research has shown CICO to be most effective for students sensitive to adult attention; CICO is less effective-without modification, for students whose problem behavior is maintained by escape or avoidance from academic tasks. The present study addressed this gap in the literature by evaluating a modified version of CICO, designed as a comprehensive, targeted intervention for students exhibiting both academic and behavioral difficulties in school. This modified version of CICO, Academics and Behavior Check-in/Check-out (ABC), was specifically designed for students with organizational skill deficits that contribute to their problem behavior in school.

The present study examined (1) if a functional relation exists between ABC and

reductions in problem behavior, and (2) the effects of implementation of ABC on class work and homework completion and accuracy. A reversal design was used to evaluate the efficacy of ABC.

Results indicated that ABC was functionally related to reductions in classroom problem behavior in all three participants. In addition, indirect measures suggested that ABC resulted in increased teacher ratings of student class work and homework completion and accuracy. Teacher ratings were generally higher for both work completion and accuracy during ABC phases when compared with baseline ratings. Practical and conceptual implications, as well as future research, will be discussed.

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CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

Schools today face many challenges, including overly high prevalence of student discipline problems and academic underachievement paired with increased accountability for efforts to improve the academic and social behavior of students (Greenwood, Horner, & Kratochwill, 2008; Sugai et al., 2000). Student behavior problems are a major concern not only for schools that must find ways to provide effective discipline and behavior supports, but for parents and students themselves. Behavioral difficulties of students have been linked to a host of negative outcomes, including social withdrawal, peer rejection, and increased likelihood of referral for special education and psychiatric services (Gertner, Rice, & Hadley, 1994). Moreover, students who experience behavioral difficulties in school are more likely to experience academic difficulties, including delays in learning to read (Reid & Eddy, 1997). For many students, academic underachievement and behavior problems go hand in hand, as falling behind in reading may lead to behavior problems, and behavior problems may lead to delays in learning to read (Reid, Patterson, & Snyder, 2002). This cycle may be true not only for students in the early grades who are first learning to read, but for all students struggling in school.

Schools have utilized various strategies to prevent and decrease student behavioral difficulties and increase social and academic skills. A wide variety of strategies and interventions have long been available for educators to use, including token economy systems, student point cards, and consequence procedures such as suspension and detention. In recent years, researchers and legislators have pushed for the use of evidence-based interventions in schools. One common intervention strategy with

empirical support is the behavior report card or home/school note (Davies & McLaughlin, 1989; Dougherty & Dougherty, 1977). The behavior report card strategy typically involves: (1) providing structure and prompts to students throughout the day, (2) providing adult feedback throughout the day, (3) providing visual reminders of personal goals for the day, (4) collecting data about student behavior at school, and (5) communicating between adults at school and home (Chafouleas, Riley-Tillman, & McDougal, 2002).

Behavior Report Cards

Behavior report cards have been used in schools for decades. A behavior report card includes an operationalized list of a student's target behaviors (e.g., noncompliance, aggression, off-task behavior) and utilizes specific criteria for meeting each behavioral goal (Fabiano et al., 2010). Teachers provide immediate feedback to a student regarding target behaviors on the behavior report card, as well as praise for working toward and/or meeting behavioral goals (Fabiano et al., 2010). In addition, teachers track the student's progress on the behavior report card by noting whether goals related to target behaviors were met. The behavior report card is typically sent home with the student each day, and parents provide home-based privileges contingent on meeting behavioral goals (Fabiano et al., 2010).

Much research has focused on effects of behavior report cards, and studies have demonstrated that behavior report cards reduce problem behaviors and improve levels of academic engagement, assignment completion, and assignment accuracy (Chafouleas, McDougal, Riley-Tillman, Panahon, & Hilt, 2005; Chafouleas et al., 2002; Davies & McLaughlin, 1989; Dougherty & Dougherty, 1977; Fabiano et al., 2010; Fairchild, 1983;

Schumaker, Hovell, & Sherman, 1977). For example, Dougherty & Dougherty (1977) evaluated effects of a classroom-based daily report card on work completion and "talk outs" with two fourth-grade participants using a multiple baseline across behaviors design. The teacher provided daily ratings, and parents were encouraged to provide rewards for appropriate school behavior. Results demonstrated reductions in talk outs and increases in work completion following implementation of the behavior report card. Similarly, Davies & McLaughlin (1989) evaluated effects of a daily report card on disruptive behavior with three male primary students. In this study, the daily report card was sent home each day and parents were asked to praise positive reports and ignore negative reports. Results showed that the intervention was effective at reducing inappropriate behaviors while increasing assignment completion. Importantly, ratings by parents, teachers, peers, and subjects supported the intervention's effectiveness. The daily behavior report card has also been evaluated with students with attention deficit hyperactivity disorder (ADHD). Fabiano et al. (2010) evaluated effects of a daily behavior card for 33 students with ADHD in special education placements. In this study, behavioral consultants worked with the teacher and parents to construct and implement a daily behavior report card for each student based on the student's individualized education plan (IEP) goals and objectives. Compared to 30 students in a control condition, results indicated positive effects of the daily behavior report card on observations of classroom functioning, IEP goal attainment, and teacher ratings of academic productivity and disruptive behavior in the classroom.

Limitations of behavior report cards. Overall, research has supported the use of behavior report cards in improving behavioral outcomes for students; however, several

limitations do exist with regard to the typical implementation of behavior cards. First, in most cases, behavior report cards rely heavily on home contingencies implemented by parents (e.g., Davies & McLaughlin, 1989; Dougherty & Dougherty, 1977; Fabiano et al., 2010) as parents are required to make activities or items at home contingent on behavior at school. If parents are not able or available to provide rewards at home, systems relying on home-based contingencies may not be effective in improving school performance. Another limitation of behavior report cards relates to the individualized nature of the intervention. In most early research on behavior report cards, the behavior card was individualized for each student, thus each student had different behavioral goals and different requirements to earn rewards. Although this may be effective for the specific student targeted, such individualization requires a large amount of resources as a program must be developed, implemented, and evaluated independently each time a student is in need. When used in this way, behavior report cards are not the most efficient way for schools to provide support to students experiencing behavioral difficulties. An alternative is to embed behavior report cards into a continuum of behavior supports.

Check-in/Check-Out

The Check-in/Check-out (CICO) program, also known as the Behavior Education Program (Crone, Horner, & Hawken, 2004) is a school-based intervention that builds off work on behavior report cards. The CICO system is continuously available to students and staff within a school, and includes a plan for increasing monitoring and adult contact, providing contingent and frequent feedback, and increasing coordination between school and home support (Tobin, Dickey, Horner, & Sugai, 2008; Todd, Campbell, Meyer, & Horner, 2008). Similar to behavior report cards, CICO is a daily system designed to

increase feedback and positive adult attention to reduce problem behavior of students; however, the CICO program is designed to be implemented as an efficient, secondary intervention within a tiered school-wide model of behavior supports such as school-wide Positive Behavior Interventions and Support (PBIS; Horner, Sugai, Todd, & Lewis-Palmer, 2005). School-wide PBIS is a three-tiered, prevention-oriented model of behavior support that focuses on teaching desired, functional behaviors to promote behavioral and academic success of students (Horner & Sugai, 2000). Within school-wide PBIS, a continuum of behavior support is provided, including primary prevention strategies for preventing the development of social behavior problems and increasing pro-social skills, secondary interventions targeting the 10-15% of students who are at risk for behavior and learning problems, and tertiary interventions for the approximately 5% of students exhibiting severe problem behavior and needing individualized supports (Sugai & Horner, 2002; Lewis & Sugai, 1999).

Thus, the CICO program revolves around the use of a daily behavior report card but differs from traditional behavior report cards in that it is a secondary intervention designed to serve a group of students within a school that are engaging in similar low-level social behavior problems-students who do not respond to primary prevention but also do not demonstrate a dangerous pattern of problem behavior (Fairbanks, Sugai, Guardino, & Lathrop, 2007; Filter, McKenna, Benedict, Horner, Todd, & Watson, 2007). The CICO program is implemented similarly across students, as all students on the program have similar behavioral goals and the way feedback and acknowledgements are structured occurs similarly for all students. In this way, CICO is designed as an efficient intervention that incorporates features of daily behavior report cards but also fits into a

tiered system of behavior support. Another important difference between CICO and behavior report card is that rewards for meeting behavior goals are delivered at school; although parents receive feedback on their child's progress, they do not implement contingencies at home.

The main features of the CICO program are increased prompts for appropriate behavior (i.e., students are provided with a point card that lists goals for appropriate behavior), increased contingent adult feedback, enhanced daily structure for students throughout their school day, and improved feedback to families about student behavior (Filter et al., 2007). Students typically are chosen to participate in CICO based on teacher referrals and/or number of office discipline referrals. Once identified for the program, the student is provided with a brief overview of CICO, including the behavior expectations to be met. The behavior expectations are tied to the individual school's behavior expectations (e.g., "Be Safe, Be Responsible, Be Respectful"), this allows teachers to provide feedback on the extent to which students meet expectations (follow rules) in various settings. An overview of the CICO system is provided in Figure 1. Once on the CICO program, students are required to "check in" with a school staff member each morning. During this morning check in, the staff member gives the student their daily behavior card and reviews the behavior expectations, provides a verbal prompt for appropriate behavior (e.g., "remember to be responsible during class and work quietly"), and collects the previous day's home report. At the end of the daily check-in, the staff member provides the student with verbal encouragement (e.g., Have a nice day!) and the student heads to class.

Classroom teachers provide verbal feedback and record points on the student's behavior card at several pre-identified times during the day. Points are provided to the student for each of the identified behavior expectations. For example, students may receive two points for meeting the expectation, one point for partially meeting the expectation, and no points for not meeting the expectation. The teacher rates the student for all of the behavior expectations, thus the student has the opportunity to earn a total of six points for each particular time.

At the end of the day, the student "checks out" with a school staff member who collects the card, records the number of points the student earned, provides verbal feedback regarding the student's behavior, and completes the home report. The home report typically indicates whether or not the student met his or her goal for percent of points earned, and requires a parent signature.

Each day, the number of points the student earns is recorded. The points may be used to "purchase" certain items or privileges at school. For example, students may get pencils, stickers, or other small tangible items. Students may also purchase special activities such as extra recess or lunch with a teacher.

An important feature of the CICO program is that it is built into a school-wide system of behavior supports. Unlike traditional behavior report cards, CICO is embedded into a school-wide system and is continuously available to all staff and students that are in need of increased behavior support (Crone et al., 2004). Another feature that separates CICO from other school-based interventions is that, within CICO, data are collected and analyzed to monitor outcomes (Anderson & Scott, 2009). A CICO coordinator progress monitors each student on the program by graphing the percentage of points that

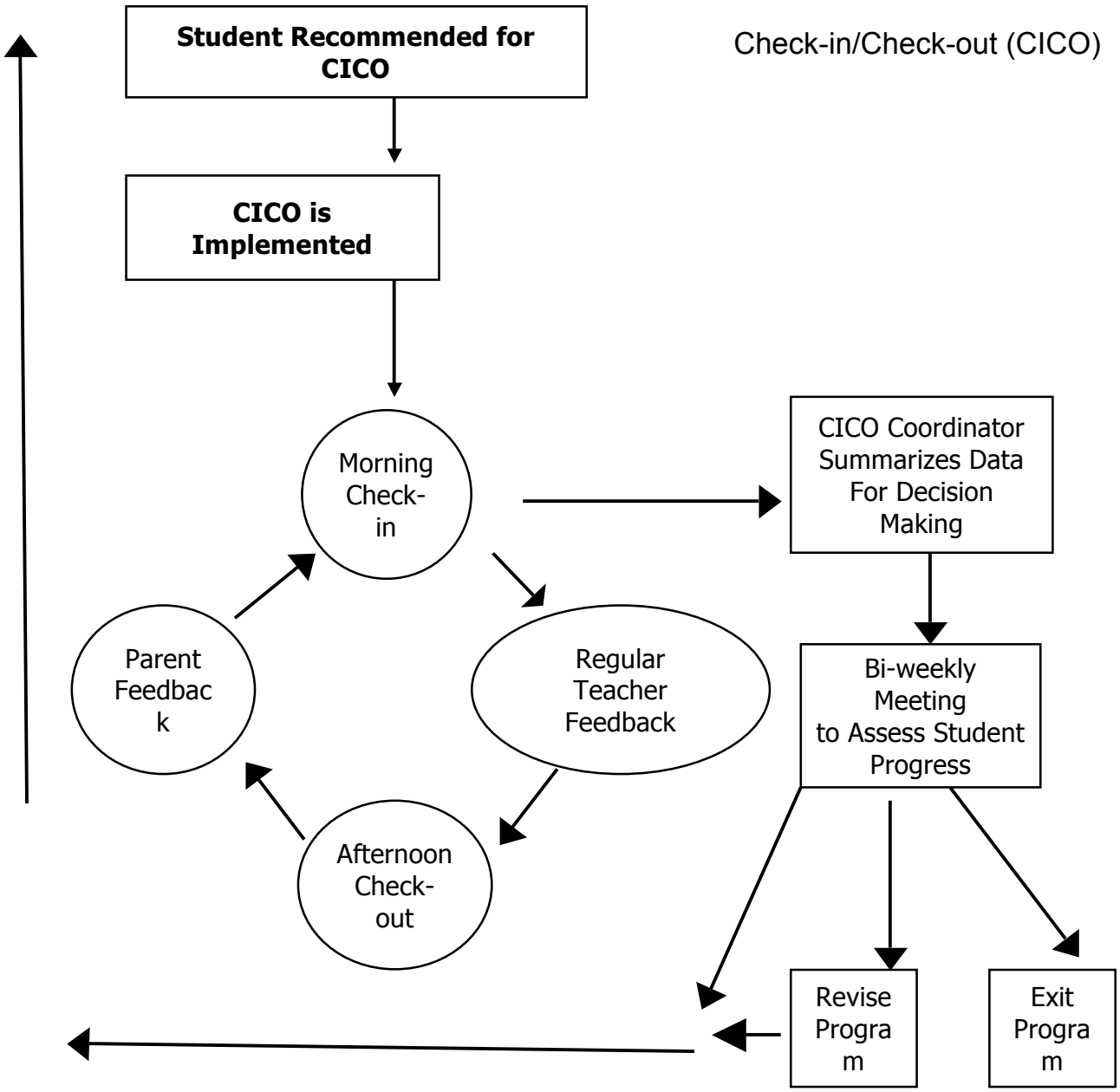


Figure 1. Check-in/Check-out cycle (Hawken & Horner, 2003).

the student earns each day that they use the card. The coordinator, along with a school-based team, uses the graphs to make data-based decisions to either continue the program, make modifications to the program, or remove the program.

CICO research. Research has supported the use of CICO in schools. The CICO

program has been shown to reduce problem behavior and increase academic engagement of students (Fairbanks et al., 2007; Hawken & Horner, 2003; March & Horner, 2002; Todd et al., 2008). For example, Hawken & Horner (2003) used a multiple-baseline across students design to examine effects of the Behavior Education Program, a CICO program, across four sixth-grade students. Across all participants, results indicated reductions in problem behavior as well as increases in academic engagement. Additionally, CICO has been shown to be effective in reducing the number of office discipline referrals for students in the program (Filter et al., 2007; Hawken, MacLeod, & Rawlings, 2007; March & Horner, 2002). To illustrate, Filter et al. (2007) looked at office discipline referrals patterns for 17 students participating in the CICO program across three elementary schools. On average, office discipline referrals per week for students on the CICO program decreased 45% relative to baseline. Importantly, across all published studies on CICO, the program was implemented in a school setting by typical school personnel with a high degree of fidelity and researchers were not involved directly in implementation. Further, teachers, parents, and students rate the program as an acceptable intervention (Hawken et al., 2007; Hawken & Horner, 2003; March & Horner, 2002) that (a) is easy to implement, (b) improves the general climate of classrooms, and (c) is positively experienced by students (Fairbanks et al., 2007). In addition, CICO can be modified to address different behavioral needs, such as students who require more frequent check-ins throughout the day or students whose behavior is sensitive to contingencies other than adult attention (Fairbanks et al., 2007; March & Horner, 2002).

Limitations of CICO. The CICO program is an efficient, effective secondary behavioral intervention that has been supported by research; however, this intervention is

not effective for all students. The CICO program was designed to provide support for students whose problem behaviors are sensitive to adult attention. Although the program is typically effective for students whose problem behaviors are sensitive to adult attention, CICO without modification is often not a good fit for students whose problem behaviors are maintained by escape or avoidance of academic tasks (March & Horner, 2002; McIntosh, Campbell, Carter, & Dickey, 2009). For example, March & Horner (2002) provide initial descriptive evidence that response to a Check-in/Check-out intervention was modified by function of problem behavior. In this study, CICO was implemented for 24 students in grades 6 through 8 and functional behavior assessment interviews were conducted to determine hypothesized function of problem behavior for each student. Results indicated that 69% of students whose behavior was maintained by adult or peer attention had decreases in rates of office discipline referrals, and only 27% of students with escape-maintained behavior had such decreases. Similarly, McIntosh et al. (2009) evaluated differential effects of the Check-in/Check-out program based on function of problem behavior for 36 elementary school students. The authors used standardized behavior rating scales and rate of office discipline referrals before and after intervention to evaluate effectiveness of the intervention. A multivariate analysis of variance showed statistically significant differences in response to the CICO intervention based on teacher-identified function of problem behavior, with statistically significant improvement in ratings of problem behavior, prosocial behavior, and office discipline referrals for students with attention-maintained behavior and no significant improvement for students with escape-maintained behavior.

These findings make logical sense as CICO increases adult attention and thus

likely does not increase access to reinforcement for students whose problem behavior is maintained by escape or avoidance of academic tasks. Currently, little research has focused on secondary interventions for students exhibiting such problem behaviors. Although research has shown that CICO may be successfully modified for students whose behavior is maintained by escape or avoidance of academic tasks (Fairbanks et al., 2007; March & Horner, 2002), to date there is no systematic secondary intervention for these students. Instead, CICO has been individualized to meet the specific needs for each student. This is problematic because it is an inefficient use of schools' limited resources to require individualized interventions for students with escape- or avoidance-maintained problem behavior.

Although CICO has been shown to be effective in both elementary and middle school (e.g., Hawken & Horner, 2003; Todd et al., 2008), anecdotal evidence suggests that CICO may be less effective in middle schools. One reason for this may be that the key components of CICO (frequent adult attention, enhanced structure) no longer are sufficient in and of themselves to override the aversive properties resulting from academic skill deficits. In addition to core academic skills (e.g., reading, writing, math), middle school students increasingly must develop organizational strategies and study skills to be successful. Thus, CICO, even when paired with a program to address core academic subject area deficits (e.g., Tier II reading programs), may not provide enough support for students exhibiting problem behaviors who also lack organizational and study skills. At this level, a more effective approach may be to provide a secondary intervention that provides reinforcement for appropriate behavior at school but also provides support and reinforcement to students around developing strong organizational and study skills.

Logic for modifications. Research indicates that CICO is most effective and appropriate for students whose problem behaviors are maintained by adult attention and may not be as effective for students whose problem behavior is maintained by escape from academic tasks (March & Horner, 2002, McIntosh et al., 2009). In addition, CICO does not currently address the needs of students who exhibit organizational and study skills difficulties. The CICO program, when implemented in a standardized way, may not meet the needs of all students in a school that are in need of secondary support, nor should it be expected to. Rather than individualizing the program each time it is unsuccessful for a student, it may be more efficient to implement a modified version of CICO that is specifically designed to meet the needs of students who are likely to be unsuccessful on the traditional CICO program: students who exhibit both academic (organizational and study skills) and behavioral difficulties, and whose problem behavior is maintained by escape from academic tasks.

The increasingly critical role of academic success in middle schools requires that social supports be integrated with sufficient academic support to maintain academic engagement. For students who lack organizational and study skills, the CICO program can be modified to include support in these areas. Specifically, these students may benefit from the development of a small number of core academic self-management skills and ongoing assistance with daily academic demands (Lenz & Deshler, 1998; Swanson & Deshler, 2003). The CICO program can be modified to address these needs by providing explicit feedback on goals related to positive academic behaviors, focusing check-in and check-out on daily organizational needs, and providing students with increased structure and feedback around accurately recording homework assignments.

Modifications should also address the needs of students who engage in problem behavior in order to escape academic tasks. An increased focus on organizational skills may, in some cases, serve to make academic tasks less aversive for these students and in turn reduce the reinforcing value of escape. In addition, rewards earned by students on the program should be personally meaningful reinforcers that address the function of behavior (Crone et al., 2004). For example, students whose problem behavior is escape-maintained should earn rewards such as homework passes and break coupons; in this way, students access the maintaining function of escape by engaging in appropriate behavior.

Statement of the Problem

A growing research base exists supporting the use of CICO as a secondary intervention for students exhibiting mild to moderate behavior problems. Research has shown CICO to be most effective for students sensitive to adult attention; CICO is less effective—without modification, for students whose problem behavior is maintained by escape or avoidance from academic tasks.

The present study addressed this gap in the literature by evaluating a modified version of CICO, designed as a comprehensive, targeted intervention for students exhibiting both academic and behavioral difficulties in school. This modified version of CICO, Academics and Behavior Check-in/Check-out (ABC), was specifically designed for students with organizational skill deficits that contribute to their problem behavior in school.

Specifically, this study addressed the following research questions:

What are effects of implementation of the ABC intervention on student problem behavior

and academic engagement? What are the effects of implementation of the ABC intervention on class-work and homework completion and accuracy for students?

CHAPTER II

METHODS

Setting and Participants

Setting. The present study took place in a public, Pacific Northwestern middle school during the 2009-2010 school year. The school had 462 students in grades six through eight with 74% identifying as Caucasian, 8% identifying as Hispanic, 3% identifying as Asian or Pacific Islander, 3% identifying as American Indian or Alaskan Native, 2% identifying as African American, and 10% unspecified. During the 2009-2010 school year, 44% of students were eligible for free or reduced price lunch services.

On state standardized assessments, 78% of sixth grade students met or exceeded standards in reading, and 83% of sixth grade students met or exceeded standards in math. For seventh grade students, 84% met or exceeded standards in reading, 73% met or exceeded standards in math, and 41% met or exceeded standards in writing. For eighth grade students, 78% met or exceeded standard in reading, 75% met or exceeded standards in math, and 80% met or exceeded standard in science.

The participating school had been implementing school-wide Positive Behavior Interventions and Support (PBIS) for at least three years. This included: establishing and teaching behavior expectations (Be Safe, Be Respectful, Be Responsible), a school-wide token economy for rewarding appropriate behavior, and a continuum of responses to problem behaviors (major and minor office discipline referrals). The school met criteria, (80/80) for the 2008-2009 and 2009-2010 school years on the School-wide Evaluation Tool (Sugai, Lewis-Palmer, Todd, & Horner, 2001), a measure that assesses the fidelity of PBIS. The School-wide Evaluation Tool (SET) delineates the extent to which

universal Positive Behavior Supports are in place for a school. The participating school's SET score demonstrates that the school's Tier 1 behavior supports were firmly in place.

The school had been implementing the CICO program for at least two years prior to the study. On the Check-in/Check-out Self Assessment (Horner, Todd, & Dickey, 2005), the school had 18/19 key features (95%) in place. The item that was rated as "not in place" was that FTE was not available for the CICO coordinator. Although the coordinator had time set aside in her day to engage in CICO related duties, these duties were not formally recorded as part of her FTE. A copy of the assessment tool is available in Appendix A.

All direct observations took place in general education classroom settings. The specific activity (e.g., large group math instruction, independent work in science) was determined individually for each participant based on the results of the functional behavior assessment (described below) that was conducted prior to the beginning of the study for each participant.

Participants. Participants in this study were three typically developing middle school students in grades six through eight. Participant selection occurred in several steps. First, potential participants were nominated by teachers, administrators, or parents as needing increased behavior and academic support. To be eligible for this study, students were (a) exhibiting problem behaviors during academic settings and (b) exhibiting organizational and study skill problems as reported by teachers on a checklist developed for use in this study (see Appendix B). If a student had an academic skill deficit, he or she had to be receiving academic supports to be eligible for this study. Upon identifying students through teacher, administrator, or parent nomination, parental and

teacher consent, as well as student assent, was obtained.

Second, a functional assessment was conducted for each potential participant to gain information about the function of problem behaviors. The Investigator administered a revised version of the Functional Assessment Checklist for Teachers and Staff (FACTS; Anderson, C. & Borgmeier, C., 2007) with each eligible student's primary teacher and with each eligible student. The FACTS is a 20- to 40- min semi-structured interview designed to produce a hypothesis statement that identifies (a) the problem behavior(s), (b) the setting events and discriminative stimuli occasioning the problem behavior, and (c) the contingent consequences maintaining the problem behavior (March & Horner, 2002). After administering the FACTS interviews, the Investigator conducted at least six direct observations to confirm information obtained in the interviews. Through direct observation, data were gathered about events that most often preceded and followed problem behavior—data were collected on the occurrence of relevant environmental variables (e.g., prompt to complete a task) irrespective of the occurrence of problem behavior. At least three observations were conducted when the relevant antecedent stimulus (e.g., writing assignments in history) was present and three were conducted when that antecedent was not present (e.g., group work in history). Observations were conducted until stable patterns of responding were observed. For all students, problem behavior was suggested to be occurring in a classroom setting and to be maintained by escape from or avoidance of academic tasks. The purpose of the FBA was to identify students whose behavior was likely to be maintained by escape from or avoidance of academic tasks and so the FBA was not part of this experiment but rather served as a screening for participants. Results of each participant's FBA are described in detail in the

Results section.

Toby. Toby was an eighth grade Caucasian student who received all education in a general education setting. Toby was referred to the study by his parents as well as by a classroom teacher. Toby was referred to the study by his parents due to low rates of class work and homework completion. Toby was referred to the study by his language arts teacher due to disruptive and off-task classroom behavior. Most recent statewide testing using criterion-referenced instruments indicated that Toby met the seventh-grade standard for reading and math and did not meet the standard for writing.

Katie. Katie was a seventh grade Caucasian student who received all education in a general education setting. Katie was referred to the study by her math teacher due to disruptive and off-task classroom behavior as well as low rates of work completion. Statewide testing indicated that Katie did meet the sixth-grade standard for reading and math.

Nick. Nick was a sixth grade Caucasian student who received all education in a general education setting. Nick was referred to the study by his father due to low rates of work completion as well as poor grades. Statewide testing indicated that Nick did meet the fifth-grade standard for reading, math, and writing.

Measurement

The primary dependent variable in the present study was student problem behavior. The following dependent measures were used in this study: direct observations of student problem behavior, teacher ratings of class work completion and accuracy, and teacher ratings of homework completion and accuracy.

The independent variable, implementation of the ABC program, was measured

using a fidelity checklist. Finally, contextual fit, social validity, and coordinator knowledge of ABC training components were assessed using surveys.

Routines. Direct observation was conducted for each participant in the specific routine that was indicated in the FBA to be most associated with problem behavior.

For Toby, direct observation was conducted across 20-min sessions during large group language arts instruction. Large group language arts instruction took place in a general education classroom with approximately 25 eighth grade students and one teacher. Typical activities during this routine included discussion about selected pieces of literature, acting out of selected plays, and instruction on writing technique. During this routine, students were expected to remain engaged in the group discussion and to raise their hand to participate.

For Katie, direct observation was conducted across 20-min sessions during independent math instruction. Independent math instruction took place in a general education classroom with approximately 15 seventh grade students and one teacher. Typical activities during this routine included computer-based math activities, math worksheets, and selected problems from a math textbook. During this routine, students were expected to work quietly and independently on assigned tasks and to raise their hand if assistance was needed.

For Nick, direct observation was conducted across 20-min sessions during independent science instruction. Independent science instruction took place in a general education classroom with approximately 20 sixth grade students and one teacher. Typical activities during this routine included science-based worksheets and readings from a textbook. During this routine, students were expected to work quietly and independently

on assigned tasks and to raise their hand if assistance was needed.

Response measurement and interobserver agreement. Data were collected by trained observers using an electronic computerized data collection system and all direct observations of student behavior took place in a classroom setting during relevant academic activities as reported above. Direct observation of student behavior was conducted three to four days per week per student across 20-min sessions. Observers were trained to code the presence or absence of specific problem behaviors. Specific problem behaviors were selected based on results of FACTS interviews and initial observations conducted prior to the study, and included disruption and off-task. Disruption was operationally defined as making a noise or physical action irrelevant to the task that other individuals can see or hear and that disrupts instruction. Examples included talking out or talking to peers when the expectation is to remain quiet. Nonexamples included sneezing or raising hand and waiting to be called on before asking a question. Off-task was defined as 1) ignores and/or refuses to comply with teacher requests within 5 s, (2) eyes oriented away from teacher or relevant instructional materials, and/or (3) failure to complete tasks as requested by the teacher. A 5-s delay was utilized for scoring the onset and offset of off-task behavior, to control for discrete instances of behavior (e.g. briefly looking away from teacher) that were scored off-task only if they continued. Example included putting head down on desk and closing eyes when the expectation is to be attending to teacher leading group discussion. Nonexample included taking notes while the teacher is leading group discussion.

Prior to beginning data collection, observers were trained to an 85% interobserver agreement criterion on each target behavior. First, they participated in three 2-hr training

sessions. The first session involved reviewing the measures and procedures. During this session, observers also became familiar with the operational definitions of each variable (i.e., problem behaviors) that would be coded. The second and third sessions involved practicing observations using videotapes. Observers practiced coding for specific variables, using operational definitions that were reviewed in the first session. Before baseline data were collected, each observer conducted two practice observations in a classroom setting with the Investigator. Total agreement was at or greater than 85% on all target behaviors before the observer began collecting baseline data for the present study. If total agreement fell below 85% for three consecutive sessions, the data collector would cease data collection and be retrained until the 85% criterion was again met.

Interobserver agreement was assessed for at least 35% of the observation sessions within each phase. During these sessions, a second observer independently collected data as described above. Total agreement, occurrence agreement, and nonoccurrence agreement were calculated for each problem behavior. Total agreement was calculated by dividing the number of intervals that both observers agreed a response did or did not occur by the total number of intervals and multiplying by 100 for that particular observation. Occurrence only agreement was calculated by dividing the total number of intervals both observers agreed a response occurred by the number of intervals either observer scored a response and multiplying by 100. Non-occurrence agreement was calculated by dividing the total number of intervals both observers agreed a response did not occur by the total number of intervals either observer did not score a response and multiplying by 100.

Table 1 displays total, occurrence-only, and nonoccurrence-only interobserver

Table 1

Average (range) Interobserver Agreement

		Total Agreement	*Occurrence Only*	*Non-occurrence Only*
Toby				
	Off-task	.90 (.89-.93)	.89 (.85-.93)	.91 (.91-.98)
	Disruption	.91 (.90-.95)	.94 (.86-1.0)	.98 (.94-1.0)
Katie				
	Off-task	.95 (.90-1.0)	.93 (.87-.96)	.96 (.94-1.0)
	Disruption	.95 (.89-1.0)	.90 (.86-1.0)	.93 (.91-1.0)
Nick				
	Off-task	.94 (.89-.97)	.92 (.85-.97)	.97 (.93-1.0)
	Disruption	.93 (.89-1.0)	.91 (.90-1.0)	.94 (.91-1.0)

agreement across participants. For off-task, total agreement averaged .93 (range = .89 to 1.0), occurrence only averaged .91 (range = .85 to .97), and nonoccurrence only averaged .95 (range = .91 to 1.0). For disruption, total agreement averaged .93 (range = .89 to 1.0), occurrence only averaged .92 (range = .86 to 1.0), and nonoccurrence only averaged .95 (range = .91 to 1.0).

Class work completion and accuracy. Teacher ratings were collected to assess percentage of class work completion and accuracy of completed tasks. See Appendix C

for teacher rating form. Each day that direct observation data was collected, teachers rated the percentage of class work completed by the student (0-100%) as well as the percent of correct completed class work assignments (0-100%). Teachers rated class work completion and accuracy percentages for the entire class period each day, not just for the 20-min observation period.

Homework completion and accuracy. Student homework assignments were examined using the same procedures for in-class assignments, to determine percentage of homework completion and percentage of correct completed homework assignments (accuracy).

Fidelity of implementation. Fidelity of the ABC intervention was assessed weekly over the course of the intervention for each student. On each fidelity assessment, an ABC checklist (see Appendix D) was administered by either the same individual who conducted the direct observation data collection on that day or by the Investigator. This 10-item checklist was used to assess the presence or absence of key features of the intervention. Permanent products (i.e., daily point card, homework tracker, ABC roster) were examined to complete the checklist. In addition, the individual conducting the fidelity assessment attended the checks in and out at the beginning and end of the day. To calculate the percentage for implementation fidelity, the number of components that were implemented were divided by the number of components implemented plus the number of components not implemented, and multiplied by 100%.

Contextual fit. Contextual fit was assessed during the first week of implementation of ABC intervention phase and again at the end of the study. All teachers and staff involved in the intervention completed a modified version of the Contextual Fit

Questionnaire (Horner, Salantine, & Albin, 2003; Appendix E). The Contextual Fit Questionnaire assesses school staff member's perceptions on the ease of implementation, amount of effort needed to implement the intervention, and whether the effects of the intervention were worth the effort (Horner et al., 2003).

Social validity. A modified version of the five-item BEP Acceptability Questionnaire (Hawken & Horner, 2003) was used to assess the social validity of the ABC intervention (see Appendix F). Items on the questionnaire assess the extent to which the intervention is perceived to a) improve behavior at school, b) improve academic performance, c) be worth the time and effort, d) be worth recommending to others, and e) be easy to implement. Scores on the questionnaire were recorded on a Likert-like scale from one to six with higher scores indicating a more favorable impression.

Knowledge of ABC training components. Knowledge of ABC training components was measured using a pre/post survey to assess coordinator knowledge of ABC implementation components and procedures. The measure is based on the training and assessed whether the coordinator knew the school rules/expectations (because student goals were linked to these expectations) as well as knowledge of ABC components and implementation (Appendix G).

Design and Procedures

Design. An ABAB reversal design was used to evaluate functional control. This design allowed us to evaluate whether immediate changes in problem behavior were due to the intervention as opposed to some other variable. There were two primary conditions in the study, Baseline (treatment as usual) and ABC Intervention. Stability of data for moving

from baseline to intervention was determined via visual inspection. Measurement of the primary dependent variable, problem behavior, continued until the observed pattern of responding was sufficiently consistent to allow prediction of future responding. Documentation of a predictable pattern during the first baseline phase required five or more data points without substantive trend, or without a decreasing trend. In intervention a minimum of five data points were required without a trend or without an increasing trend.

Baseline. During baseline, participants continued to partake in the school's typical school-wide discipline system. This included office discipline referrals (major and minor), loss of privileges, and verbal reprimands for problem behaviors. In addition, they also received school-wide rewards and verbal praise for appropriate behaviors. Additional methods of behavior support (e.g., CICO, individualized interventions) were not in place for any participant during baseline. One participant, Toby, had briefly participated in the CICO program during the previous school year but was removed from the program due to a lack of progress.

ABC Coordinator training. The intervention was implemented by the ABC Coordinator, a staff member at the school who was selected by the school's behavior support team to run the ABC intervention. In this study, the ABC Coordinator was the same individual responsible for implementing CICO at the school. The ABC Coordinator was a female Instructional Assistant whose job duties included running small reading and math intervention groups as well as coordinating the CICO program. The ABC Coordinator was trained by the Investigator in how to implement the intervention during two one-hour training sessions prior to the intervention phase. See Appendix H for training materials. During these sessions, the coordinator was trained on how to (1) lead

morning check-in; (2) lead afternoon check-out; (3) define school-wide behavior expectations in terms of academic behavior; (4) meet with students to explain the program; (5) develop a list of meaningful reinforcers for students to earn; (6) communicate with teachers about the ABC intervention; and (7) hold a parent training session.

Parent training. Prior to each participant beginning the ABC intervention, parents participated in one 45-min meeting with the ABC Coordinator. At this meeting, parents gained information on how to appropriately help students with homework, through a presentation put together by the researcher (see Appendix I). Additionally, the coordinator reviewed the intervention with parents. Parents learned appropriate ways of responding for days on which their child met their goal and days on which they did not meet their goal. Parents also became familiar with the homework tracker and were shown how to review this tracker with their child each day. Parents were offered a small incentive (gift card to a local store) that would be given to them at the end of the study if they followed through with their responsibilities in the intervention (i.e., reviewing the point card and homework tracker with their child each evening, returning signed materials to school the next day). Throughout the intervention, the coordinator continued to check in with parents at least once per week and was available to address any further questions or concerns.

Academics and Behavior Check-in/Check-out (ABC) intervention. During this phase, the ABC intervention was implemented. As in CICO, the ABC intervention focused on the use of a point card however it was modified as follows (see sample in Appendix J). Each student's point card had three goals tied to the individual school's

behavior expectations (Be Safe, Be Responsible, Be Respectful). Point cards were the same for each student and defined the three expectations in terms of academic behaviors. “Be Safe” was defined as “Ask for help appropriately”, ”Be Responsible” was defined as “On time, prepared for class, homework done and turned in”, and “Be Respectful” was defined as “Participate appropriately in class, stay on task.” These specific academic definitions were developed by the Investigator and the ABC coordinator during training prior to beginning the study. Students were able to earn up to two points per goal per setting. In addition, students were able to earn up to four bonus points at check-in (two for being prepared by having all necessary materials for the day and two for completing all homework due that day) and up to two bonus points at check-out (for recording all homework assignments on their homework tracker). A “homework tracker” was attached to the back of each student’s point card (see Appendix K). For each period, students were expected to record any assignments, the due date(s), and materials needed. Each period, teachers initialed the student’s homework tracker to show that the student accurately recorded assignments.

Each day, students had a goal for the percentage of points possible. Each student had a goal of earning 80% of points possible each day. Points were assigned using a 3-point scale with a 0 indicating the student “did not meet expectations”, a 1 indicating the student “met some expectations”, and a 2 indicating that the student “met expectations”.

Prior to beginning the program, each student attended one brief (e.g., 20-min) meeting with the coordinator. At this meeting, the coordinator reviewed the program with the student.

The ABC intervention included the following components: morning check-in,

Table 2

Key Differences Between ABC and CICO.

Component	CICO	ABC
Morning check-in		
Students provided with daily point card	Yes	Yes
Review daily goals	Yes	Yes
Students show that they are prepared for the day	No	Yes
Check for homework completion	No	Yes
Students complete unfinished homework	No	Yes
Students earn bonus points	No	Yes
Daily feedback		
Teachers provide feedback on student behavior at the end of each class period	Yes	Yes
Daily goals are tied to school-wide expectations	Yes	Yes
Daily goals are defined in terms of academic behavior	No	Yes
Students earn points for accurately recording assignments on a homework tracker	No	Yes

Afternoon check-out		
Students take daily point card to the CICO coordinator	Yes	Yes
Student points are calculated and students receive praise and tangible rewards	Yes	Yes
Brief feedback is given to students if they do not meet their goal	Yes	Yes
Coordinator briefly reviews homework tracker with students	No	Yes
Student rewards are meaningful reinforcers	No	Yes
Home component		
Parents sign the daily point card each day	Yes	Yes
Students return signed point cards to school each morning	Yes	Yes
All parents attend a meeting with the coordinator prior to their child beginning the program	No	Yes
Parents indicate each day if their child has completed all homework due	No	Yes

daily feedback, afternoon check-out, and a home component. Table 2 summarizes the

ABC intervention, denoting key differences between this intervention and CICO.

Morning check-in. Each morning, participants were expected to check-in with the designated ABC Coordinator at the Coordinator's classroom. Five to ten minutes at the beginning of each school day were set aside for the ABC check-in. The check-in consisted of three elements, described in detail below. First, students received their daily point card and turned in the previous day's card signed by a parent or guardian. The ABC Coordinator briefly reviewed the student's goals and provided praise if the previous days signed report had been returned.

Second, students were asked to show that they were ready for the day by having their materials (i.e. notebooks, pens, pencils, workbooks) in their backpacks. If students were not prepared, the ABC Coordinator helped students obtain the missing materials. Students who were prepared received verbal praise and bonus points on their daily point card. Third, students were asked to show that they had completed their homework. The point card had a space for parents to indicate whether students had completed all of their homework for the day or not. If students had not completed their homework, they were given a pass to visit the "Opportunity Room", where they could spend time completing the homework assignments. Students were able to use this pass during a non-academic period that same school day. In this way, students were given an opportunity to complete missed assignments and, in most cases, turn them in on the day they were due. Students were made aware that if this occurred more than three times in two weeks, the student would be considered for more intensive intervention and would no longer be eligible to participate in the study. None of the participants required a homework pass more than three times in two weeks throughout the study. If students had completed all of their

homework, they earned bonus points on their point card. By ensuring that students were prepared for the school day with all necessary materials and had completed all homework, the daily check-in served to set students up for success for the day and reduced the occurrence of academically related aversive stimuli that might occur throughout the day. At the end of the check-in, the ABC Coordinator provided verbal encouragement (e.g., Have a great day) and students went to class.

Daily feedback. After the morning check in, the student took his or her card and went to class. The student turned the card in to the teacher at the start of each academic class period and got it back afterward. The teacher rated the student's behavior using the 3-point scale described above. As in typical CICO, the teacher delivered praise for appropriate behavior, or provided a pre-correction for the next opportunity to earn points. In addition, the teacher checked to see if the homework tracker was filled out correctly. The teacher provided points and praise if the homework tracker was filled out correctly. If the student had not filled out the homework tracker correctly, the teacher prompted the student to do so. The student repeated this process at each specified time of the day.

Check-out. At the end of the day (typically 10 minutes prior to dismissal) the student walked to the specified check-out location and gave his or her card to the ABC Coordinator. The coordinator recorded the number of points earned and provided feedback to the student regarding his or her behavior. Additionally, the coordinator briefly reviewed the student's homework for the next day, ensuring that each student knew what was due. If the student met his or her goal of percentage of points, the coordinator provided verbal praise. If the student did not meet his or her goal, the coordinator gave the student neutral feedback (e.g., "Lets try to meet the goal

tomorrow"). As part of the check-out, because the school was using tangible and social reinforcers for meeting goals in CICO, small reinforcers were delivered for days in which the student achieved at least 80% of his or her possible points. Participants also had the opportunity to spend points one time each week. To ensure that reinforcers were meaningful for each student, the coordinator and Investigator worked together prior to the start of the study to develop a list of rewards that the student was able to choose from. Items on this list of rewards were tied to the hypothesized function of student problem behavior (i.e., escape from academic tasks). In this way, students were able to access escape from academic tasks by exhibiting appropriate behaviors in class. For example, students were able to spend points on a break coupon or homework pass. Finally, the daily point card was taken home by the student.

Home component. Each day, students took home their homework tracker, which included a brief summary of whether the student met their goal that day. Parents reviewed the homework tracker with their child and were instructed to provide positive feedback on days that the student met their goal. Parents were trained to provide brief, neutral feedback on days that the student did not meet their goal. In addition, parents were instructed to refrain from implementing negative consequences on days that the student did not meet their goal. Finally, parents signed the bottom portion of the homework tracker to indicate if students had completed all homework. Students returned the signed point card to the coordinator at the next morning's check-in.

Data Analysis

Data were analyzed to assess a) the extent to which the ABC intervention was functionally related to change in problem behavior and work completion and accuracy, b)

the extent to which the ABC program was implemented with fidelity, and c) the acceptability of the ABC intervention as rated by parents, teachers, and students.

Data related to problem behavior were analyzed using traditional single-case design procedures that included visual inspection to examine stability, level, trend, and immediacy of effects (Johnston & Pennypacker, 1993). Participant behavior was considered responsive to intervention if observable and sustained reductions in problem behavior and increases in desired academic behaviors (i.e., class work completion and accuracy, and homework completion and accuracy) were observed during the intervention phases (Fairbanks et al., 2007). Student problem behavior was the primary dependent variable upon which demonstration of functional control was predicted. Additionally, descriptive statistics (i.e., percentage of overall mean rates of problem behaviors) was used to analyze data.

Graphs depict the percentage of observation intervals with problem behaviors as well as percentage of completed work and percentage of correct completed tasks. Additionally, means and standard deviations of problem behavior and work completion and accuracy were calculated for each participant across phases.

Contextual fit data was measured and analyzed descriptively using pre/post comparisons. Social validity data was analyzed descriptively to gain increased understanding of coordinator, student, and parent perceptions of ABC. Fidelity data was used descriptively to ensure the independent variable was implemented as planned.

CHAPTER III

RESULTS

Results examine (a) functional assessment data for individual participants (b) the extent to which the ABC intervention was associated with change in problem behavior for individual participants, (c) the extent to which the ABC intervention was associated with change in class work completion and accuracy and homework completion and accuracy, (d) the extent to which the ABC program was implemented with fidelity, and (e) the acceptability of the ABC intervention as rated by parents, teachers, and students.

Toby

Functional assessment. Results of the FACTS teacher and student interviews indicated that Toby's primary problem behaviors were off-task and talking with peers. These problem behaviors occurred most often during large group language arts instruction and were likely maintained by escape from academic tasks. Confirmatory direct observations were conducted during large group language arts instruction as well as when that antecedent was not present (i.e., during independent reading instruction). Figure 2 displays results of functional assessment observations for Toby. As is shown in the top panels of Figure 2, problem behavior occurred almost exclusively during large group language arts instruction and rarely if ever during independent reading. The bottom panel of Figure 2 shows that, for both off-task and disruption, escape was more likely to occur following problem behavior than when problem behavior did not occur. In addition, escape occurred following problem behavior more frequently than other consequences (i.e., adult attention and peer attention). Taken together, the results of the functional assessment suggest that problem behavior is evoked by large group language

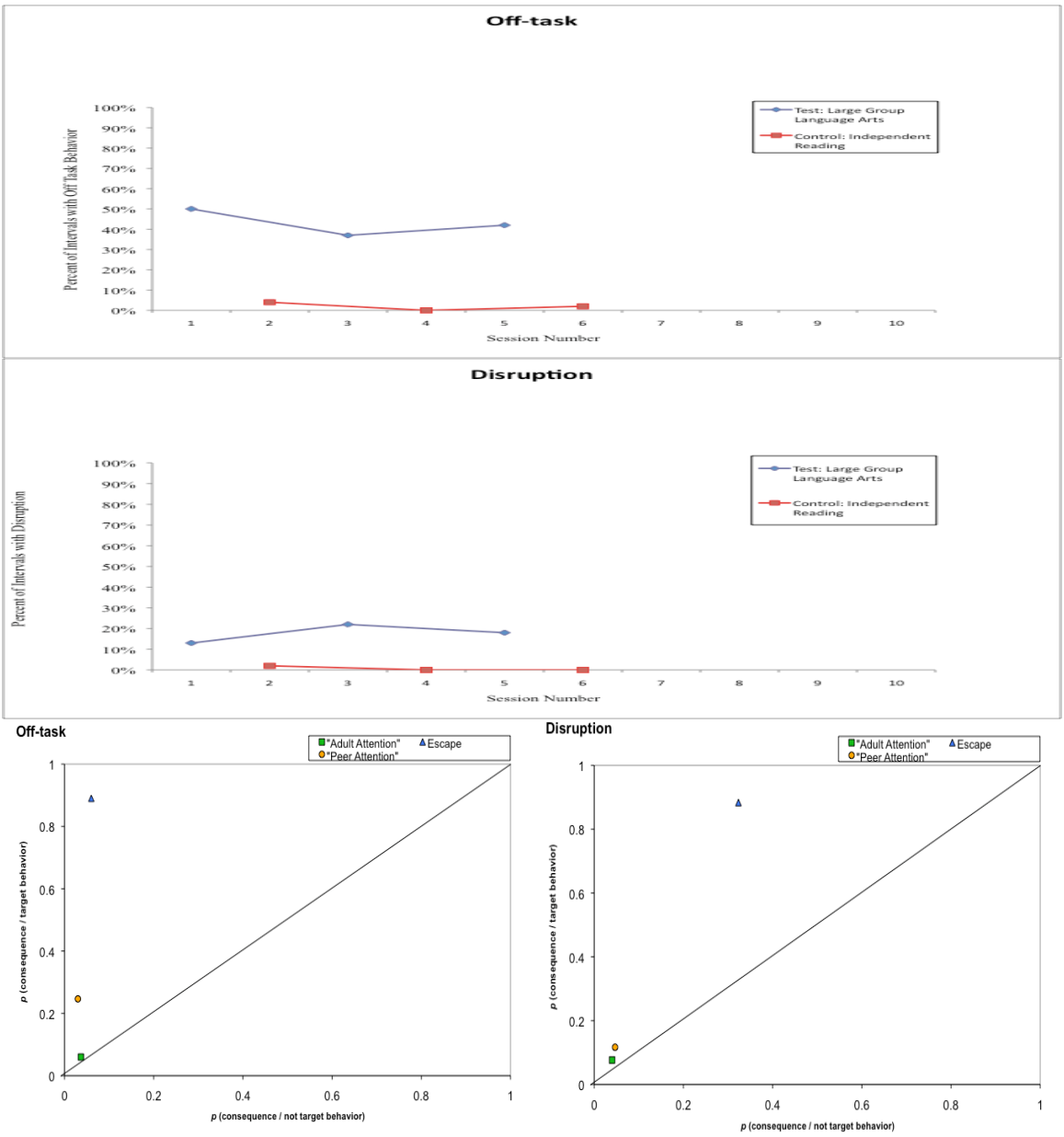


Figure 2. Functional assessment results for Toby.

arts instruction and maintained by escape.

Problem behavior. During baseline, intervals scored with off-task behavior averaged 44% (range = 21% to 67%) and these data document an increasing trend. Toby's baseline off-task behavior was variable. As is shown in Figure 3, implementation of ABC resulted in an immediate reduction of off-task behavior, with off-

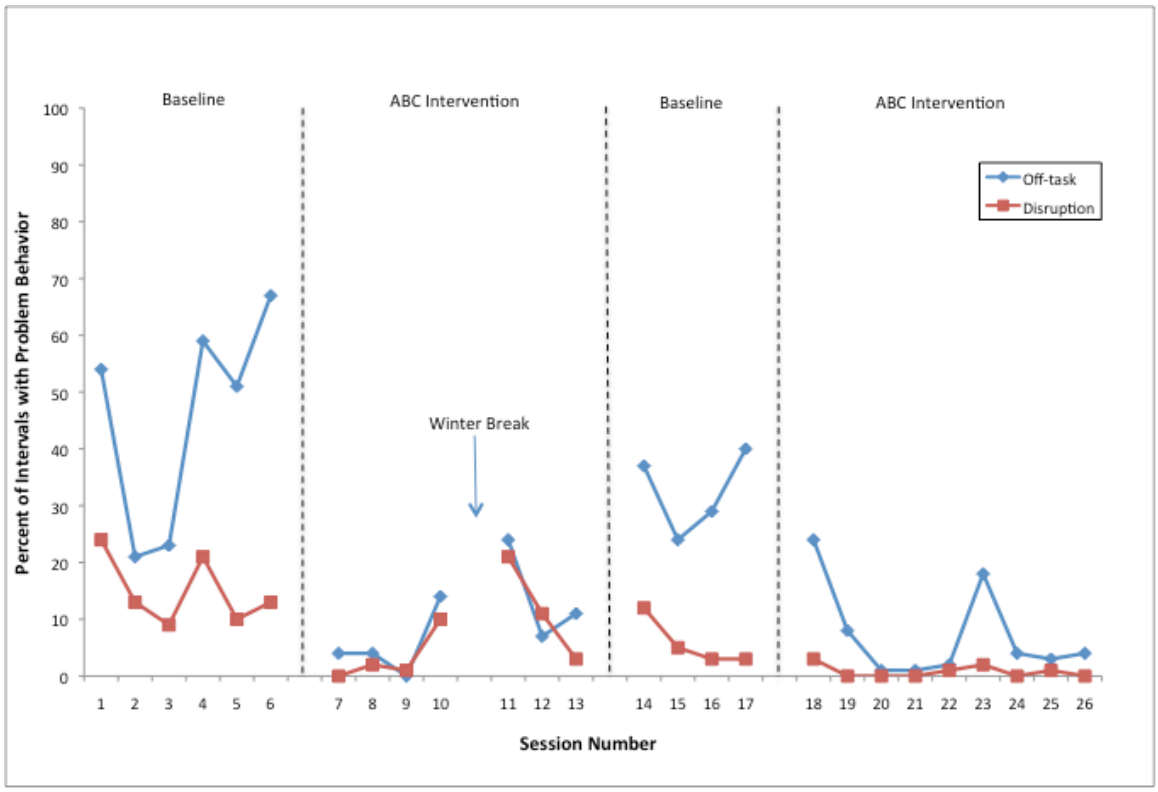


Figure 3. Toby's results for problem behavior.

task behavior occurring in an average of 9% of intervals (range = 0% to 24%). This level represents a reduction of 35 percentage points from the baseline mean. As illustrated in Figure 3, the trend during this ABC phase was stable, and with the exception of Sessions 10 and 11, Toby demonstrated relatively low variability. Sessions 10 and 11 were the days prior to and following Winter Break and were associated with an atypically high number of school challenges for Toby.

A brief return to baseline was implemented to establish functional control over off-task behavior, and, as seen in Figure 3, resulted in an immediate increase in off-task behavior. During this phase, intervals scored with off-task behavior averaged 33% with a range of 24% to 40%. Figure 3 illustrates that these data document an increasing trend

and demonstrate relatively low variability. Upon return to ABC, Figure 3 shows that a reduction of off-task behavior was again observed. During this phase, off-task behavior occurred in an average of 7% of intervals (range = 1% to 24%). As seen in Figure 3, throughout this phase Toby continued to exhibit off-task behavior only rarely.

Figure 3 shows that during baseline, intervals scored with disruption averaged 15% (range = 9% to 24%) and these data document a modestly decreasing trend. Upon implementation of ABC, Figure 3 illustrates that an immediate reduction in disruption was observed, with disruption occurring in an average of 7% of intervals (range = 0% to 21%). This level represents a reduction of 8 percentage points from the baseline mean. As seen in Figure 3, the trend during this phase was stable, and with the exception of Sessions 10 and 11, Toby demonstrated relatively low variability.

During a brief return to baseline, intervals scored with disruption averaged 6% with a range of 3% to 12%. As seen in Figure 3, these data document a decreasing trend and demonstrate relatively low variability. After reinstating ABC, a reduction in disruption was observed, with disruption occurring in an average of 1% of intervals (range = 1% to 3%). Figure 3 illustrates that the trend during this phase was stable and demonstrated low variability.

Katie

Functional assessment. Results of the FACTS teacher and student interviews indicated that Katie's primary problem behaviors were off-task and talking with peers. These problem behaviors occurred during independent math instruction and were likely maintained by escape from academic tasks. Confirmatory direct observations were conducted in the presence of the relevant antecedent stimulus (i.e., during independent

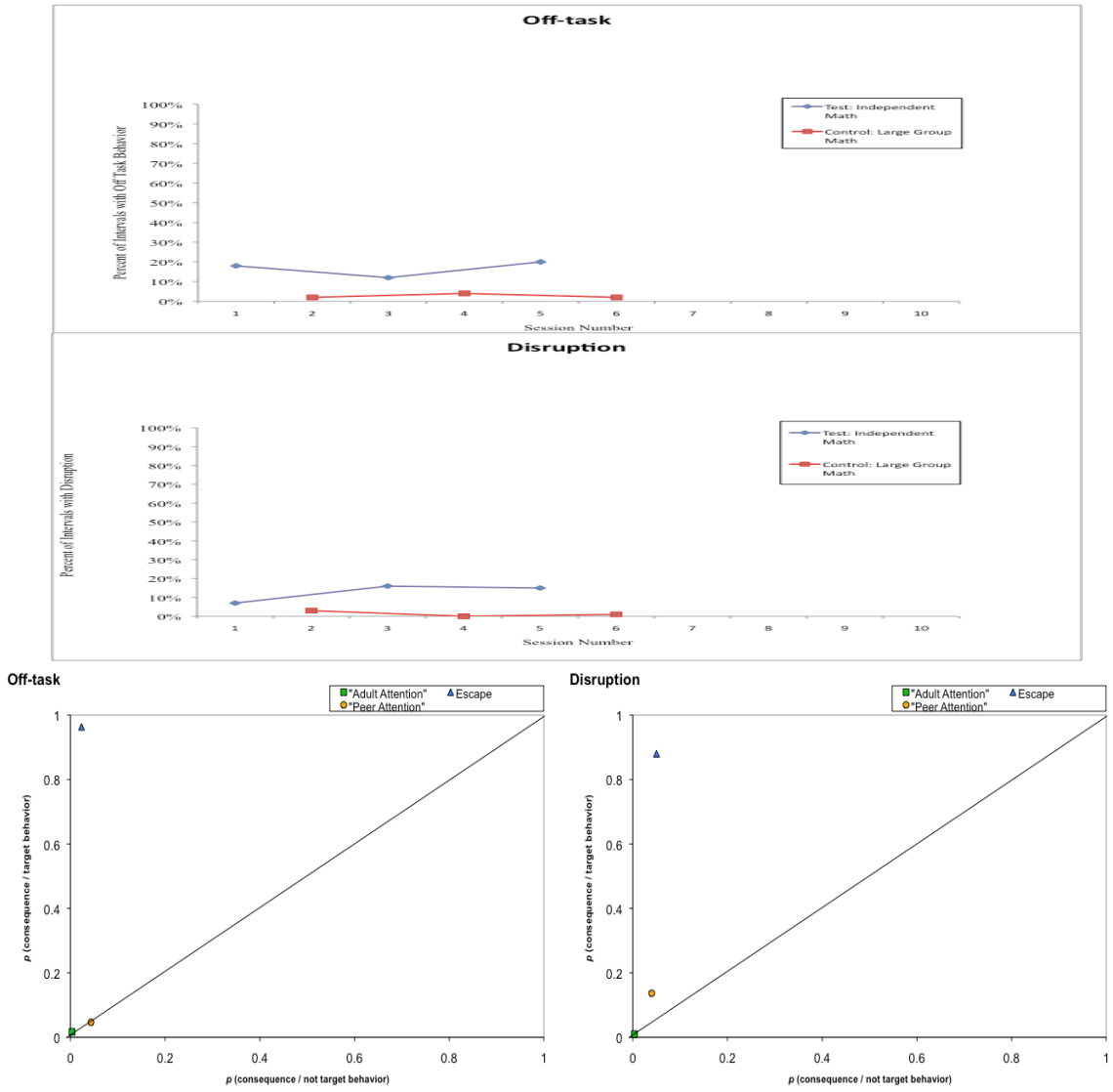


Figure 4. Functional assessment result for Katie.

math instruction) as well as when that antecedent was not present (i.e., during large group math instruction). As is shown in the top panels of Figure 4, problem behavior occurred almost exclusively during independent math instruction and rarely if ever during large group math instruction. The bottom panel of Figure 4 shows that, for both off-task and disruption, escape was more likely to occur following problem behavior than when

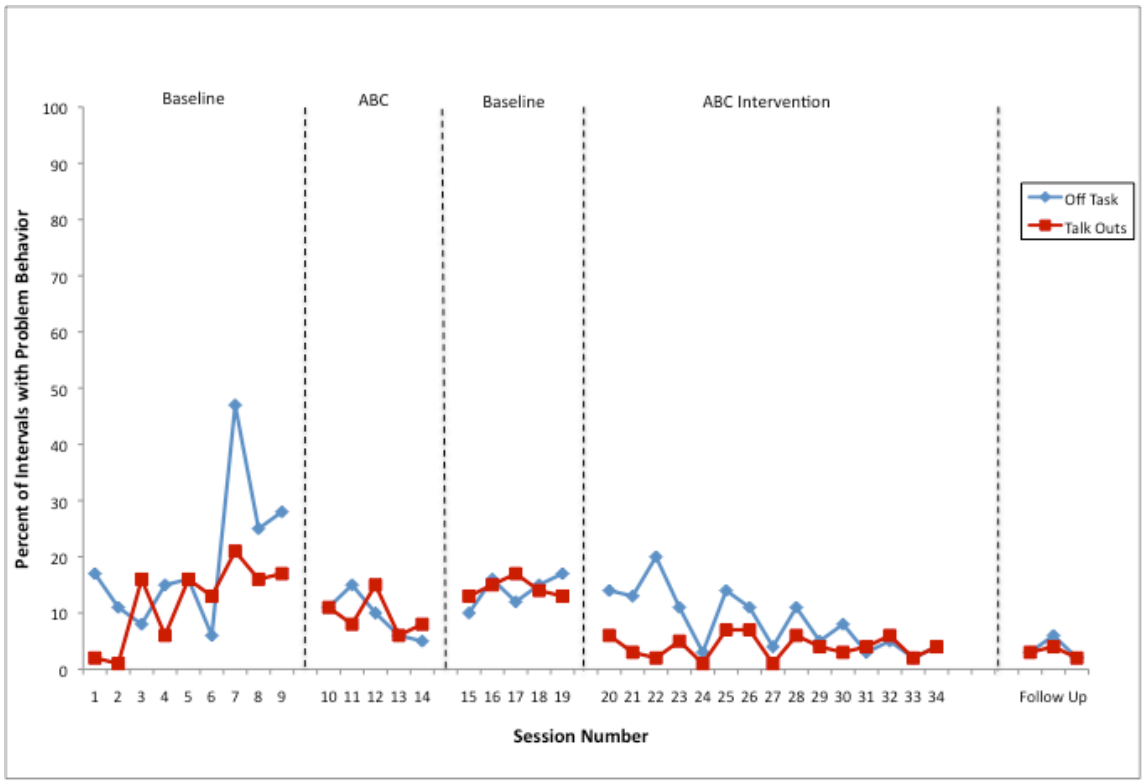


Figure 5. Katie's results for problem behavior

problem behavior did not occur. In addition, escape occurred following problem behavior more frequently than other consequences (i.e., adult attention and peer attention). Taken together, the results of the functional assessment suggest that problem behavior is evoked by independent math instruction and maintained by escape.

Problem behavior. As seen in Figure 5, intervals scored with off-task behavior during baseline averaged 19% (range = 6% to 47%) and these data document a modestly increasing trend. Figure 5 illustrates that upon implementation of ABC, an immediate reduction of off-task behavior was observed, with off-task behavior occurring in an average of 10% of intervals (range = 6% to 15%). This level represents a reduction of 9

percentage points from the baseline mean. Figure 5 shows that these data document a modestly decreasing trend and demonstrate low variability.

As seen in Figure 5, a brief return to baseline resulted in a slight increase in off-task behavior. During this phase, intervals scored with off-task behavior averaged 14% with a range of 13% to 17%. Figure 5 illustrates that these data document a stable trend and demonstrate low variability. Upon return to ABC, Figure 5 shows that a reduction of off-task behavior was again observed. During this phase, off-task behavior occurred in an average of 4% of intervals (range = 1% to 7%). Figure 5 illustrates that these data demonstrate a decreasing trend and demonstrate relatively low variability.

As seen in Figure 5, during baseline intervals scored with disruption averaged 12% (range = 1% to 21%) and these data document an increasing trend. Upon implementation of ABC, Figure 5 shows that a modest reduction in disruption was observed, with disruption occurring in an average of 10% of intervals (range = 6% to 15%). This level represents a reduction of 2 percentage points from the baseline mean. Figure 5 shows that the trend during this ABC phase was stable and the data demonstrate relatively low variability.

During a brief return to baseline, intervals scored with disruption averaged 14% with a range of 13% to 17%. As seen in Figure 5, these data document a stable trend and demonstrate low variability. Upon return to ABC, Figure 5 illustrates that an immediate reduction in disruption was observed, with disruption occurring in an average of 4% of intervals (range = 1% to 7%). Figure 5 shows that the trend during this phase was stable and demonstrated low variability.

Nick

Functional assessment. Results of the FACTS teacher and student interviews indicated that Nick's primary problem behaviors were off-task and talking with peers. These problem behaviors occurred during independent science instruction and were likely maintained by escape from academic tasks. Confirmatory direct observations were conducted in the presence of the relevant antecedent stimulus (i.e., during independent science instruction) as well as when that antecedent was not present (i.e., during large group science instruction). As is shown in the top panels of Figure 6, problem behavior occurred almost exclusively during independent science instruction and rarely if ever during large group science instruction. The bottom panel of Figure 6 shows that, for both off-task and disruption, escape was more likely to occur following problem behavior than when problem behavior did not occur. In addition, escape occurred following problem behavior more frequently than other consequences (i.e., adult attention and peer attention). Taken together, the results of the functional assessment suggest that problem behavior is evoked by independent science instruction and maintained by escape.

Problem behavior. As seen in Figure 7, during baseline intervals scored with off-task behavior averaged 34% (range = 7% to 54%) and these data document an increasing trend. Upon implementation of ABC, Figure 7 illustrates that an immediate reduction of off-task behavior was observed, with off-task behavior occurring in an average of 16% of intervals (range = 5% to 30%). This level represents a reduction of 18 percentage points from the baseline mean. Figure 7 shows that these data document a modestly increasing trend and demonstrate variability.

A brief return to baseline was implemented to establish functional control over

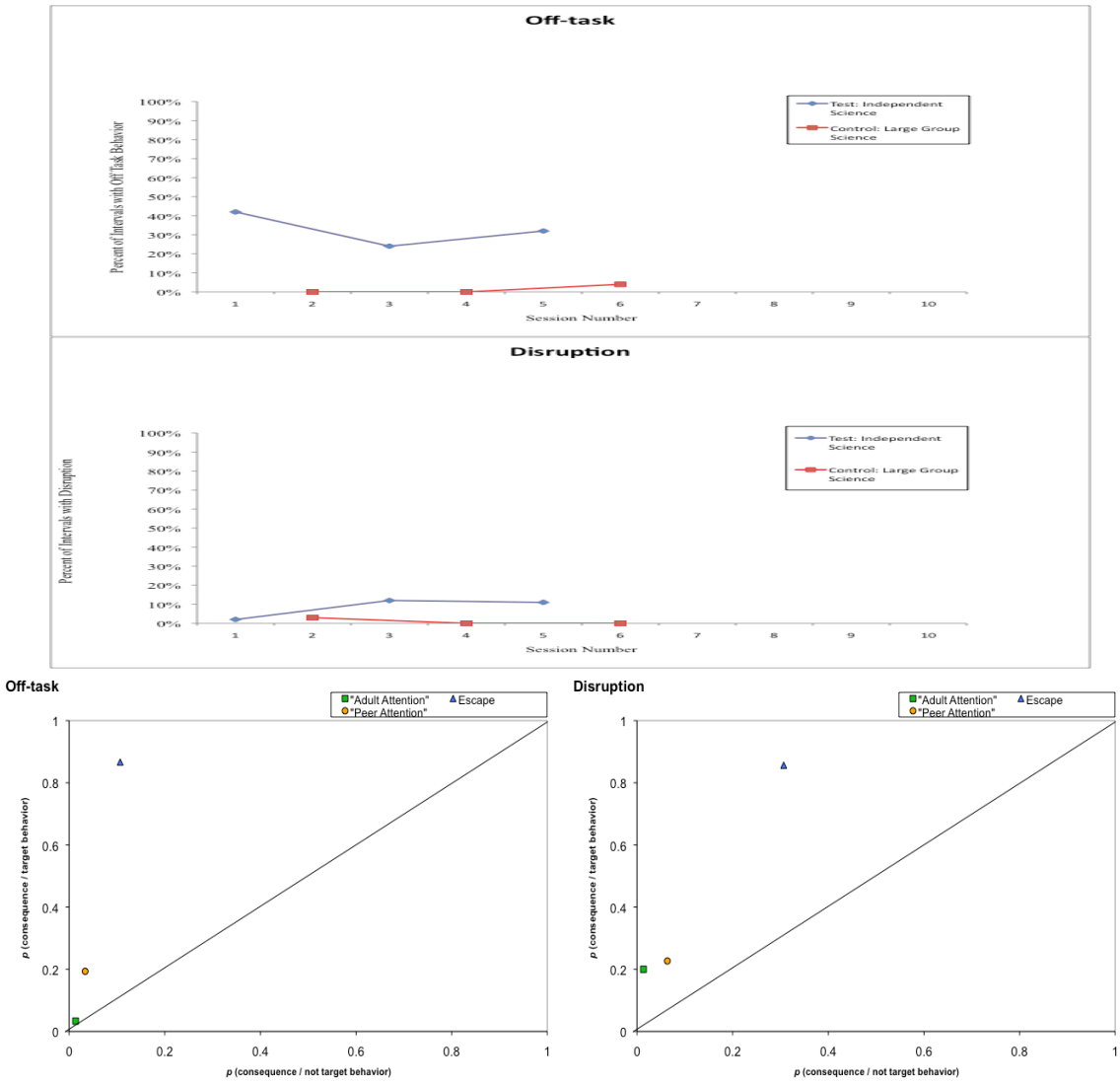


Figure 6. Functional assessment results for Nick.

off-task behavior, and, as seen in Figure 7, resulted in an immediate increase in off-task behavior. During this phase, intervals scored with off-task behavior averaged 42% with a range of 32% to 56%. Figure 7 illustrates that these data document an increasing trend. Upon return to ABC, a reduction of off-task behavior was again observed, as seen in Figure 7. During this phase, off-task behavior occurred in an average of 3% of intervals (range = 1% to 6%). Figure 7 shows that these data demonstrate a decreasing trend and

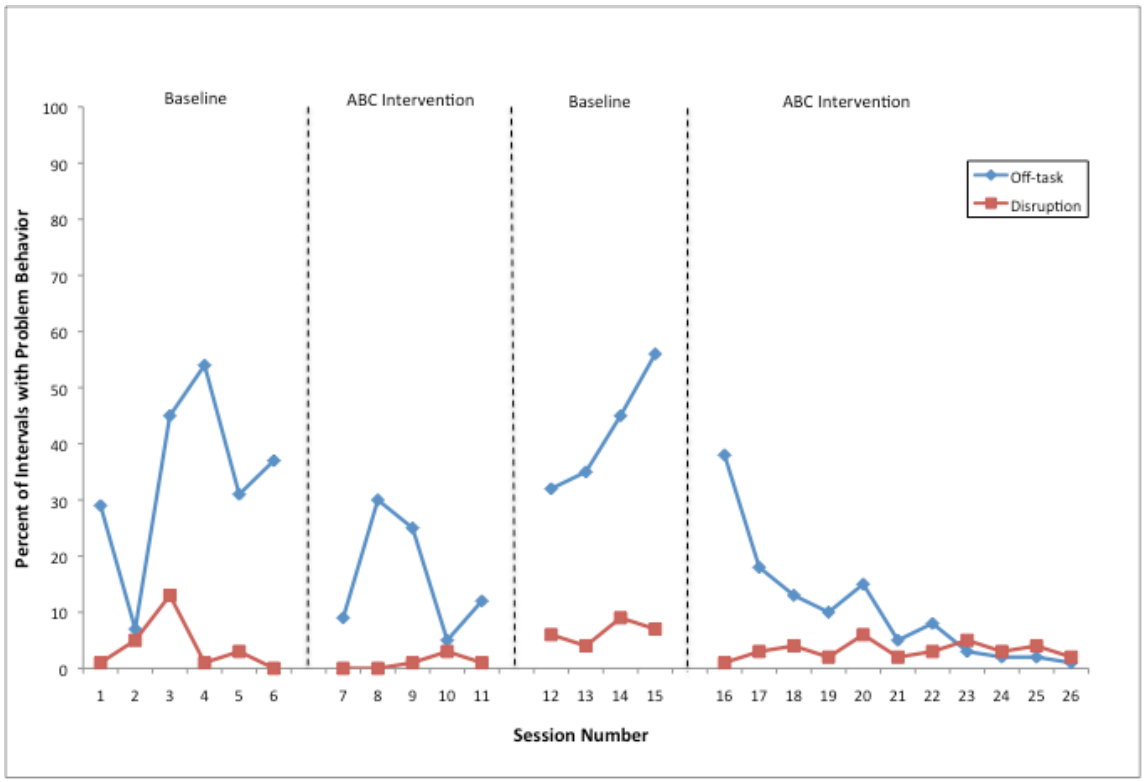


Figure 7. Nick's results for problem behavior.

demonstrate relatively low variability.

During baseline, intervals scored with disruption averaged 4% (range = 0% to 13%) and, as seen in Figure 7, these data document a relatively stable trend. Upon implementation of ABC, Figure 7 shows that a modest reduction in disruption was observed, with disruption occurring in an average of 1% of intervals (range = 0% to 3%). This level represents a reduction of 3 percentage points from the baseline mean. Figure 7 illustrates that the trend during this ABC phase was stable and the data demonstrate low variability.

During a brief return to baseline, intervals scored with disruption averaged 7% with a range of 4% to 9%. As seen in Figure 7, these data document a stable trend and demonstrate relatively low variability. Figure 7 illustrates that upon return to ABC an

overall reduction in disruption was observed, with disruption occurring in an average of 3% of intervals (range = 1% to 6%). As seen in Figure 7, the trend during this phase was stable and demonstrated low variability.

Class Work Completion and Accuracy

Figure 8 displays the average teacher ratings of percent class work completion and percent accuracy of completed class work across phases. The top panel depicts results for average teacher ratings of percent class work completion for each participant. For Toby, average teacher rating of percent class work completion during baseline was 50%, and the rating increased to 75% when ABC was implemented. Average teacher rating of percent class work completion for Katie was 60% during baseline, and this rating increased to 80% when ABC was implemented. For Nick, average teacher rating of percent class work completion during baseline was 40%. The rating increased to an average of 60% when ABC was implemented

The bottom panel of Figure 8 depicts average teacher ratings of percent accuracy of completed class work across phases. For Toby, average teacher rating of percent accuracy of completed work during baseline was 75%, and the rating increased to 80% when ABC was implemented. Average teacher rating of percent accuracy for Katie was 70% during baseline, and this rating increased to 75% when ABC was implemented. For Nick, average teacher rating of accuracy during baseline was 70%. The rating increased to an average of 80% when ABC was implemented.

Homework Completion and Accuracy

Figure 9 displays the average teacher ratings of percent homework completion and percent accuracy of completed class work across phases. The top panel depicts

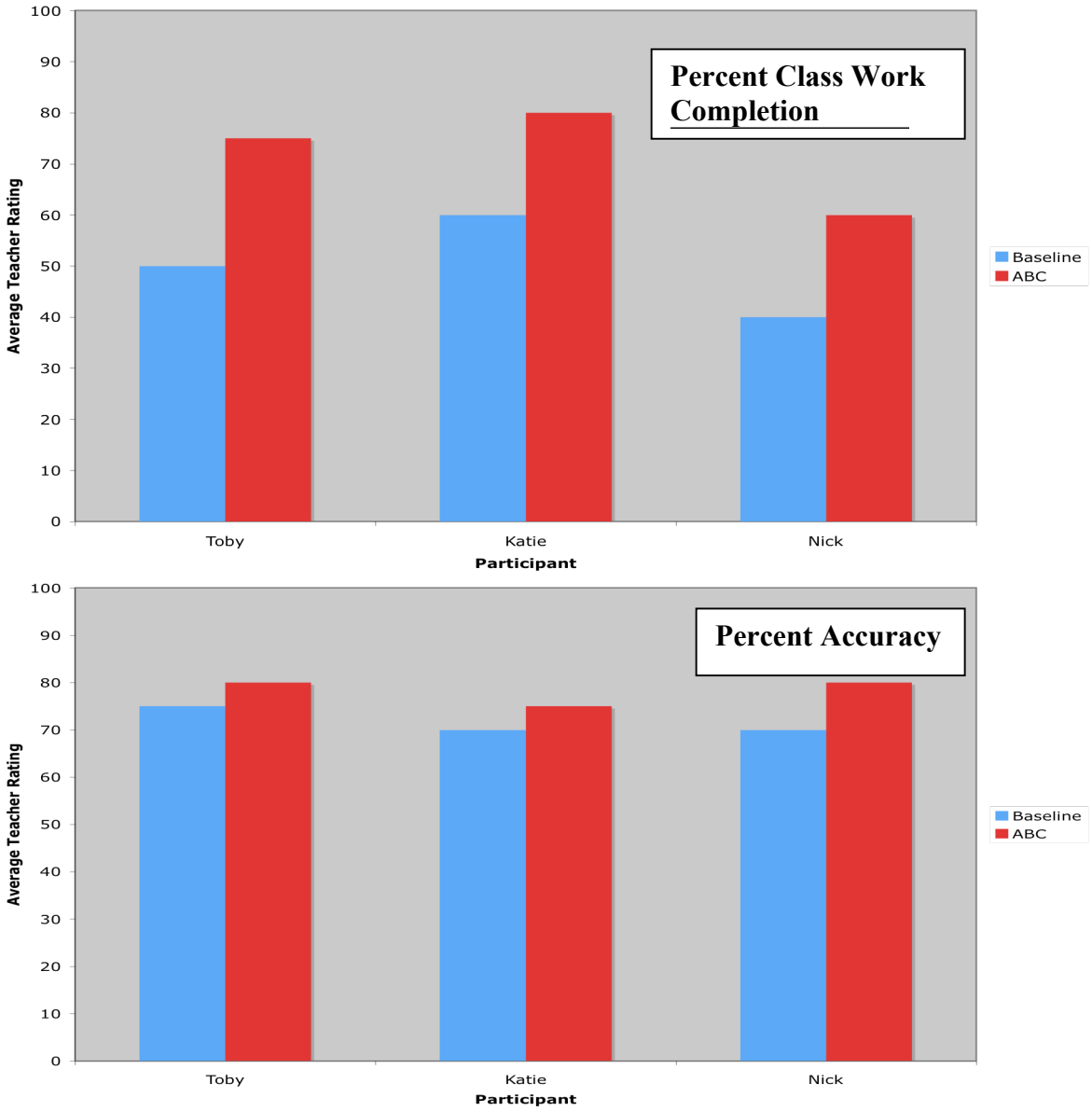


Figure 8. Average teacher ratings of percent class work completion and accuracy.

results for average teacher ratings of percent homework completion for each participant.

During baseline phases, the average teacher rating of percent homework completion was 47%. The rating increased to an average of 57% when ABC was implemented. For Toby, average teacher rating of percent homework completion during

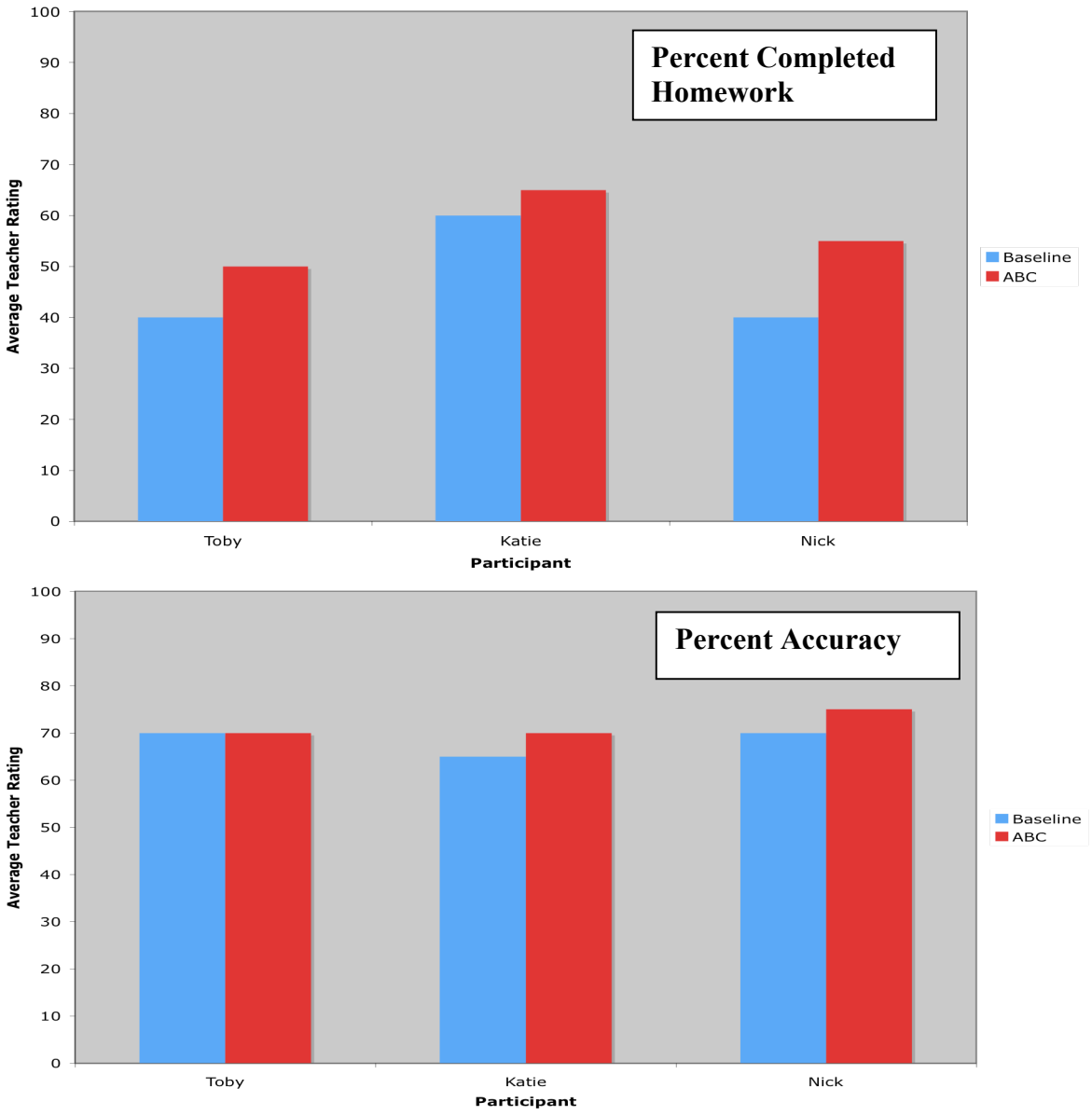


Figure 9. Average teacher ratings of percent homework completion and accuracy.

baseline was 40%, and the rating increased to 50% when ABC was implemented. Average teacher rating of percent homework completion for Katie was 60% during baseline, and this rating increased to 65% when ABC was implemented. For Nick,

average teacher rating of percent homework completion during baseline was 40%. The rating increased to an average of 55% when ABC was implemented.

The bottom panel of Figure 9 depicts average teacher ratings of percent accuracy of completed homework across phases. During baseline phases, the average teacher rating of percent accuracy of completed homework was 68%. The rating increased to an average of 72% when ABC was implemented. For Toby, average teacher rating of percent accuracy of completed work during baseline was 70%, and the rating remained 70% when ABC was implemented. Average teacher rating of percent accuracy for Katie was 65% during baseline, and this rating increased to 70% when ABC was implemented. For Nick, average teacher rating of accuracy during baseline was 70%. The rating increased to an average of 75% when ABC was implemented.

Fidelity of Implementation

Fidelity of implementation was assessed once per week per participant using the checklist described previously. Figure 10 displays average fidelity of implementation for each participant across the ten components measured by the fidelity checklist. Overall fidelity was high, with an average of 92%, and a range of 84% to 97%. For Toby, fidelity averaged 84% with a range of 75% to 100%. For Katie, fidelity averaged 97%, with a range of 90% to 100%. For Nick, fidelity averaged 95%, with a range of 88% to 100%.

Together the data indicate that the students were getting regular feedback on their behavior from teachers, and that they were accessing regular social and tangible rewards for following school-wide behavioral expectations.

Contextual Fit

Contextual fit was assessed two times for each participant; during the initial

Table 3

Average Fidelity of Implementation Across ABC Components.

Component	Toby	Katie	Nick
Checked in	88%	100%	100%
Received daily point card	100%	100%	100%
Bonus point for being prepared	88%	100%	100%
Bonus point for homework	88%	100%	100%
Used point card each period	88%	90%	100%
Homework tracker signed each period	88%	90%	100%
Checked out	75%	100%	88%
Bonus point for using homework tracker	75%	100%	88%
Reward provided (when applicable)	75%	100%	88%
Parent signature	75%	90%	88%
Overall	84%	97%	95%

implementation of ABC, and at the end of the study. Classroom teachers were asked to complete a 16-item questionnaire for each participant.

Overall, results indicated that the ABC intervention rated high on contextual fit during initial implementation of ABC (M = 92%). At the completion of the study,

Table 4

Parent, Teacher, and Student Ratings of ABC Acceptability

Student	Person rating	Improved behavior at school	Improved academic performance	Worth time & effort	Recommend to others	Easy to participate
Toby	Teacher	5	5	6	6	5
	Parent	4	4	4	4	4
	Student	5	5	5	5	5
Katie	Teacher	5	5	6	5	5
	Parent	4	4	5	5	5
	Student	5	5	5	5	4
Nick	Teacher	5	5	6	5	5
	Parent	5	5	5	5	5
	Student	5	5	5	5	5

teachers rated contextual fit at 98% for all participants.

Social Validity

A summary of ABC Acceptability Questionnaire ratings is provided in Table 3. Teacher ratings for Toby, Katie, and Nick were five or greater on a 6-point scale as to whether the ABC program resulted in improved behavior and academic performance. All teachers rated a five or better indicating that ABC was worth the time and effort to implement the intervention.

Parent ratings for Toby, Katie, and Nick were four or greater on a 6-point scale as to whether the ABC program results in improved behavior and academic performance. All parents found the intervention easy to participate in and would recommend ABC to other parents and students. All students reported that they felt the ABC program helped

improve their behavior and academic performance, was easy to participate in, and would recommend ABC to other students.

CHAPTER IV

DISCUSSION

This study utilized a reversal design to examine the efficacy of the ABC program, a modified version of the CICO program. Previous research has supported the utility of CICO in reducing problem behavior and increasing academic engagement in students. Research has shown CICO to be most effective for students sensitive to adult attention; CICO is less effective—without modification, for students whose problem behavior is maintained by escape or avoidance from academic tasks. Thus, this study addressed this gap in the literature by evaluating a modified version of CICO, designed as a comprehensive, targeted intervention for students exhibiting both academic and behavioral difficulties in school. Specifically, the present research examined 1) effects of implementation of the ABC intervention on student problem behavior and 2) effects of implementation of the ABC intervention on class work and homework completion and accuracy for students. In this chapter findings are discussed in relation to the previous research questions.

Summary of Findings

Overall, ABC was functionally related to reductions in problem behavior across all participants. Inspection of direct observation data shows an effect for changes in problem behavior for all participants; however, a stronger effect can be observed for off task behavior than disruption, across all participants. This is not surprising, considering the relatively low rates of disruption emitted by participants in general. In addition, features of the ABC intervention are more targeted at reducing off task behavior. For

example, students earned points for exhibiting on task behavior such as participating in class discussions.

Indirect measures suggest that ABC resulted in increased teacher ratings of student class work and homework completion and accuracy. Teacher ratings were generally higher for both work completion and accuracy during ABC phases when compared with baseline ratings.

When ABC was implemented, all teachers rated the intervention with high contextual fit for all participants. Teachers, parents, and students rated the intervention high in terms of acceptability. In general, teachers, parents, and students indicated that the ABC program resulted in improved academic performance and behavior at school, was worth the time and effort, was worth recommending to others, and was easy to implement.

Behavioral Mechanisms

Results of this study suggest that elements present in the ABC program were relevant enough to support decreases in levels of problem behavior as well as increases in rates of work completion and accuracy. Various mechanisms may contribute to this link and are discussed below.

Token economy. Token economies, or interventions that include contingencies in which tokens or points are given following the emission of targeted behaviors, have been implemented to decrease disruptive behaviors and increase appropriate behaviors. An extensive literature indicates clearly that token economies can be used to change a wide variety of behaviors, including on-task behavior, disruptive classroom behavior, and aggression, in many different populations of subjects (Ayllon & Roberts,1974; Ferritor,

Buckholdt, Hamblin, & Smith, 1972; Gaughan & Axelrod, 1989; Kazdin & Bootzin, 1972; Phillips, 1968). The ABC program utilizes a token economy in that points are given to students following the emission of targeted behaviors. Unlike CICO, points in the ABC program are tied to specific academic behaviors (i.e., asking for help appropriately, coming to class on time and prepared, and participating appropriately in class) that are relevant to the group of students that the program is designed to serve (i.e., students experiencing academic and organizational difficulties in school). In this way, it seems that ABC works to reinforce positive academic behaviors of students, and, in turn, to decrease problem behaviors such as off task behavior.

Organizational skills. Research suggests that organizational skills are vital for the academic success of some students, and that explicit instruction in organizational skills may result in academic gains for students (Lenz & Deshler, 1988). As students reach middle school, organization becomes an increasingly necessary skill. Students without academic skill deficits but who lack organizational and study skills may not succeed academically. For example, each of the participants in the current study had met state standards on standardized tests of math and reading, yet had low rates of work completion and were obtaining poor grades. Poor organizational skills may have contributed to the lack of academic success these participants were experiencing, as all participants were identified by their classroom teachers as lacking organizational skills and effective study habits.

The ABC program provides students with organizational support through (1) the use of the homework tracker, (2) the daily check-in, and (3) the daily check-out. The homework tracker not only provides a means for students to track all upcoming

assignments, but gives students daily monitoring and feedback on their use of the tracker. Classroom teachers review and sign students homework tracker each period, thus ensuring that students have accurately recorded assignments, due dates, and necessary materials. Organizational support is also provided at check-in and check-out, where the ABC Coordinator ensures that students are aware of all upcoming assignments and have the materials necessary to complete them. Taken together, the organizational support provided by the ABC program may have contributed to the increased rates of class work and homework completion and accuracy that were seen for participants in this study.

Function of behavior. Previous research has demonstrated that matching an intervention to the maintaining function of problem behavior is effective and appropriate for the general education setting (March & Horner, 2002; Newcomer & Lewis, 2004; Swain-Bradway, 2009). While CICO has been shown to be effective for students whose problem behavior is likely maintained by adult attention, research suggests that the program is less effective at reducing problem behaviors or increasing academic engagement for students whose problem behavior is likely maintained by escape from academic tasks (March & Horner, 2002; McIntosh et al., 2009).

Functional assessment results suggest that the function of problem behavior for all participants in the current study was escape from academic tasks; thus, results suggest that components of the ABC program are effective at reducing problem behaviors and increasing positive academic behaviors for this group of students. It is unknown what specific components of ABC are most effective; however, it may be that pieces of the ABC program effectively address the function of the escape behavior. The traditional CICO program is designed for students with the assumed hypothesis statement “when at

school, the student engages in problem behavior in order to obtain adult attention." The ABC program is designed for students with the assumed hypothesis statement, "during academic activities, the student engages in problem behavior in order to escape the academic task." The ABC program was designed to address each piece of this assumed hypothesis statement, in the same way that a function-based behavior support plan addresses antecedent interventions, behavior skill building, and consequence interventions. For example, the ABC program may address the function of the escape behavior by decreasing the overall difficulty of class and homework through the building of organizational skills. In addition, rewards in the ABC program are directly tied to the function of behavior, as students are able to earn rewards such as homework passes and break coupons. In this way, ABC allows students to access escape from tasks by exhibiting appropriate behavior, thus potentially increasing the likelihood that students will exhibit appropriate behavior.

Establishing operations. An abolishing operation is an environmental event that decreases the reinforcing effects of stimuli (Laraway, Snycerski, Michael, & Poling, 2003). The organizational components of the ABC program discussed above, as well as teacher feedback and reinforcement related to specific academic behaviors, may serve as an abolishing operation that makes escape less reinforcing for students on the program. For example, students on the program receive organizational support that is designed to make academic tasks less difficult. For students whose problem behavior is maintained by escape from difficult academic tasks, reducing the difficulty of academic tasks may serve as an abolishing operation that makes escape less reinforcing.

Behavior report cards. In addition to structural components of ABC that specifically address function of problem behavior, results are likely due in part to the use of the behavior report card in general. The present results support and extend findings indicating that a simple, cost-efficient system that defines and teaches behavioral expectations, increases the prompts for appropriate behavior, and increases the likelihood of contingent adult praise and rewards can improve the pattern of problem behavior (e.g., Dougherty & Dougherty, 1977; Hawken & Horner, 2003). Various mechanisms likely contribute to the documented success of behavior report cards at reducing problem behavior. For example, behavior report cards provide a prompt for teacher-student interaction prior to class, potentially serving as a pre-correction or establishing operation for positive teacher attention. In addition, behavior report cards utilize a token economy, as students typically earn points that are tied to rewards. As discussed above, research indicates that a token economy can be effectively utilized to decrease targeted problem behaviors for students. Finally, when used as part of a Check-in/Check-out system, behavior report cards allow students to access positive attention from an adult at the start and end of each school day. At the start of the day, this may function as a pre-correction or an establishing operation, and at the end of the day can function as positive reinforcement from a valued adult.

Directions for Future Research

The present study provides initial support for the effectiveness of the ABC intervention; however, research on ABC is still in its infancy. Suggested directions for future research are discussed below.

Comparison of CICO and ABC. The present study only evaluated effects of ABC as compared to baseline; therefore it is unknown whether CICO alone would have produced similar results for these participants. One participant (Toby) did participate in the CICO program during the previous school year and was removed from the program due to lack of progress. This anecdotal evidence suggests that ABC was a more effective intervention for that participant; however, this needs to be supported by empirical evidence. Future research should compare levels of problem behavior and positive academic behaviors for students on ABC as compared to CICO.

Component analysis of ABC. Future research should include components analysis to determine the most salient features of ABC. ABC included all of the original components of CICO; many of which are designed to provide positive adult attention and feedback (e.g., daily in-person checks in and out, brief teacher-student interactions). It is unknown whether these features are effective or necessary to the success of ABC. In addition, results of this study suggest that ABC is effective for students with problem behavior that is likely maintained by escape from academic tasks; however, it is currently unknown what specific features of the ABC program are most effective for these students.

Replication. The present study utilized a small sample size of 3 participants, and future research should replicate findings across greater numbers of participants. This research should also be replicated to determine the effectiveness of the ABC program outside of middle school (i.e., at the high school and elementary levels). In addition, future studies should examine effects of ABC across academic contexts. The present study only evaluated effects during one context per participant; therefore, it is unknown

whether ABC impacts behavior during different settings and across different times of the day. Future studies should also utilize direct measures to examine the impact of ABC on work completion and accuracy.

Feasibility of identifying function at Tier II. ABC holds promise as a secondary intervention that may be effective for students with problem behavior that is maintained by escape from academic tasks; however, it is currently unknown whether schools are able to accurately and efficiently place students in secondary interventions based on hypothesized function of behavior. Secondary interventions are designed to be an efficient means of support that students can access quickly after being referred. Future research should examine the feasibility of identifying function at Tier II prior to placing students in secondary interventions.

Implications for Practice

The present study indicates that ABC is effective in reducing classroom problem behavior across three middle school aged students. In addition, teacher ratings of work completion and accuracy increased across all three participants, a finding that is of particular importance because the ultimate goal of school is for students to succeed academically. Schools are currently in need of effective and efficient interventions for students who are at-risk for developing significant problem behavior *and* academic problems. While many interventions exist that address behavioral or academic concerns, it may be more efficient for schools to utilize interventions that are designed to support students experiencing both behavioral and academic difficulties in school. This study suggests that a relatively simple and efficient intervention can both reduce classroom problem behavior and increase rates of work completion and accuracy.

For schools already using CICO, ABC may be an efficient way to increase effectiveness of the program across a broader range of students. ABC requires only small modifications from CICO but may be more effective for those students whose problem behavior is hypothesized to be maintained by escape from academic tasks. Currently, it is common practice for schools to implement a single secondary intervention such as CICO for all students needing increased behavior support. If the intervention is not effective, schools may conduct a functional behavior assessment and use the results to design a more individualized support plan for the student. It may be more efficient for schools to utilize a continuum of interventions at Tier II, each geared towards different groups of students based on function of behavior. ABC may be one piece of this continuum. Importantly, in the present study, the same person was responsible for coordinating ABC and CICO. This indicates that ABC can be implemented with fidelity alongside CICO, allowing schools to have a continuum of Tier II supports without the need for increased resources.

In the present study, ABC was implemented with high fidelity, indicating that this intervention is feasible for teachers. This is important given the increasing demands being placed on classroom teachers and the limited amount of resources available in schools. Social validity results indicate that teachers, students, and parents all find ABC to be an acceptable intervention.

Limitations

The present study utilized a reversal design to control for threats to validity. Although the design controlled for several threats to validity, several threats to internal

and external validity exist and are described below along with other limitations. Limitations with the current study should prompt caution in interpreting the results.

Threats to internal validity. Although the use of a reversal design controlled for external factors that may have influenced study results, results should be considered in light of limitations presented below. The timing of observations present one possible threat to internal validity. Observations were conducted near winter break (for Toby) and near the end of the school year (for Katie and Nick), which may have resulted in possible setting events. For example, there were several special activities such as assemblies and field trips that may have made incentives provided from ABC less desirable to participants, thus resulting in an increase in problem behaviors. For example, increased levels of problem behavior were seen during sessions prior to and following Winter Break for Toby.

Threats to external validity. The present study took place only in one suburban middle school; therefore, results may not be generalizable to urban or rural settings. In addition, the present study took place in a school utilizing school-wide PBIS. Results may not have been the same in a school without a school-wide system of behavior supports. Results are also limited by the limited direct-observation data collected. Observations were only collected across 20-min sessions, three to four days per week, and were limited to one classroom setting per participant. ABC is designed to be implemented across the entire school day, and the effects of the intervention during other times are unknown.

Other limitations. The study gathered rigorous direct measures for student problem behavior; however, work completion and accuracy were measured only through

indirect measures (i.e., teacher ratings). These results should be interpreted with caution, as they reflect teacher perceptions of work completion and accuracy, which are subjective and may be influenced by a variety of factors. Results are also limited in that follow up data is only available for one participant, due to schedule changes and lack of time at the end of the school year.

While this study directly measured student problem behavior, indirect measures of problem behavior (e.g., office discipline referrals, ABC points) were not analyzed. An analysis of indirect measures would further support direct measures and strengthen the link between implementation of ABC and reductions of problem behavior.

Results may also be limited in that small incentives were provided for teacher and parent participation in the study. This may have resulted in increased rates of fidelity, as incentives were provided at the completion of the study and teachers and parents were expected to fulfill their designated responsibilities before receiving incentives. In particular, fidelity for parent participation in this study was higher than in previous CICO research (e.g., Hawken & Horner, 2003). This may be related to the use of incentives.

Overall, results suggest that the ABC program may be an effective secondary intervention for students exhibiting both behavioral and academic difficulties at schools. Moreover, this program may be effective at reducing problem behaviors and increasing desired academic outcomes for students with problem behaviors that are maintained by escape from academic tasks. While research on the ABC program is still in its infancy, this intervention holds promise as an effective and efficient secondary intervention that can be implemented alongside other secondary interventions as part of a school-wide system of behavior supports.

APPENDIX A

CHECK-IN/CHECK-OUT SELF-ASSESSMENT

Check-In / Check-Out Self-Assessment

School: _____ **Date:** _____

CICO Element	In Place	In Progress	Not In Place
1. Faculty and Staff Commitment for CICO defined			
2. Team Defined and Available to Coordinate program			
3. School-wide PBS in place			
4. Student Identification Process for CICO exists			
5. Daily CICO progress report card developed			
6. Home report process defined			
7. Point Trading System established			
8. Process for collecting, summarizing and using data developed			
9. Morning check-in routine established			
10.Teacher check-in/ check-out routine established			
11.Afternoon check-out routine established			
12.Home review routine established			
13. Team meeting schedule, routine, process			
14. Planning for Success in place			
15. Planning for Individualized Support Enhancement in place			
16. Substitute Teacher routine developed			
17. Playground, cafeteria, bus routine developed			

APPENDIX B

ORGANIZATIONAL AND STUDY SKILLS PROBLEMS CHECKLIST

Organizational and Study Skills Problems Checklist

Directions: The following questions are to be asked at the end of the FACTS interview. Place a check mark next to each item that the teacher responds "yes" to.

Does the student……

1) Have an unorganized notebook or no notebook at all? _____

2) Rarely/never use a planner to record assignments or use a planner but in a disorganized or messy way that does not help the student track assignments? _____

3) Have adequate academic skills but still get poor grades at school? _____

4) Frequently come to class unprepared, without all needed school supplies? _____

5) Have missing or incomplete assignments in your class? _____

6) Seem to need for increased structure? _____

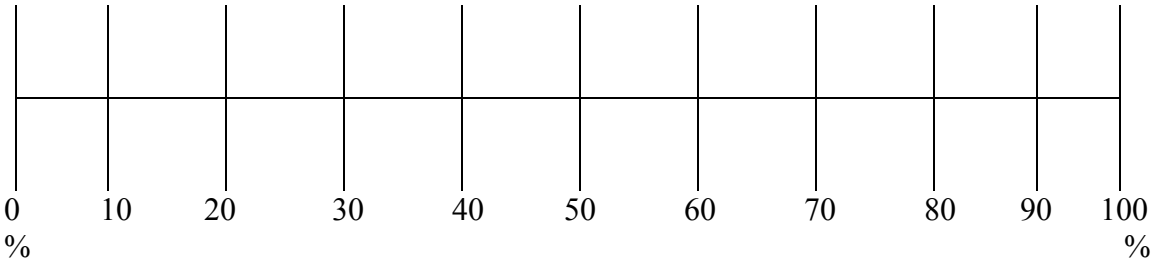
APPENDIX C

TEACHER RATING FORMS FOR WORK COMPLETION AND ACCURACY

Date _____

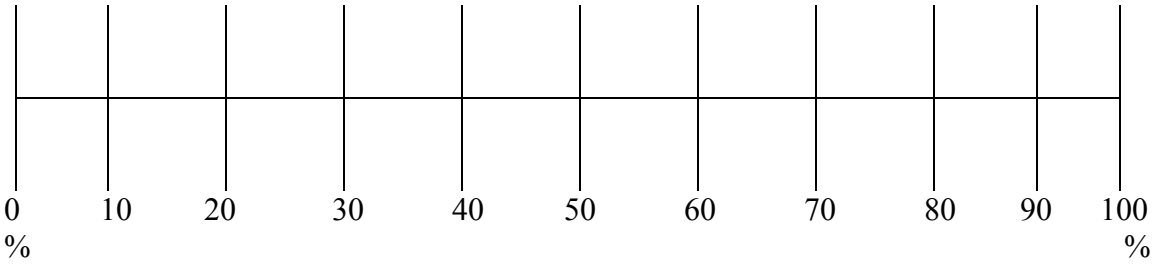
TOTAL COMPLETED CLASS WORK

Directions: Place a mark along the line that best reflects the percentage of total class work that the student completed today.



ACCURACY OF COMPLETED CLASS WORK

Directions: Place a mark along the line that best reflects the percent *accuracy* of total class work that the student completed today.



APPENDIX D

FIDELITY OF IMPLEMENTATION CHECKLIST

Observer ID _____ Student ID _____
Date_____

Directions: Use permanent products (e.g., student's point card, ABC roster) to indicate whether the following components occurred on the day you observed.

Fidlity of Implementation Question	Yes	No	Don't Know
a. Did student check in with designated staff in the morning?			
b. Did coordinator provide student with daily point card?			
c. Did coordinator award bonus point if student was prepared for the day, or mark "0" if student was not prepared for the day?			
d. Did coordinator award bonus point if student completed all homework, or mark "0" if student did not complete all homework?			
e. Did student take the point card to each teacher to obtain feedback?			
f. Did each teacher sign homework tracker?			
g. Did student check out with staff at the end of the day?			
h. Bonus point awarded for using HW tracker?			
i. Did student earn reward, if applicable?			
j. Did parents sign to indicate if student completed all homework?			

Score:

_____ / _____ X 100 = _____

of "yes" # of yes + no Fidelity Score

APPENDIX E

SELF-ASSESSMENT OF CONTEXTUAL FIT (MODIFIED)

Self-Assessment of Contextual Fit in Schools

Horner, Salentine, & Albin, 2003
(modified by Jessica Turtura on March 8, 2009)

The purpose of this interview is to assess the extent to which the elements of the Academics and Behavior Check-in/Check-out (ABC) program fit the contextual features of your school environment. The interview asks you to rate (a) your knowledge of the elements of ABC, (b) your perception of the extent to which the elements of ABC are consistent with your personal values, and skills, and (c) the school's ability to support implementation of ABC. The information you provide will be maintained and reported in a confidential manner consistent with the standards of the American Psychological Association. You will never be identified.

Thank you for your contribution and assistance.

ID: _____ Role : _____

Knowledge of elements in ABC.

1. I am aware of the elements of ABC.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

2. I know what I am expected to do to implement ABC.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Skills needed to implement ABC

3. I have the skills needed to implement ABC.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

4. I have received any training that I need to be able to implement ABC

   No training needed _____

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Values are consistent with elements of the ABC program

5. I am comfortable implementing the elements of ABC.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

6. The elements of ABC are consistent with the way I believe students should be treated.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Resources available to implement the ABC program

7. My school provides the faculty/staff time needed to implement ABC.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

8. My school provides the funding, materials, and spaced needed to implement ABC.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Administrative Support

9. My school provides the supervision support needed for effective implementation of ABC.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

10. My school administration is committed to investing in effective design and implementation of secondary interventions (e.g., CICO, ABC).

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Effectiveness of ABC

11. I believe the ABC program will be (or is being) effective in achieving targeted outcomes.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

12. I believe the ABC program will help prevent future occurrence of problem behaviors for this child.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

The ABC program is in the best interest of the student

13. I believe ABC is in the best interest of the student.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

14. The ABC program is likely to assist the child to be more successful in school.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

The ABC Program is efficient to implement

15. Implementing ABC will not be stressful.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

16. The amount of time, money and energy needed to implement ABC is reasonable.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

APPENDIX F

BEP ACCEPTABILITY QUESTIONNAIRE (MODIFIED)

Hawken & Horner, 2003
modified by Jessica Turtura on March 9, 2009

ABC ACCEPTABILITY QUESTIONNAIRE

The purpose of this questionnaire is to assess your perception of the Academics and Behavior Check-in/Check-out (ABC) program. The information you provide will be maintained and reported in a confidential manner consistent with the standards of the American Psychological Association. You will never be identified. **Thank you for your contribution and assistance!**

1. The ABC program improved _____'s behavior at school.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

2. The ABC program improved _____'s academic performance.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

3. The ABC program was worth the time and effort.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

4. The ABC program is worth recommending to others.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

5. The ABC program is easy to implement.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

APPENDIX G

KNOWLEDGE OF ABC SURVEY

Coordinator Knowledge of Academics and Behavior Check-in/Check-out

Date _____
ID_____ **Pre or Post (circle one)**

Please circle your answer for the following questions.

1. Does your school have specific school-wide rules or expectations?

   Yes No

   a. If so, what are the expectations?

      _____
      _____
      _____

Questions below are designed to assess your familiarity with *Academics and Behavior Check-in/Check-out (ABC)*, which is a modified version of CICO. If you are not familiar with ABC, that is okay.

2. Which students is the ABC program designed to work for?
   a. The same students as CICO
   b. Students who engage in problem behavior to get attention from other students
   c. Students with academic skill deficits
   d. Students who engage in problem behavior to escape or avoid a task at school

3. List 3 differences between the ABC program and CICO:
   1)_____
   2)_____
   3)_____

4. At check-in, how will the coordinator know if a student has completed all homework due that day?
   a. By checking to see if parents have signed the point card
   b. By asking the student
   c. By looking through the student's backpack
   d. All of the above

5. In addition to traditional CICO check-in, an ABC check-in also includes the following (circle all that apply):
    a. Check to see if students have all materials needed for the day
    b. Award bonus points
    c. Check to see if students have completed all homework due
    d. Give out tangible rewards to all students

6. The home component of ABC:
    a. Is the same as in CICO
    b. Focuses on increasing communication between home and school about homework completion
    c. Encourages parents to provide rewards and/or punishment at home
    d. There is no home component in the ABC program

7. Students' goals on the ABC program:
    a. Are tied to school-wide expectations
    b. Are specific to academic behaviors
    c. Include a goal related to recording assignments on a homework tracker
    d. All of the above

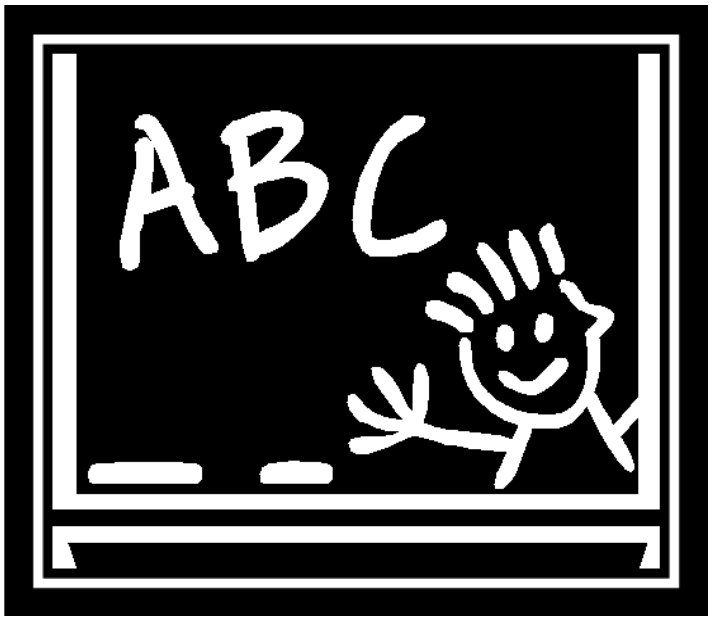
8. The goal of an ABC parent meeting is to:
    a. Introduce parents to the components of the ABC program
    b. Help parents develop a routine for helping their child with homework
    c. Teach parents what their role will be in the home component
    d. All of the above

APPENDIX H

IMPLEMENTATION & PROCEDURES WORKBOOK

Academics and Behavior Check-in/Check-out

Implementation & Procedures Workbook



Developed by:
Jessica Turtura, MS & Cynthia M. Anderson, PhD

Academics and Behavior Check-in/Check-out

Background and Purpose

Academics and Behavior Check-in/Check-out (ABC) is a modified version of Check-in/Check-out that is designed for students exhibiting both academic and behavioral difficulties in school. ABC is specifically designed for students with organizational skill deficits that contribute to their problem behavior in school.

While Check-in/Check-out (CICO) is successful at reducing problem behavior of many students on the program, it is usually most effective for students who engage in problem behavior in order to get attention from adults. The ABC program is designed to work for a group of students that may not be as successful on CICO- students who in engage in problem behavior to escape or avoid a task in school. These students often have organizational skill deficits as well.

While you may already be using some of the components of ABC for some students, ABC is designed to be a systematic intervention that can be used across a group of students. This way, you can save time and resources by not having to modify CICO each time a student is not successful on the program.

The components of ABC implementation include:

1. *Materials*
2. *Developing Expectations & Rewards*
3. *ABC Daily Cycle*
4. *Holding an ABC Parent Meeting*
5. *Teaching ABC to Students*

Materials

In addition to your regular CICO materials, you will need a few additional materials for ABC.

- *ABC Daily Point Card and Homework Tracker (sample provided)*: The ABC daily point card is very similar to the CICO point card that your school is already using. You can choose to use the sample point card that is provided, or you can just modify your school's existing point card. The key difference is a space to track homework on the back of the card.

- *Rewards*: In addition to any rewards that your school may already be using for CICO, you will develop a list of rewards that are specific to students on the ABC program. These rewards will be designed to be reinforcing for students who engage in problem behaviors in order to escape or avoid academic tasks. For example, rewards may include extra time for an assignment or break coupons.
- *Student Materials*: As part of the daily check-in, you will check to see that students are prepared for the day with all necessary materials. If a student does not have all necessary supplies for the day, you will provide them with the tools that they need to be successful. Materials may include pencils, pens, and paper.

Getting Started: Develop Expectations & Rewards

Develop Expectations
In the CICO program, students work towards goals that are tied to school-wide expectations. Students on the ABC program have academic as well as behavior difficulties, so the school-wide expectations will be defined specifically in terms of academic behaviors.

- What are the school-wide expectations for your school?
    1. _____
    2. _____
    3. _____
    4. _____
    5. _____
-
- How can each expectation be defined in terms of academic behavior? (for example, “Be Responsible” may be defined as “Complete all class assignments”.)

  These will be the daily goals that students will work toward. In addition to the 3-5 goals tied to your school-wide expectations, include an extra goal. This extra goal will be “Record assignments accurately on homework tracker”.

    1. _____
       _____
    2. _____
       _____
    3. _____
       _____
    4. _____
       _____
    5. _____
       _____

- Provide at least two examples and non-examples for each goal that you can use to teach your students the expectations:

1. _____
    - Examples:
    - Non-Examples

2. _____
    - Examples:
    - Non-Examples:

3. _____
    - Examples:
    - Non-Examples:

4. _____
    - Examples:
    - Non-Examples:

5. _____
    - Examples:
    - Non-Examples:

Consider Rewards

Earning positive recognition or a reward for reaching a goal is an important piece of ABC that allows students to feel motivated and successful. In addition to any rewards that you may already be using for the CICO program, you will develop a list of rewards that are specific for students on the ABC program. Keep in mind that students on the ABC program engage in problem behavior in order to escape or avoid tasks at school. The rewards that you choose should let students earn a chance to escape or avoid a task when they engage in appropriate behavior at school and meet their goal for the week. For example, a student may earn extra time to complete an assignment or a Break Coupon that they can use for a 5-minute break.

ABC Rewards Worksheet

Use this space to come up with some rewards that you think will be reinforcing for students on the ABC program:

1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

9._____

10._____

ABC Daily Cycle

The ABC program has four main components that will happen each day: 1) Morning check-in, 2) Daily point card/homework tracker, 3) Afternoon check-out, and 4) Home component. Each of these components is similar to the way you are already using CICO, so it shouldn't be too difficult to get the hang of ABC!

- *Morning Check-in*:
  - The morning check-in will look the same as for students on CICO, but will include a few additional pieces. After returning the previous day's signed point card and getting a new daily point card, students will show you that they are prepared for the school day with all needed materials. If students are prepared, you will give them a bonus point on their point card. If students are not prepared, you will have some supplies on hand to give to them.
  - Next, you will check the previous day's point card to see if students have completed all of their homework. The point card has a place for parents to sign and indicate if their student has completed all of their homework or not. If students have completed all homework, you will give them a bonus point on their point card. If students have not completed all homework, they will be given the opportunity to do so. They can either stay at the check-in to complete the homework, or can be given a homework pass and will be expected to complete the homework later in the day (maybe during recess or a free period). If this happens more than 3 times in 2 weeks, the student is in need of more intensive intervention and will no longer participate in the ABC program.
  - Finally, provide students with some positive encouragement ("Have a great day!") and send them off to class.

- *Daily Point Card/Homework Tracker:*
  - The daily point card should look very similar to your school's CICO card. One main difference is that students' daily goals will be more specific than just the school-wide expectations. Each school-wide expectation will be

defined in terms of academic behavior. You will use the goals that you came up with earlier in this training. Also, all students will have an additional goal related to correctly recording assignments on their homework tracker, which will be located on the back of the point card.
    - Just like in CICO, students can earn up to 2 points for meeting each goal in each class period. Unlike CICO, the ABC card will only be used in academic settings.

- *Afternoon Check-out:*
    - Students will briefly check out with you each afternoon. You will review their point card and determine if they have met their daily goal of earning 80% of possible points. If students have met their goal, give them positive verbal feedback ("Great job! I can tell you worked really hard today.") If you are using small daily rewards for students on CICO, you can use them for students on ABC also.
    - If students have not met their goal, give them brief neutral feedback ("Let's try harder tomorrow.")
    - Each week, students who have met their goal on 4 out of 5 days can earn a weekly reward. Students can choose a reward from the list that you have developed.
    - Each afternoon, you will briefly review each student's homework tracker with them and make sure they know what is due. Briefly develop a plan with each student for what they will need to do that evening to complete all of their assignments.
    - At the end of the check-out, remind students to review the homework tracker with their parents and to have parents sign their point card.
    - Be sure to end the check-out with positive encouragement such as "Have a great evening, see you tomorrow!").

- *Home Component:*
    - Each day after school, students will show parents their daily point card and homework tracker. Students should review their homework with parents each night, and get their parents signature. Students should also be

prepared to return the previous day's signed point card to you the next day, at check-in.

Holding an ABC Parent Meeting

You will have one 45-minute meeting with each student's parents, before the student begins the ABC program. All the materials that you need to conduct this meeting are included in the "ABC Parent Guide." The goals of the parent meeting are to: 1) Introduce parents to the components of ABC, 2) Help parents come up with a routine and strategies for helping their child with homework, 3) Teach parents their role in the home component, and 4) Review appropriate ways of responding on days that a student meets his goal and on days that they do not meet their goal.

Now, let's get out the "ABC Parent Guide" and go through each of these pieces in more detail.

Teaching ABC to Students

You will have a brief meeting with each student before they begin the ABC program. This meeting should look very similar to meetings that you have with students before they begin the CICO program. The goals of the student meeting are to: 1) Introduce the student to the components of ABC, 2) Teach the student the daily goals and how they can meet these goals each day, and 3) Review the list of rewards with the student and find out which rewards they would like to work towards. It may be helpful to go through each component of the ABC program, and teach students what to expect for each part of the program. Here are some suggestions for introducing each piece of the program to students:

- *Morning Check-in*:
    - First, tell the students where they should come to check-in each morning, and at what time. Next, briefly role-play what a typical check-in will look like. Students will: 1) turn in yesterday's signed point card, 2) show the coordinator that they are prepared for the day with all necessary materials, 3) show the coordinator that they have

completed all of their homework, 4) get a new point card, and 5) earn bonus points if applicable.
    - You should also be sure to explain the homework policy to students. If students are not completing their homework on a regular basis, they are likely in need of more intensive intervention and will not longer be eligible for the ABC program.

- *Daily Point Card/Homework Tracker:*
    - Show students the daily point card and homework tracker. First, review the daily goals, using the examples and non-examples that you came up with earlier. Have students come up with some of their own examples and non-examples for how to meet each goal. Next, teach students to turn in their point card to teachers at the beginning of each academic period and get the card back at the end of each period. Students should expect to get feedback from teachers and should also make sure that teachers sign the homework tracker.
    - Teach students how to use the homework tracker. Tell students that they will need to record assignments during each academic period. Also, teach students that if they do not know what the assignment is, they should ask their teacher at the end of the period.

- *Afternoon Check-out:*
    - First, tell students where they should come to check-out each afternoon, and at what time. Next, briefly role-play what a typical check-out will look like. Students will show you their point card and determine if they have met their daily goal. If they have met their goal, they may earn a small daily reward and will also earn points toward a weekly reward. If they have not met their goal, they should expect to receive brief and neutral feedback from you. Finally, students should be prepared to review their homework tracker with you and develop a plan for completing assignments.

- *Home Component:*
    - Tell students that each day after school, they will show their parents their daily point card and homework tracker. Students should expect to review their homework with parents each night, and get their parents signature. Students should also be prepared to return the previous day's signed point card to you the next day, at check-in.

Communicating With Teachers

Before beginning the ABC program with a student, it will be important for you to notify the student's teachers. All teachers will already have been introduced to the ABC program, so they should have a general idea of what their role is. At the end of this workbook, you will find a sample letter that you may want to give to teachers before their student begins the program

After meeting with parents and students, and communicating with teachers, you are ready to get started!

Feel free to contact the Project Coordinator at any time with any questions or concerns you may have along the way.

Contact Information

Project Coordinator:
Email:
Phone:

Sample Letter to Teachers
(adapted from Crone, Horner, & Hawken, 2004)

Attention Teachers:

_____ will begin a modified version of Check-in/Check-out called Academics and Behavior Check-in/Check-out (ABC). The following modifications will be made.

1. _____'s point card will have goals that are specifically tied to academic behaviors.

2. _____ will be expected to record all homework assignments on a homework tracker that is located on the back of their point card. Please briefly review his or her homework tracker at the end of your period each day. If all assignments due have been accurately recorded, please award 2 points on the point card. If some but not all assignments due have been recorded, please award 1 point. If no assignments have been recorded, do not award any points. If this happens, please tell the student what is due so that they can record it on their tracker. Finally, please initial the tracker to show that the student has recorded assignments accurately.

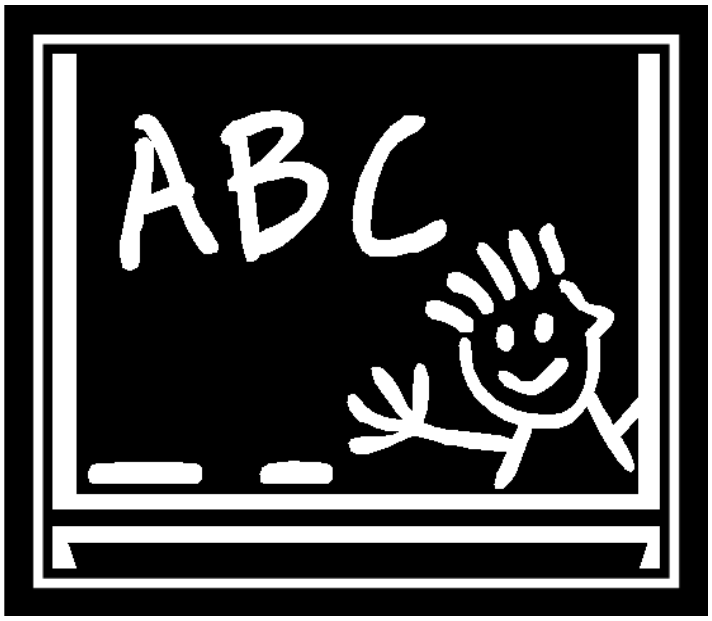
Thank you for your cooperation with the ABC program. If you have any questions, please contact _____, the ABC coordinator.

APPENDIX I

PARENT GUIDE

Academics and Behavior Check-in/Check-out

A Guide for Parents



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Academics and Behavior Check-in/Check-out

Background

Academics and Behavior Check-in/Check-out (ABC) is a modified version of Check-in/Check-out that is designed for students exhibiting both academic and behavioral difficulties in school. ABC is specifically designed for students with organizational skill deficits that contribute to their problem behavior in school.

Check-in/Check-out (CICO) is a program that your child's school currently uses to help students be more successful at school. The CICO program usually works best with students who engage in problem behavior in order to get attention from adults. The ABC program is designed to work for a group of students that may not be as successful on CICO- students who in engage in problem behavior to escape or avoid a task in school. These students often have organizational skill deficits as well.

Expectations & Rewards

Develop Expectations
In the ABC program, students work towards goals that are tied to school-wide expectations. Students on the ABC program have academic as well as behavior difficulties, so the school-wide expectations will be defined specifically in terms of academic behaviors.

- The school-wide expectations for your child's school are:
    1. _____
    2. _____
    3. _____
    4. _____
    5. _____

- The daily goals that your child will work towards are:
  1. _____
  2. _____
  3. _____
  4. _____
  5. _____

- Here are some examples and non-examples for each goal:

  1. _____
     - Examples:
     - Non-Examples

  2. _____
     - Examples:
     - Non-Examples:

  3. _____
     - Examples:
     - Non-Examples:

  4. _____
     - Examples:
     - Non-Examples:

  5. _____
     - Examples:
     - Non-Examples:

Consider Rewards
Earning positive recognition or a reward for reaching a goal is an important piece of ABC that allows students to feel motivated and successful. Students on the ABC program will earn a reward when they have met their weekly goal. Students will be able to choose a reward from a list that has been developed specifically for students on the ABC program. For example, a student may earn a Homework Pass or a Break Coupon that they can use for a 5-minute break.

ABC Daily Cycle
The ABC program has four main pieces that will happen each day: 1) Morning check-in, 2) Daily point card/homework tracker, 3) Afternoon check-out, and 4) Home component.

- *Morning Check-in*:
    - Each morning, your child will check in with the ABC coordinator. First, they will return the previous day's signed point card and will get a new daily point card.
    - Next, they will show the ABC coordinator that they are prepared for the school day with all needed materials. If your child is prepared, they will earn a bonus point on their point card. If they are not prepared, the coordinator will have some supplies on hand to give to them.
    - After that, the coordinator will check the previous day's point card to see if your child has completed all of their homework. The point card has a place for parents to sign and indicate if their child has completed all of their homework or not. If your child has completed all homework, they will earn a bonus point on their point card. If they have not completed all homework, they will be given the opportunity to do so. They can either stay at the check-in to complete the homework, or can be given a homework pass and will be expected to complete the homework later in the day (maybe during recess or a free period). If this happens more than 3 times in 2 weeks, the student is in need of more intensive intervention and will no longer participate in the ABC program.

- Finally, the coordinator will provide your child with some positive encouragement ("Have a great day!") and send them off to class.

- *Daily Point Card/Homework Tracker:*
  - Each day, your child will have a point card where they can earn points for meeting their daily goals (see sample).
  - Students can earn up to 2 points for meeting each goal in each class period. The ABC card will only be used in academic settings.
  - On the back of the point card, there is a homework tracker. This is where your child will record their homework assignments for each class. Each teacher will sign the tracker to make sure that your child has correctly recorded the assignment.

- *Afternoon Check-out:*
  - Your child will briefly check out with the ABC coordinator each afternoon. The coordinator will review their point card and determine if they have met their daily goal of earning 80% of possible points. If students have met their goal, the coordinator will give them positive verbal feedback ("Great job! I can tell you worked really hard today.") If the school is using small daily rewards for students on CICO, they may use them for students on ABC also.
  - If your child has not met their goal, the coordinator will give them brief neutral feedback ("Let's try harder tomorrow.")
  - Each week, students who have met their goal on 4 out of 5 days can earn a weekly reward. Students can choose a reward from a list that the coordinator has developed.
  - Each afternoon, the coordinator will briefly review your child's homework tracker with them and make sure they know what is due. The coordinator will briefly develop a plan with your child for what they will need to do that evening to complete all of their assignments.
  - At the end of the check-out, the coordinator will remind your child to review the homework tracker with you and to have you sign their point card.

- The coordinator will end the check-out with positive encouragement such as “Have a great evening, see you tomorrow!”.

- *Home Component:*
  - Each day after school, your child will show you their daily point card and homework tracker. If they don’t offer to show you, you should ask to see it.
  - Check to see if your child has met their goal for that day. If they have, go ahead and give them some positive encouragement. You can say something like “Great job! I’m proud of you.”
  - If your child has not met their goal, you can just give them some brief neutral feedback. You can say something like “Try harder tomorrow.”
  - You will review the homework tracker with your child to see what assignments are due the next day. In the next section, we will talk about some strategies and tips for helping your child with their homework.
  - Make sure that you sign the point card before your child heads to school the next day. There will be a spot for you to sign if your child has completed all of their homework, and a spot for you to sign if they have not.

Helping Your Child with Homework (Clark & Clark, 1989)
Homework can be stressful for both parents and children. It seems like there's never enough hours in the day to get everything done! Here are some tips that might help you help your child with their homework. These are things that are meant to be easy to do, and will fit into your busy schedule.

- Establish a Routine:
    - Homework should be done at the same time and place every day. Work with your child to decide when and where they will do homework each day. For example, they may decide to do homework at 7:00 each evening, in their bedroom. Or, they may choose to join Homework Club and do homework right after school each day.
    - What is most important is that you and your child develop a *homework routine*. This way, your child will always know when and where they are expected to do their homework each day.

- Planning a Project:
    - At the middle school level, many assignments may be longer-term projects. Here are some tips on helping your child plan a project.
        - Help your child decide on a subject that they are interested in, that meets the teacher's criteria, and that has enough, but not too much, information.
        - Make a list of the steps needed to do the project.
        - Estimate the time needed for each step of the project.
        - Make a list of materials that will be needed.
        - Make a timetable of when each step needs to be done.
        - Check in with your child frequently to make sure they are on track for meeting the due date.
- Organization:
    - Getting organized is often one of the hardest skills for middle school students, but it's also one of the most important. Here are some tips on helping your child get organized.

- An organized notebook contains everything your child needs for homework. When held by its spine and shaken, nothing should fall out.
- You child's notebook should include separate sections for each class, and folders that are labeled with each subject.
- If teachers require separate spiral notebooks for each subject, but a larger notebook to hold these.

Getting Started

Now that you know all about ABC, you are ready to help your child succeed on this program. You child will begin the ABC program on _____.

The ABC Coordinator, _____ will available to answer any questions you may have.

You can also feel free to contact the Project Coordinator at any time with any questions or concerns you may have along the way.

Contact Information

ABC Coordinator: **Email:** **Phone:**	**Project Coordinator:**

APPENDIX J

ABC DAILY POINT CARD

NAME _____ **DATE**_____**GOAL**_____**GOAL MET?**____

Scale: 2 = Excellent 1 = Needs Work 0 = Unacceptable

Teacher Initial	**Be Responsible:** On time, prepared for class, homework done and turned in	**Be Respectful:** Participate appropriately in class, stay on task	**Be Safe:** Ask for help appropriately	***TOTALS***
Per. 1	2 1 0	2 1 0	2 1 0	
Per. 2	2 1 0	2 1 0	2 1 0	
Per. 3	2 1 0	2 1 0	2 1 0	
Per. 4	2 1 0	2 1 0	2 1 0	
Per. 5	2 1 0	2 1 0	2 1 0	
BONUS POINTS	**Prepared for the school day**	**All homework completed**	**HW recorded on checklist**	
	2 1 0	2 1 0	2 1 0	
			GRAND TOTAL:	**/30**

APPENDIX K

HOMEWORK TRACKER

NAME_____ **DATE**_____ **GOAL**_____ **GOAL MET?**_____

HOMEWORK TRACKER				
Per.	**Assignment**	**Due on…**	**Materials Needed**	**Teacher Initial**
1				
2				
3				
4				
5				

Parents, please sign and return to school tomorrow morning:

PARENT SIGNATURE: _____ My child **has** completed all homework due

_____ My child **has not** completed all HW

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