

6-30-2016

Use of the Individualized Behavior Rating Scale Tool (IBRST) as a Self-Monitoring Tool to Improve Classroom Behavior

Dominique Frances Martinez

University of South Florida, dfmartinez@mail.usf.edu

Follow this and additional works at: <http://scholarcommons.usf.edu/etd>

 Part of the [Social and Behavioral Sciences Commons](#)

Scholar Commons Citation

Martinez, Dominique Frances, "Use of the Individualized Behavior Rating Scale Tool (IBRST) as a Self-Monitoring Tool to Improve Classroom Behavior" (2016). *Graduate Theses and Dissertations*.
<http://scholarcommons.usf.edu/etd/6315>

This Thesis is brought to you for free and open access by the Graduate School at Scholar Commons. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.

Use of the Individualized Behavior Rating Scale Tool (IBRST) as a Self-Monitoring Tool to
Improve Classroom Behavior

by

Dominique Frances Martinez

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

Major Professor: Kwang-Sun Cho Blair, Ph.D., BCBA-D
Heather Peshak George, Ph.D.,
Jolenea Ferro, Ph.D., BCBA-D

Date of Approval:
June 24, 2016

Keywords: behavior rating scale, daily report card, IBRST

Copyright © 2016, Dominique Frances Martinez

Dedication

I dedicate this manuscript to Hogan James Smith, whose life was and is a constant reminder to always put forth the maximum effort in all things in life and love. I would also like to dedicate this manuscript to my mother, Lourdes Brezo, for teaching me that barriers can and will always be overcome.

Acknowledgements

I would like to express my gratitude to my thesis committee members, Dr. Heather Preshack George and Dr. Jolene Ferro, for their input and help with my manuscript. I would also like to thank my thesis advisor, Dr. Kwang-Sun Cho Blair, for shaping my writing behavior and encouraging me to be the best researcher I could be. Thank you for providing unconditional aid and guidance through this process.

Table of Contents

List of Tables	iii
List of Figures	iv
Abstract	v
Introduction	1
Method	7
Setting	7
Participants	7
Recruitment procedures	8
Students	9
Teachers	10
Measurement	11
Direct observation of problem behavior and on-task behavior	11
IBRST	12
Treatment integrity	13
Social validity	14
Inter-observer agreement (IOA)	15
Experimental Design and Procedures	17
Teacher training	17
Baseline	18
Student training	18
Intervention	19
Fading and follow-up	23
Results	24
Student behavior during self-monitoring with the IBRST	24
Student behavior in fading and follow-up	25
IBRST data	26
Social validity	27
Discussion	32
Limitations	34
Implications for practices and future studies	35
References	37

Appendices.....	45
Appendix A: Student and Parent Recruitment Form	46
Appendix B: Teacher Interview	47
Appendix C: Data Sheet.....	48
Appendix D: Sample Student Individualized Behavior Rating Scale Tool (IBRST).....	49
Appendix E: Sample Teacher Individualized Behavior Rating Scale Tool (IBRST).....	50
Appendix F: Parent Involvement (Back of IBRST)	51
Appendix G: Teacher Fidelity Checklists.....	52
Appendix H: Teacher Acceptability Questionnaire.....	53
Appendix I: Student Acceptability Questionnaire	55
Appendix J: Fidelity Checklist for Teacher Training	56
Appendix K: USF IRB Approval.....	57

List of Tables

Table 1:	Operational definitions of target behaviors for each student	12
Table 2:	Mean IOA across phases and behaviors for each student.....	15
Table 3:	Mean and range percentage of agreements between student ratings and teacher rating.....	16
Table 4:	Teacher responses on the acceptability questionnaire (modified IRP15).....	30
Table 5:	Student responses on the acceptability questionnaire.....	31

List of Figures

Figure 1:	Number of problem behavior and percentage of on-task behavior across phases and participants	28
Figure 2:	Teacher completed IBRST scores for problem behavior and on-task behavior across students and phases.	29

Abstract

Research on self-monitoring in the classroom setting has shown decreases in problem behavior and increases in academic engagement in students. Behavior rating scales can be used by teachers to monitor student progress or by students as a self-monitoring tool. The current study examined the impact of using the Individualized Behavior Rating Scale Tool (IBRST) as a self-monitoring tool on problem and on-task behavior in students in a high-need public elementary school. The results indicated that the self-monitoring with the IBRST successfully decreased disruptive behavior and increased on-task behavior in all 3 participating students during targeted academic time periods, evidenced by both direct observations and teacher-collected IBRST data. Improved levels of behaviors were maintained during fading with all 3 students and at 1-week follow-up with 2 students. The results also showed that both teachers and students had high levels of satisfaction with the self-monitoring procedures using the IBRST.

Keywords: behavior rating scale, self-monitoring, daily report card, IBRST

Introduction

Problem behavior in the classroom has a negative impact on academic success for all students (Kazdin, 1987; Ruhl & Berlinghoff, 1992). Responding to student problem behavior by teachers during class often results in a reduction of instructional time for both the students engaging in problem behavior and others in the classroom (Sugai & Horner, 1994; Walker, Ramsey, & Greshan, 2003). When more than one student engages in problem behavior in the classroom, it can create a challenging environment that impedes student learning and achievement (Greenwood, Horton, & Utley, 2002). As a result, most interventions for classroom behavior focus on reducing problem behavior, such as disruption and off-task, and increasing academic engagement (Ennis, Blair, & George, 2015; Logan, Bakeman, & Keefe, 1997; Wilson & Lipset, 2007). The literature shows a strong relationship between academic engagement and performance (Finn, 1993; Finn & Rock, 1997).

A variety of individual and class-wide interventions have been reported as effective for increasing academic engagement time and decreasing problem behavior, such as video modeling (Clare, Jenson, Kehle, & Bray, 2000), Social Stories™ (Crozier & Tincani, 2005), response cards (Lambert, Cartledge, & Heward, 2006), and group contingencies (Lannie & McCurdy, 2007). Lannie and McCurdy (2007) used the Good Behavior Game, a group contingency intervention, as a class-wide intervention to decrease disruptive behavior and increase on-task behavior in a first grade class. The intervention consisted of students working in teams to earn a reinforcer. Individual interventions provide similar results to those of class-wide interventions.

Crozier and Tincani (2005) used Social Stories™ with and without prompts as an individual intervention to decrease disruptive behavior in children with Autism Spectrum Disorder.

One intervention for problem behavior in the classroom is teaching self-monitoring skills to students. Self-monitoring, a type of self-management intervention (Schloss & Smith, 1998), has widely been used in educational settings for improving a variety of academic and non-academic behaviors in students with and without disabilities (Dunlap et al., 1995; Fuches, Fuches, Bahr, Fernstrom, & Stecker, 1990; Ganz, 2008; Mathes & Bender, 1997; Rafferty, Arroyo, Ginnane, & Wilczynski, 2011; Rock, 2005). Self-monitoring has been shown to be an effective intervention to increase academic engagement, decrease disruption, and enhance academic performance across reading and math (Carr & Punzo, 1993; DiGangi, Maag, & Rutherford, 1991; Levendoski & Cartledge, 2000; Todd, Horner, & Sugai, 1999). Often, researchers used self-monitoring to teach productivity, accuracy, and academic engagement in addition to decrease problem behavior (Rock, 2005). However, most of the studies on self-monitoring procedures targeted children with disabilities (e.g., Axelrod et al., 2009; Webber, Scheuermann, McCall, & Coleman, 1993). Limited research on self-monitoring has addressed the needs of students at-risk for developing disabilities in general education settings (Moore, Anderson, Glassenbury, Lang, & Didden, 2013).

Self-monitoring procedures utilize students as their own observer and data collector (Amato-Zech, Hoff, & Doepke, 2006) and require using audio, visual, or tactile cues to prompt students to rate or score their behavior (Axelrod et al., 2009; Brooks et al., 2003; Edwards et al., 2008; Holifield, Goodman, Hazelkorn, & Heflin, 2010; Petscher & Bailey, 2006). The focus has been on teaching students to self-monitor on-task behavior or performance (Lloyd, Batman, Landrum, & Hallahan, 1989). For example, Rock (2005) trained students to self-record attention

(engagement) and academic performance (productivity and accuracy) data during math independent seatwork by using a self-monitoring work plan and a timing device. The students were instructed to record a check mark on their self-monitoring sheet if their present behavior resembled their goal behavior for paying attention. They were as asked to record the number of problems completed or pages read on the recording sheet for performance at the end of each 5-min interval. In training students to use the self-monitoring procedures, behavior skills training procedures, which include instruction, modeling, role-play, and feedback, have been used (Webber, Scheurmann, McCall, & Coleman, 1993).

One of the benefits of using self-monitoring in the classroom is the ease of implementation by teachers, placing few demands on the teachers' time and resources (Barkley, Copeland, & Sivage, 1980; Moore et al., 2013). Self-monitoring creates an easy way for students to collect and monitor their own behavior, allowing immediate recording of behavior during targeted activities (Ganz, 2008). This means that the teacher does not lose time during instructional lessons. However, if the self-monitoring intervention uses teacher prompted cues, teacher instructional time may be decreased. Therefore, using signals or cues that can be delivered automatically through an electronic device would be a viable option to lessen the loss of instructional time (Moore et al., 2013).

Self-monitoring requires the use of data recording systems such as checklists (Dalton et al. 1999), behavior rating scales (Smith et al., 1988), behavior recording logs (Axelrod et al., 2009), and daily report cards (Riley-Tillman, Methe, & Weegar, 2009). For example, Axelrod et al. (2009) showed an increase in on-task behavior in four male teenagers with behavioral disorders with a behavior recording log used on a 3- and 10- min fixed interval schedule.

In several studies, behavior rating scales have been used to implement the self-monitoring procedures (DuPaul et al., 1998; Smith et al., 1992). Smith (1992) showed that using behavior rating scales in self-recording was effective in decreasing disruptive behavior in high school students with behavior or learning disabilities. The author gave the participants a point card where the students rated their own behavior on a 10-s interval schedule. The students earned points for matching their ratings with the teacher's rating of the student's behavior.

Daily behavior report cards (DBRCs) are a type of behavior rating scale, which incorporate direct behavior observation and measure behavior perceptually (Dalton, Martella, & Marchand-Mantella, 1999; DuPaul, 2007). DBRCs are typically used by teachers, but can also be used as an effective self-monitoring tool by students within the school system (Dalton et al., 1999). In general, DBRCs can be customized for individual students' needs and list a few target behaviors based on their behavioral or academic goals. Scaling of DBRCs is similar to a behavior rating scale; they use a yes/no or 3- 4-, or 5-point Likert-type scale system, and can be designed with numbers, or symbols (e.g., smiley face) (Vannest et al., 2010).

Direct Behavior Rating (DBR), which uses a combination of behavior rating scales and systematic direct observation, has also been used as a self-monitoring tool (Chafouleas, Riley-Tillman, & Christ, 2009). The ratings on target behaviors are recorded immediately at the end of an observation. DBR consists of using a scale to rate a target behavior that has been directly observed. Chafouleas, Sanetti, Jaffery, and Fallon (2012) implemented self-monitoring and a group contingency with a group of 8th-grade general education students. The authors used a DBR consisting of an 11-point scale with three qualitative anchors (0 = Not at all, 5 = Some, and 10 = Totally). During intervention, students used the DBR to rate their performance on three target behaviors (preparedness, engagement, and homework completion). The results showed

that the self-monitoring with DBR and group contingency reduced problem behavior and increased academic engagement.

Recently, the Individualized Behavior Rating Scale Tool (IBRST; Iovannone et al., 2014) has emerged as a viable tool to monitor student progress toward intervention goals or to help students self-monitor their own progress. The IBRST uses a 5-point Likert-type scale to record the perceived dimension of a target behavior to increase and a target behavior to decrease. Iovannone et al. (2014) tested the inter-rater agreement scores of two independent observers. The study also examined the impact of the dimension of the behavior salience and measurement on the inter-rater agreement. The authors recruited 19 students from a wide variety of schools to participate. All of the participants had serious behavioral issues. The students' teachers were trained to score the students behavior and create an individualized IBRST for each student. The results indicated that the IBRST was an efficient tool for teachers to improve behavior observation and data recording practices in the classroom. Although these results are promising and suggest that the IBRST has the potential for being a feasible and reliable observation tool for classroom teachers, more replications are needed. Additionally, research is needed to determine if students can effectively use the IBRST as a self-monitoring tool. The IBRST can be charted over time to provide a visual display of the student's progress toward behavioral goals.

Self-monitoring requires the student to periodically measure his/her behavior. The schedule used in self-monitoring interventions depends on the self-monitoring tool. Daily report cards ask students to record their behavior once after an observational period has ended (Chafouleas, Riley-Tillman, & Sassu, 2006). More traditional self-monitoring interventions ask students to record behavior multiple times during an instructional period (McDougall & Brady, 1998). Both schedules of self-monitoring have shown to be effective. Currently there is no

literature that suggests one schedule is more effective than the other in decreasing problem behavior or increasing on-task behavior.

Therefore, the purpose of the study was to examine the impact of using the IBRST by students as a tool to decrease disruptive behavior and increase on-task behavior within the classroom setting. The primary participants in this study were three elementary school children with behavioral challenges who were not responsive to the universal, Tier 1 support. The following questions were addressed in the study: (a) to what extent will the use of the IBRST as a self-monitoring tool impact the level of disruptive behavior and academic engagement during class time?; (b) to what extent will behavior be maintained during fading phases and at a 1-week follow-up?; and (c) will the teachers and students find the intervention to be acceptable and effective?

Method

Setting

This study took place in two 2nd grade classrooms of a public elementary school serving grades K through 5 in a suburban area of a large city. The school had a population of approximately 560 students. This school was considered a Title 1 school, with 85% of students eligible for free or reduced lunch. The school demographics were as follows: Caucasian 18%, African American 34%, Hispanic 36%, Asian 3%, and Other 9%. The school had been implementing school-wide Positive Behavioral Interventions and Supports (PBIS) for 5 years. Just before the study began, the school scored a 59% on the Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2010). However, during the study (2015-2016 school year) the school scored 86% on the self-administered BOQ assessment, which is indicative of above average implementation fidelity of Tier 1 PBIS. The BoQ is an assessment tool that is designed to measure the status of implementation of school-wide PBIS. The study was conducted during regular classroom periods. The most problematic academic time period for each target student (i.e., class reading and writing instructional period) was targeted for intervention.

Participants

Three students and their corresponding teachers (2 teachers for the 3 students) were recruited to participate in this study. The students were recruited through teacher nomination based on: (a) teacher report of problem behavior at least two times per day for 3 out of the 5 school days, (b) in grades 2-4 (ages 7-10), (c) verbal assent to participate in the research, and (d) parents' or legal guardians' written consent for their child to participate in the study. Students

were excluded from the study if they had a disability diagnosis or if they engaged in problem behavior that put themselves or others in danger (e.g., aggression towards others or self-injurious behavior). Selection criteria for the teachers included: (a) consent to receive training and implement the intervention, (b) nominating at least one student in the class who engaged in problem behavior, and (c) currently not implementing a self-monitoring intervention in the classroom. Teachers were to be excluded from the study if they did not meet the above criteria or if they taught special education classes. The teachers were asked to nominate a student who might benefit from the intervention.

Recruitment procedures. First, the researcher recruited teachers by emailing flyers. This flyer asked the teachers to contact the researcher via email within one week of receiving the flyer if interested in using a self-monitoring tool in their classroom. Only teachers who expressed interest in implementing the self-monitoring intervention in their classrooms were interviewed. The researcher sent the flyer to the teachers once per week until the number of participants needed had been reached. Once a teacher agreed to participate, the researcher sent a recruitment flyer to the potential child participants and their parents or legal guardians (Appendix A). The bottom of the flyer included a checkbox for parents to indicate that they were interested and would like to be contacted. This section also included the best method of contact (e.g., cell phone, email, or text message). When the students returned the flyers with a check mark next to "yes, contact me", the researcher contacted the parents or legal guardians via their preferred method of contact to schedule a time to review the informed consent form. The parental consent form was verbally reviewed with the parents, and they were advised to take their time deciding if they wanted to participate and return the form to the researcher within a week. The researcher contacted the parent via their preferred method of contact no more than three times per week in order to remind

them to return the consent form. Parents were also informed that they could contact the researcher at any time via cell phone or email with questions about the study or their child's voluntary participation.

Once the consent forms were obtained, the researcher interviewed the teachers briefly (approximately 10 min) to identify the students' possible target problem behavior and problematic instructional time periods (see Appendix B for the questions). After the interviews, the researcher conducted classroom observations to confirm the children's eligibilities. Two observations were conducted for each student during the 30-min potential target instructional times to identify their current levels of problem behavior (see Appendix C for a sample recording sheet). During observations, the researcher did not interact with the class, target student, or teacher. If the students met the inclusion criteria, the researcher obtained verbal assent from the students to participate in the research.

Students. Gary was a 7-year-old Caucasian male student with no known disability diagnosis. Before the intervention, Gary had received five office discipline referrals (ODRs), one in-school suspension, and zero out-of-school suspensions. On a countywide reading assessment, he scored below grade level in reading. Both the interview with his teacher and initial observations indicated that Gary engaged in the highest frequencies of problem behavior during reading instruction delivered immediately before lunchtime. His primary problem behavior was talking out without teacher permission during instructional time.

Jorge was a 7-year-old African-American male student who also had no disability diagnosis. Before Jorge was recruited as a participant, he had received four ODRs, but no in-school or out-of-school suspensions. On a countywide reading assessment, he scored below grade level in reading. He also engaged in high frequency of disruptive, calling out behavior

during instructional times, particularly, during the writing instructional period delivered in the morning.

Jerry was a 7-year-old African-American male student with no disability diagnosis. Before beginning the intervention, Jerry had never received any ODRs, but had received two classroom referrals for disruptive behavior. On the countywide reading assessment, Jerry also scored below grade level in reading. His teacher was concerned with his high frequency of inappropriate manipulation of objects that disrupted his and other students' work. His teacher expressed to the researcher that problem behavior occurred most often during reading instructional time. During initial observations, Jerry engaged in the problem behavior across all instructional periods; however, his problem behavior occurred at a higher rate during reading than during other instructional time periods.

Teachers. Two 2nd grade teachers participated in the study. Teacher 1 was Gary's teacher. In her classroom there were 20 students (50% Hispanic, 25% Black/Non-Hispanic, and 25% White/Non-Hispanic) with 60% male and 40% female students. Teacher 1 was in her 30s and had been working as a teacher for 2 years. Her classroom management strategies included: posting the SWPBIS rules and expectations on the wall; teaching expectations and tying them into lesson plans; arranging the seating so students with visual and hearing needs were closer to the front; and using a color level system in which she would move a clothes pin up or down depending on whether an individual student was following the aforementioned expectations and rules.

Teacher 2 was Jorge's and Jerry's teacher. Her class consisted of 20 students (40% Black, 30%, 25% White, and 5% other). The classroom consisted of 50% male and 50% female students. The teacher was in her 30s and had three years of teaching experience. She had the

same classroom management strategies as those of Teacher 1. During instruction, she provided specific positive verbal feedback to students for following expectations.

Measurement

The dependent variables in this study were problem behavior and on-task behavior. Data on problem behavior and on-task behavior were collected through two methods: direct observation and use of the Individualized Behavior Rating Scale Tool (IBRST). The researcher and one research assistant (RA) collected direct observation data. The RA was a graduate student in an Applied Behavior Analysis program. The researcher trained the RA on frequency recording procedures and fidelity checklists using behavior skills training (BST) methods. The researcher instructed the RA on how to record the occurrence of behavior using the frequency recording procedures. Next, the researcher modeled how to mark the data sheet if the target behavior occurred when the digital timer vibrated after an interval had ended, and then conducted a mock observation. During this mock observation, the researcher engaged in on-task and problem behaviors and asked the RA to score the occurrence of behaviors. The final step in the training entailed providing corrective feedback to the RA on the data collected during the mock observation. To begin data collection for the study, the RA was required to score above 90% accuracy on interobserver agreement during training. Direct observation data were collected during 30-min instructional periods, three to five times per week for each student. Data were collected with paper and pencil and the use of an electronic timer to indicate different time intervals for interval recording. The IBRST data were collected with paper and pencil by the participating teachers at the end of each data collection session.

Direct Observation of Problem Behavior and On-Task Behavior. To collect direct observation data, the researcher and teacher jointly identified and defined the problem behavior

and on-task behavior for each individual student. Problem behavior was measured using a frequency (event) recording system; the number of instances of the behavior was recorded during 30-min sessions. The problem behavior included calling out (Gary and Jorge), standing up from one's seat (Gary and Jorge), and inappropriately manipulating objects (Jerry).

Table 1. Operational Definitions of Target Behaviors for Each Participant

	On-Task Behavior	Problem Behavior
Gary and Jorge	<i>Hand Raising</i> – Eyes are directed toward the teacher, sitting in assigned desk chair, lifting arm above head, and verbally responding when the teacher asks questions.	<ul style="list-style-type: none"> • <i>Calling Out</i> – Engaging in any verbal response without the teacher's permission that is spoken over the classroom's conversation level (audible from 3 ft away from the student). • <i>Standing up from one's seat</i> - removing full body from an assigned seat without teacher permission.
Jerry	<i>Hand Raising</i> – Eyes are directed toward the teacher, sitting in assigned desk chair, lifting arm above head, and verbally responding when the teacher asks questions.	<ul style="list-style-type: none"> • Inappropriately manipulating objects – manipulating objects while creating a sound (e.g., tapping writing instrument on table, crumbling paper with hands, bouncing erasers on the desk) that disrupts the student's or other students' work for a minimum of 3 s

On-task behavior mainly focused on hand raising and was measured using a frequency recording system where the number of on-task behavior (responding to questions) was recorded, and then the total number of instances was converted to a percentage of on-task based on the total number of opportunities to respond. Table 1 presents definitions of the target behaviors for each student.

IBRST. As supplementary data, data on student behavior were also collected by the teachers using the IBRST. The teachers used a 6-point rating scale for both problem behavior and on-task behavior. Each teacher collected data on the student during the targeted instructional

period at the end of each baseline, intervention, and follow-up session. For problem behavior, a rating of 6 represented a very bad day and a rating of 1 represented a great day. For on-task behavior, the scale was reversed, a rating of 6 represented a great day and 1 represented a very bad day. The criteria for points and rating were determined in collaboration with the teacher after the teacher training. An example of the IBRST is presented in Appendix D.

Gary's problem behavior was based on frequency and rated on the following scale: a 1 represented 0-1 instances, 2 represented 2-3 instances, 3 represented 3-4 instances, 4 represented 4-5 instances, 5 represented 5-6 instances, and 6 represented 7 or more instances. For Jorge's problem behavior, the criteria for each point were different from those of Gary; a 1 represented 0-5 instances, 2 represented 6-10 instances, 3 represented 11-15 instances, 4 presented 16-20 instances, 5 represented 21-25 instances, and 6 represented 26 or more instances. Jerry's problem behavior was rated on the following scale: 1 for 0-2 instances, 2 for 3-4 instances, 3 for 5-6 instances, 4 for 7-8 instances, 5 for 9-10 instances, and 6 for 11 or more instances. The scale for on-task behavior was the same for all 3 students, which was based on percentage: a 1 for 0-15%, 2 for 16-30%, 3 for 31-55%, 4 for 56-70%, 5 for 71-85%, and 6 for 86-100% on-task.

Treatment integrity. The RA assessed treatment integrity during 30% of the intervention sessions, which focused on measuring teachers' fidelity of intervention implementation and students' completion of the self-monitoring tool (IBRST) correctly as planned. A 17-item implementation fidelity checklist (Appendix E) with a yes/no scoring system was used to assess the teacher's adherence to self-monitoring intervention implementation steps during intervention sessions. Examples of the intervention steps were: (a) provide the IBRST prior to instructional period, (b) review expectations for instructional period, (c) set the timer for 15 minutes, (d) state that the instructional period has started, (e) provide positive praise for the

correct use of the IBRST, and (f) at 15 minutes, instruct the students to “rate yourself.” Six additional steps were included for Gary’s teacher (e.g., on the back of the IBRST circle whether the student reached or did not reach his or her goal that day, verbally remind the student to show his parent the IBRST, collect the IBRST from students at the beginning of the next school day when they were present). The percentage of steps implemented was calculated based on the total number of steps. Fidelity averaged 90% (range: 80-100%) across teachers, indicating that the teachers implemented the intervention procedures with relatively high levels of fidelity. Both the teachers and research staff reviewed the students’ completed IBRSTs at the end of each intervention session to check their rating accuracy. To estimate the accuracy, correspondence between the IBRSTs completed by the teachers and students were examined by calculating the percentage of agreement between student ratings and teacher ratings. Because the students rated their behaviors twice during 30-min instructional time periods, their mean ratings between the two self-checks were used to compare them with teacher ratings. The analyses of the IBRSTs indicated that the levels of correspondence between student ratings and teacher ratings were high across students, indicating that the students used the IBRST correctly to self-monitor their own behavior. The overall agreement between their ratings averaged 97.45%. Across all students, behaviors, and phases, the agreement was 100% with the exception of the initial intervention phase for Gary whose agreement averaged 95.5% (range: 62.5-100%) across behaviors during this phase. Table 2 shows the mean and range percentage of agreements (correspondence rate) between the student ratings and teacher ratings across behaviors and phases for each student.

Social validity. The study team collected two types of social validity data: (a) one with teachers and (b) one with students. The teachers’ acceptability of and satisfaction with the implementation of self-monitoring intervention with the IBRST was assessed using a modified

version of the Intervention Rating Profile-15 rating scale (IRP-15; Martens, Witt, Elliot, & Darveaux, 1985). (Appendix F). The IRP-15 included 15 questions that were answered using a 5-point Likert-type scale. This tool asked questions pertaining to the ease of implementation, the likelihood of recommendation and use, and the perceived effect of the intervention on the target behaviors. Students were also asked to complete a social validity questionnaire. This questionnaire was created by the researcher and asked questions about how much they enjoyed the intervention and whether they would like to use the intervention again. The assessment was scored on a 5-point Likert-type scale and had five questions. The researcher used website to ensure the reading level of the questions matched the students' reading level (Readability Score). This questionnaire (Appendix G) was given to the students after the intervention ended.

Table 2. Mean and range percentage of agreements between student ratings and teacher ratings.

Phases	<i>Gary</i>		<i>Jorge</i>		<i>Jerry</i>		Mean
	On-task	Problem Behavior	On-task	Problem Behavior	On-task	Problem Behavior	
Intervention	79.7% (62.5-100%)	93.1% (72-100%)	100%	100%	100%	100%	95.5%
Fading 1	100%	100%	100%	100%	100%	100%	100%
Fading 2	100%	100%	100%	100%	100%	100%	100%
Follow-up	100%	100%	NA	NA	100%	100%	100%
Mean	88.6%	96.1%	100%	100%	100%	100%	97.5%

Interobserver agreement (IOA). Two independent observers collected data to assess IOA. IOA was calculated for problem behavior, on-task behavior, and teacher implementation fidelity. IOA was calculated for approximately 30% of each experimental phase. The RA and the researcher collected data on the dependent variables simultaneously but independently during the same observational period. IOA on both problem behavior and on-task behavior was calculated

by using the total-count IOA method where the smaller number was divided by the larger number and then multiplied by 100. IOA on teacher fidelity of intervention implementation was calculated using an item-by-item method by dividing the number of checklist items agreed by the total number of items and then multiplying by 100. The mean IOA for problem behavior during baseline was 90.6% (87.5%-100%) for Gary, 100% for Jorge, and 100% for Jerry. The mean IOAs for on-task behavior during intervention were 90% (80-100%), 90% (80-100%), and 100% for Gary, Jorge, and Jerry, respectively. The mean IOA for problem behavior during the intervention phase was 91.6% (66%-100%) for Gary, 100% for Jorge, and 100% for Jerry. The IOA for the first intervention observation for Gary was 66%, which required provision of additional training to RA. IOA on implementation fidelity averaged 100% for Teacher 1 and 90% (range: 80-100%) for Teacher 2. Table 3 presents IOA throughout experimental phases across students and behaviors.

Table 3. Mean IOA across phases and behaviors for each student.

Phases	<i>Gary</i>		<i>Jorge</i>		<i>Jerry</i>	
	OT	PB	OT	PB	OT	PB
Baseline	90%	91.6%	100%	100%	100%	100%
Self-monitoring w/IBRST	90%	83.2%	90%	100%	90%	100%
Parent Involvement	100%	100%	NA	NA	NA	NA
Fading	100%	100%	100%	100%	100%	100%
Mean	95%	93.7%	96.7%	100%	96.7%	100%

Note. OT: On-Task; PB: Problem Behavior

Experimental Design and Procedures

This study employed a multiple-baseline design across participants, which consisted of baseline (BL), self-monitoring with the IBRST, fading, and follow-up phases. The teacher implemented the self-monitoring with IBRST class-wide. However, only data were collected for the target students.

Teacher training. Before baseline, the researcher provided teachers with a 1-hr training on the use of the IBRST and implementation of self-monitoring procedures. Training included a brief background on self-monitoring and behavior rating scales. The researcher used behavioral skills training (BST) to train the teachers. BST consisted of instructing and modeling for the teacher on how to create and use the IBRST, rehearsing the design and use of the tool, and providing feedback to the teacher. During instruction, the researcher explained each score criteria and how to score the student's behavior. The researcher then modeled scoring to the teacher by giving the teacher an example. An example of modeling would be, "If the student leaves his seat (problem behavior) three times during an instructional period, you would circle a score of 1 for that day". During the rehearsal portion of training, the researcher collected fidelity data. If the teacher scored less than 90%, the training continued until the teacher reached the 90% criterion. The teacher must have scored at least 90% two consecutive times to complete the training. The feedback portion consisted of the researcher identifying the correct steps the teacher took and the steps that needed more training. Training also consisted of instruction on how to score the target student using the score criteria created by the teacher and researcher. The researcher collaborated with the teacher to define the student's behavior to be measured. The researcher and the teacher also created the IBRST rating system specifically for the target student's behavior. This process included assigning the frequency or percentage of behavior in one instructional period to the

corresponding point on the scale. The training also included what to do during implementation. For example, the researcher instructed the teacher to provide individual prompts at the beginning of each self-monitoring period for the target student. All training was done after school in the teacher's classroom at the teacher's convenience and a fidelity checklist was used during training to ensure fidelity of training (see Appendix H). The RA observed teacher training sessions to measure fidelity. The researcher's fidelity on teacher training was 100% across teachers.

Baseline. Before baseline data collection was started, the classroom rules must have been established and practiced in the classroom. The classroom rules must also have coincided with the school wide expectations. During baseline, the teachers conducted their classroom as usual, teaching school-wide expectations and using the color level system. No self-monitoring with the IRBST was implemented during this condition. However, teachers monitored the target student's behavior using the IRBST, and observers conducted direct observational data 3-5 days per week. The teachers were provided with the IBRST to complete on the target student after each targeted instructional period. Data collected during baseline was used to identify goals for the student's behavior in collaboration with the teacher. For all three students, each teacher identified their respective student or students as a goal of a 30% reduction in problem behavior and a 30% increase in on-task behavior.

Student training. The entire classroom received training on the use of the IBRST. After baseline, the teacher provided 20-min student training two days before implementation of the self-monitoring procedure. If the class or the target student needed additional training, the teacher planned to provide them with a second training session for 20 minutes the day before intervention implementation. However, none of the teachers, classrooms, or individual students needed additional training. Teachers trained students using the information sheet provided by the

researcher on how to use the IBRST and how to self-monitor their own behavior during class activities. The steps for student training included: (a) instructing the student on how to circle the corresponding point on the scale according to the amount of the target behavior occurred during the instructional period, (b) modeling for the child on how to correspond the behavior scale with the point system, (c) practicing the skill by asking the student to score the teacher role-playing engaging in the target behaviors, and (d) providing positive feedback for the correct use of the IBRST. During the modeling portion of the training, the teachers modeled examples of on-task behavior or classroom expectations similar to the student's topography on-task behavior or expectations. The teacher instructed the student to return the IBRST after training. The training provided by the teacher was monitored by the researcher to help them reach 100% fidelity.

Intervention. Before implementing the self-monitoring with the IBRST, the teachers created the IBRST for each target student as described in the data collection section. The tool consisted of three sections: (a) student name, (b) definitions for target behaviors and instructions on when and how to rate their own behavior, and (c) a rating section. The rating section included two behavior rating scales: talking out and raising hand. The teachers chose talking out as problem behavior and raising hand as on-task behavior for the class-wide IBRST. For problem behavior, the following scale was used: 1 for 0-2 instances, 2 for 3-4 instances, 3 for 5-6 instances, 4 for 7-8 instances, 5 for 9-10 instances, and 6 for 11 or more instances. For on-task behavior, the 6-point scale was: 1 for 0-15%, 2 for 16-30%, 3 for 31-55%, 4 for 56-70%, 5 for 71-85%, and 6 for 86-100% instances of hand-raising.

During this phase, the teachers conducted lessons as usual with the exception of implementing the self-monitoring procedure with the IBRST. Before the instructional period was started, the researcher provided the teachers with the fidelity checklist and reminded them to

review the implementation steps. During this phase, the students were asked to self-record their own behavior twice during class: at the end of 15 min and at the end of 30 min. Specifically, the students were instructed to rate how many times they called out and how many times they raised their hand after the teacher posed a question during that time period. At the beginning of the instructional time, the teacher stated the classroom expectations . The expectations for the classroom were posted on the wall in both classrooms. The teachers reviewed with their students what level of conversation was allowed, how they could ask for help, and what materials they needed for the activity. The teachers then provided the materials (e.g., worksheet, handout, calculator) needed for the lesson to all the students. This included providing the target student with his IBRST and the rest of the class with the class-wide IBRST. The teacher provided the students with the IBRSTs at the same time as the lesson materials.

After the expectations were expressed and the materials were passed out, the teachers asked whether the students had any questions before stating that the first 15 min timer was set. A clock timer was placed at the front of the room, which provided an auditory cue to reset after 15 min. After the first 15 min of instructional time, the teacher prompted the students to use the IBRST and then reset the clock for an additional 15 min. When the instructional period started, the teachers said, “You will start self-monitoring your behavior now,” and then began the timer that provided an audible beep sound. The teachers then taught their lessons until the 15 min timer went off indicating the end of the first self-monitoring session. When most of the class was on-task (raising their hands) during instructional activities, the teachers would regularly praise their class for being on-task or for specifically raising their hands. The teacher provided specific positive praise to the class as a whole as to not isolate or stigmatize the target student. For example, after the 15-min mark, the teachers would say, “Nice job listening and rating yourself

on the IBRST.” If a student engaged in the problem behavior during this time, the teacher provided verbal reminders about the expectations.

When the timer signaled, the teachers instructed their respective classes to stop working on their activity, place the IBRST sheets in front of them, and rate themselves based on the last 15 min of class. The teachers waited 2 min before asking the class if everyone had finished rating him or herself. Once all the students had completed the first rating, the teachers provided praise to their classes for completing the ratings. The teachers then instructed their classes to put the IBRST sheets to the side of their desk and put the instructional period materials back in front of them on their desk before starting the second 15 min period. After praise was delivered, the teachers announced that the second 15 min period had begun and started the second 15 min timer. Again the teachers continued their lessons until the second 15 min timer sounded implementing the procedures described above. At the end of the 30-minute instructional period, the timer provided an auditory cue for the students to rate themselves. Again, the teachers gave the students 2 min to complete this before collecting the IBRST sheets. While the teachers completed the IBRST sheets for target students at the end of each 15-min interval, they ensured that their students had rated themselves. The teachers did not check the accuracy of the ratings by students; they only checked whether the students had circled 2 numbers: one for on-task and one for problem behavior. The teachers put the student IBRST in designated folders before rating the target student or students on their IBRST sheets.

Although not explicitly trained, the students were self-graphing their data as graphing is a product of using the IBRST instrument. For example, if a student scored him or herself a 3 for calling out during the first 15 min period and then a 2 in the second 15 min period, the student would inadvertently chart two data points on the sheet showing a decreasing trend. Having 2

ratings in each class time period, the rating sheet would create a data path over consecutive days. The trend or stability of the data would become clear after each additional rating.

The participating students must have reached their goal of at least 30% decrease of problem behavior and a 30% increase of on-task behavior from the baseline condition for three consecutive sessions in order for the intervention to be terminated. Except Gary, the target students reached their criterion during intervention and participated in fading procedures before follow-up. Parent involvement was added to Gary's self-monitoring intervention during the later phase of intervention due to increases in his problem behavior. In addition to implementation of the self-monitoring procedure with IBRST in the classroom, the IBRST was also used as a communication method between teachers and parents to facilitate parent involvement in the self-monitoring intervention. Gary's parents were encouraged to review the self-monitoring checklist completed by their child and problem solve with their child on how to improve their classroom behavior if their goals were not met and how to provide positive feedback to their child if the goals were met. The IBRST was modified to include: (a) intervention goals, (b) daily performance rate, and (c) check mark to indicate they reviewed and discuss the child's scores on the IBRST. The teachers checked with the student during arrival time to be sure the student: (a) returned the IBRST, (b) had the IBRST signed by a parent, and (c) the parents marked that they reviewed and discussed the student's scores on the IBRST.

This checklist was attached to the back of the Gary's IBRST. The checklist had an area with suggestions to follow when reviewing the IBRST with Gary (Appendix I). For example, if Gary did not meet his goal, it was suggested to the parent to provide positive statements like, "Even though you did not reach your goal today, you still have a chance to reach it tomorrow if you follow expectations." Gary went through a 20-minute training by his teacher on using the

parental checklist. The training included: (a) instructions on the use of the parental checklist (e.g., giving parents the checklist and telling them to sign it), (b) modeling of the use of the checklist, (c) rehearsal of using the checklist, and (d) providing positive feedback.

Fading and follow-up. When the students reached their set goal of a reduction in problem behavior by 30% from baseline and an increase in on-task behavior by 30% from baseline for 3 consecutive sessions, the teachers started fading the use of self-monitoring. The fading process gradually decreased the frequency of using the self-monitoring with the IBRST by the students. The first phase of fading involved decreasing self-monitoring from twice to once per instructional period. The second phase of fading decreased self-monitoring to two times per week. If the student engaged in problem behavior during the fading procedure, they were to return to the last successful phase of fading until they have achieved their goal of a 30% decrease in problem behavior and a 30% increase in on-task behavior from baseline data. However, none of the students required returning to the last fading phase. Follow-up data were collected one week after the intervention ended. Weekly probe data for 1 week with 2 students to check for maintenance of skills following the removal of the self-monitoring intervention.

Results

Student Behavior during Self-monitoring with the IBRST

Figure 1 displays direct observational data on the number of problem behavior incidents and the percentage of on-task behavior across three participants. For all three participants, the baseline showed a lower level of on-task behavior and a higher level of problem behavior when compared to the levels in intervention. Implementation of the self-monitoring with the IBRST intervention produced an immediate increase in on-task behavior during a problem academic time period for all three participating students.

For Gary, baseline started out with moderate levels of on-task behavior (range: 42-57%) and high frequency of problem behavior (range: 6-8 instances). Data were somewhat variable with no trend during baseline. Baseline data averaged 49.3% for on-task behavior and 7.25 instances for problem behavior. Implementation of self-monitoring with the IBRST resulted in an increase in on-task behavior. The average of on-task behavior was 89.6% with a range of 75%-100%. After the intervention was implemented, problem behavior immediately decreased to an average of 3.8 occurrences per session with a range of 2-6 occurrences. After showing an increasing trend during initial intervention sessions, Gary's on-task behavior remained at 100% during the later phase of intervention. On the other hand, after dramatic decreases during the first 3 sessions, his problem behavior showed an increasing trend during the next 3 sessions. When parent involvement was added, his problem behavior decreased to zero or one occurrence during the later intervention sessions.

Jorge's baseline data showed moderate levels of on-task behavior and extremely high levels of problem behavior. There was some variability in the data, and the level of problem behavior was high. During baseline, on-task behavior occurred 56.1% (range: 50%-66%) and problem behavior occurred an average of 20.8 instances per session (range: 19-23). Once the self-monitoring with the IBRST phase began, an immediate level change occurred in on-task behavior with an average of 100% and problem behavior with an average of 0.5 instances. There was a decrease in level and in variability in the intervention data compared to the baseline data.

During baseline, Jerry performed at a low to moderate level for on-task behavior with an average of 25.3% (range: 25%-50%) and problem behavior with an average of 10.3 instances (range: 8-10). Baseline data were stable before moving onto the intervention phase. There was an immediate level change once the self-monitoring phase began. On-task behaviors increased to an average of 100%, and problem behavior decreased to an average of 0.5 instances. There was a decrease in level and in variability in the intervention data compared to the baseline data.

Student Behavior in Fading and Follow-up

Figure 1 also displays direct observational data during fading and follow-up. The first fading phase was the reduction of self-rating on the IBRST once per an instructional time period. The second fading phase was receiving the IBRST twice a week. The final phase was the removal of the IBRST to conduct 1-week follow-up. During both phases 1 and 2 of fading, Gary's on-task and problem behavior were stable with 100% for on-task behavior and <1 instances of problem behavior in all sessions. On-task and problem behavior continued to be stable in during the 1-week follow-up with one data point at 100% on-task behavior and only 1 instance of problem behavior.

Jorge's data also remained stable during both phase 1 and phase 2 of fading with 100% for on-task behavior and 0 instances of problem behavior in all sessions. During 1-week follow-up, his data continued to show no instances of problem behavior and 100% for on-task behavior. Finally, Jerry's on-task data remained high at 100% and problem behavior remained low at an average of less than 1 instance across phases.

IBRST Data

Figure 2 shows student behavior data collected by teachers using the IBRST. Across target students, similar behavioral patterns to those of direct observational data were seen in both target behaviors across phases; the teachers consistently rated on-task behavior as occurring at low rates in baseline and high rates in intervention, and problem behavior as occurring at high rates in baseline and low rates in intervention.

Gary's teacher consistently rated his on-task behavior as occurring at 31-55% of the time (rating 3) in baseline and 71-85% (rating 5) or 86-100% (rating 6) with the exception of one session (56-70%, rating 4) in intervention, which were similar to direct observational data, 42-57% in baseline and 75-100% in intervention. His problem behavior was rated as occurring at 5-7+ instances (ratings 5-6) in baseline, which was similar to direct observational data, 6-8 instances. On the other hand, in intervention, his problem behavior was rated as occurring at 3-6 instances (ratings 2-5) during the initial phase of intervention and zero instances (rating 1) during the later phase of intervention, which was also similar to direct observation data, 1-6 instances during the initial phase of intervention and zero instances during the later phase of intervention.

The teacher's ratings on Jorge's on-task behavior reflected 31-55% (rating 3) or 56-70% (rating 4) in baseline and 86-100% (rating 6) in intervention, which were similar to direct observational data, 50-66% in baseline and 100% in intervention. Ratings on his problem

behavior reflected 16-25 instances (ratings 4-5) in baseline and 0-5 instances (rating 1) in intervention, which were also similar to direct observational data, 19-23 instances in baseline and 0-1 instances in intervention.

Jerry's teacher's ratings on his on-task behavior reflected 16-30% (rating 2) or 31-55% (rating 2) in baseline and 86-100% (rating 5) in intervention, and his problem behavior reflected 9-11+ instances (ratings 5-6) in baseline and 0-6 instances (ratings 1-3) in intervention. These IBRST data were similar to his direct observational data in which his on-task behavior occurred 20-50% in baseline and 100% in intervention and his problem behavior occurred 8-10 instances and 0-3 instances in intervention.

Social Validity

At the end of the study, the teachers and students were given social validity questionnaires. The teachers rated their satisfaction with the intervention as "high." The average rating was 5 with a range of 4-5 across teachers. The results indicated that the teachers were willing to implement the self-monitoring with the IBRST with other students. Both teachers found the intervention to be easy to implement and were willing to recommend the intervention to other teachers. The results also indicated that the teachers found the intervention to result in a decrease of problem behavior and an increase in on-task behavior. Individual teacher responses to the social validity questionnaire items are presented in Table 4. All of the students also rated their satisfaction with the intervention as high, with a mean of 5, the highest rating (see Table 5). The students' responses indicated that the students found the IBRST to help them stay on-task and be easy to use, and that the intervention helped them improve their behavior during class time.

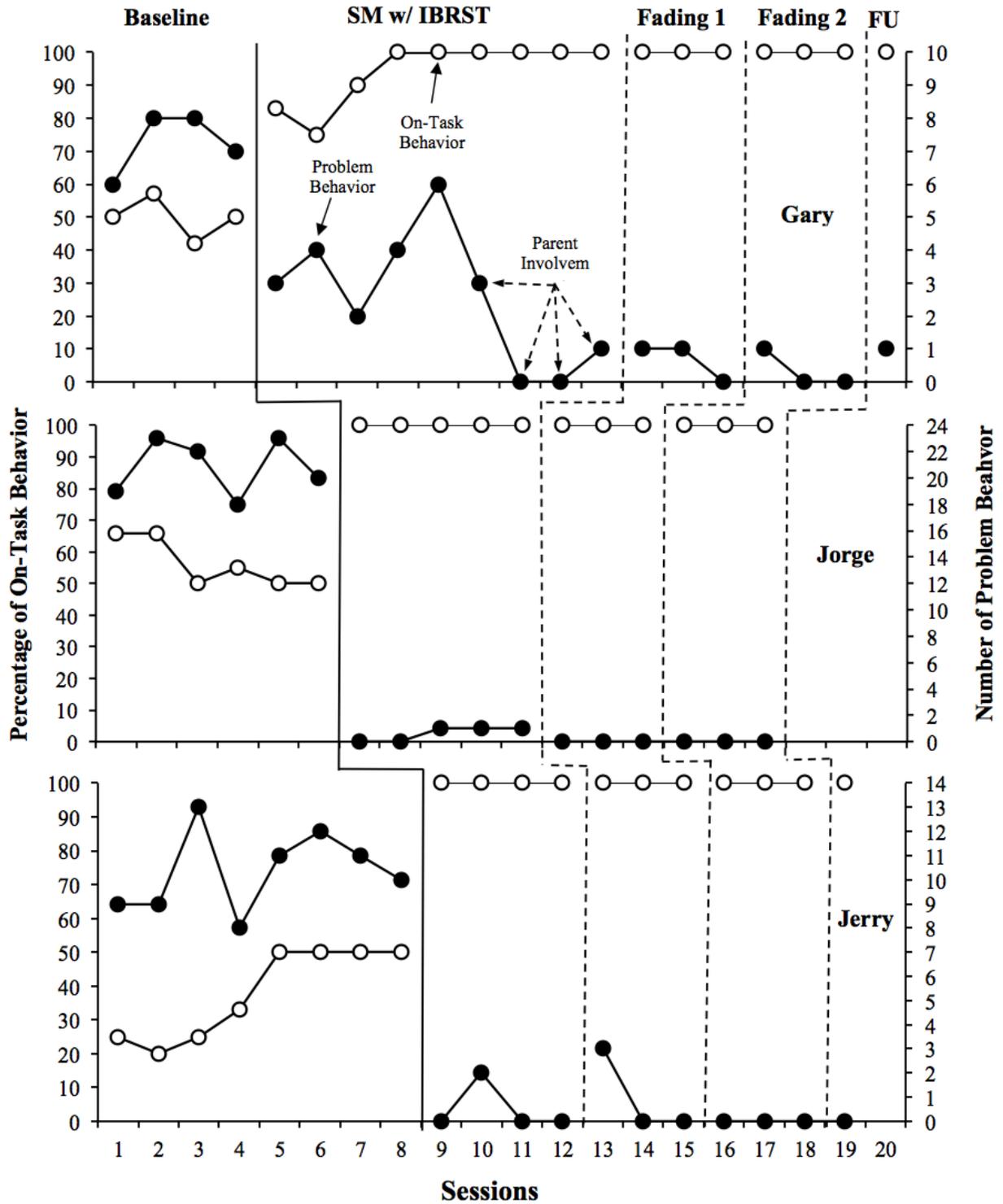


Figure 1. Number of problem behavior and percentage of on-task behavior across students and phases.

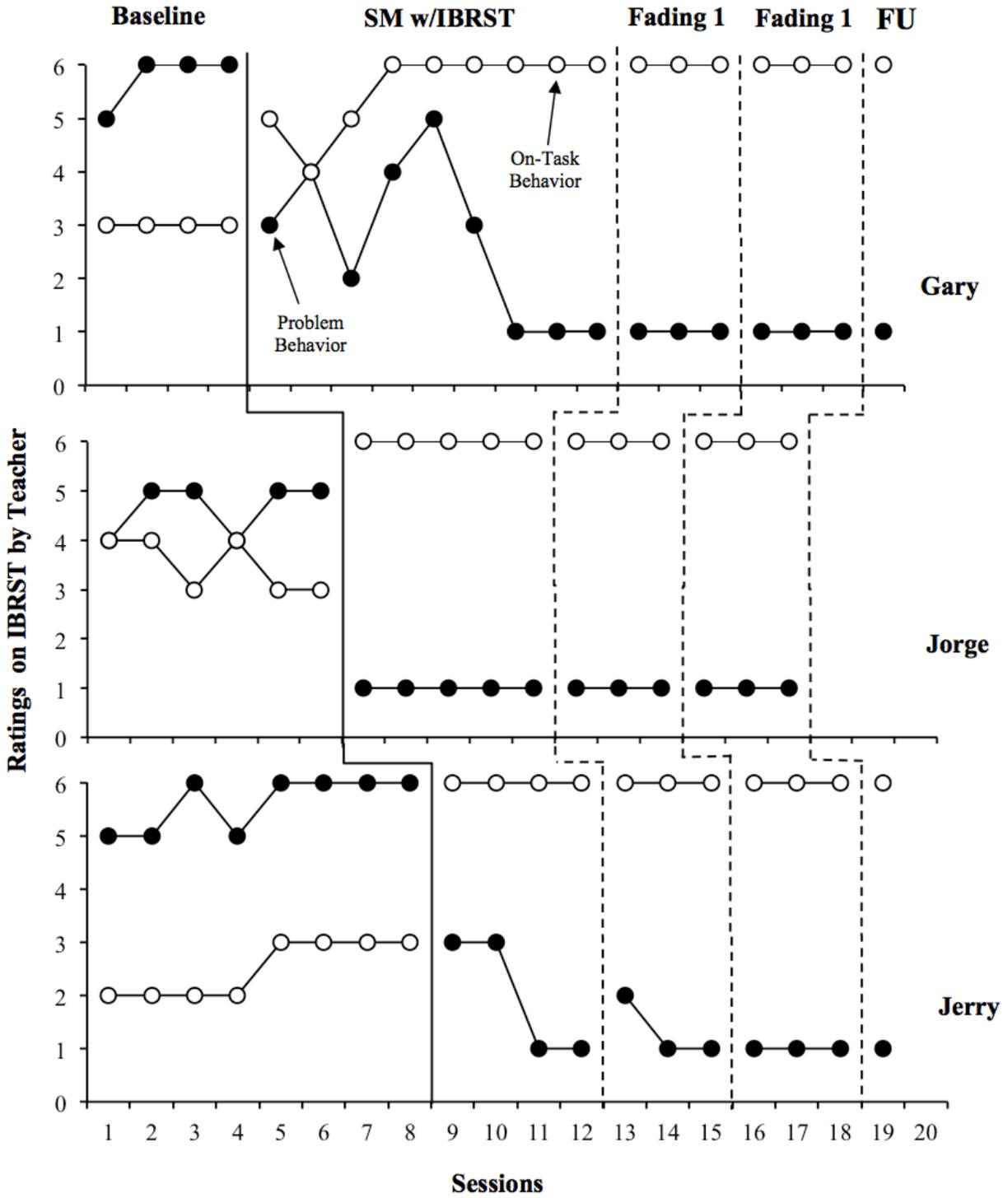


Figure 2. Teacher-completed IBRST scores for problem behavior and on-task behavior across students and phases.

Table 4. Teacher responses on the acceptability questionnaire (*modified IRP-15*)

Questions	T1	T2
1. The self-monitoring using the IBRST was an acceptable option for student's problem behavior.	5	5
2. Most teachers would use the IBRST as a self-monitoring tool for a student's problem behavior.	5	5
3. The self-monitoring using the IBRST was effective in changing the student's problem behavior.	5	5
4. I would suggest the use of the IBRST to other teachers.	5	5
5. The student's behavior warranted the need for intervention.	5	5
6. I would be willing to use this tool in other instructional times.	5	5
7. The self-monitoring using the IBRST quickly decreased the student's problem behavior.	4	5
8. The self-monitoring using the IBRST improved the student's on-task behavior.	5	5
9. The self-monitoring using the IBRST will have a lasting improvement on the child's behavior in the classroom.	5	5
10. Other behaviors related to the problem behavior are likely to improve with the use of the IBRST.	4	5
11. The self-monitoring using the IBRST is likely to change problem behavior in other settings.	4	5
12. The self-monitoring with the IBRST would be beneficial for the student.	5	5
13. Most teachers would find the self-monitoring using the IBRST to be an acceptable intervention for problem behavior.	5	5
14. The self-monitoring with the IBRST was quick to increase on-task behavior during instructional periods.	5	5
15. The student appeared to enjoy self-monitoring their behavior using the IBRST.	5	5
Mean	4.8	5

Table 5. *Student responses on the acceptability questionnaire*

Questions	Gary	Jorge	Jerry
1. The IBRST helps be stay on-task during class.	5	5	5
2. The IBRST is easy to use.	5	5	5
3. The IBRST helps my behavior during class.	5	5	5
4. The IBRST would help other kids with their behavior during class.	5	5	5
5. I liked using the IBRST during class.	5	5	5
Mean	5	5	5

Discussion

The current study examined the use of the Individualized Behavior Rating Scale Tool (IBRST) as a self-monitoring tool with 3 second-grade students at-risk for developing challenging behavior in a high-need public elementary school. Specifically, the study focused on examining whether student self-monitoring using the IBRST would increase on-task behavior and decrease problem behavior, and whether the students' improved behavior would be maintained during fading and follow-up phases.

The results indicated that the students successfully used the IBRST to self-monitor their own problem and on-task behaviors, and that their self-monitoring with the IBRST dramatically decreased problem behavior and increased on-task behavior across all 3 participating students. Fading phase data showed that with less frequent use of self-monitoring with the IBRST, the students' levels of both behaviors were maintained at the levels shown during the initial intervention phase. Although data were limited, 2 students showed maintenance of their improved behaviors at 1-week follow-up without the intervention. The correspondence between direct observational data and teacher collected IBRST data was high across behaviors and phases for all 3 students. The social validity data indicated that both teachers and students were highly satisfied with the outcomes of self-monitoring using the IBRST.

This study supports previous findings that self-monitoring is effective in increasing on-task behavior and reducing problem behavior during academic time periods (Chafouleas, Riley-Tillman, & Sassu, 2006; McDougall & Brady, 1998). In particular, the study adds to the current literature on using rating scales as a self-monitoring tool for at-risk students needing Tier 2

intervention supports in a school setting (Chafouleas, Sanetti, Jaffery, & Fallon, 2012). The results of the study suggest that the IBRST may be an appropriate rating scale tool that has the potential to be effective in prompting students to stay on-task and improving academic performance when used with the self-monitoring procedures. Although the teachers did not provide feedback to students regarding the accuracy of their self-monitoring data during intervention, the correspondence checks between student ratings and teacher ratings indicated that the target students used the IBRST correctly while self-monitoring their own behavior. Chafouleas et al. (2012) also suggested that behavior rating scales that incorporate direct observational systems could effectively be used with self-monitoring procedures to improve academic behavior.

A notable finding of the current study is the impact of parent involvement on target behaviors for one of the participating students, Gary. Although Gary's problem behavior decreased and on-task behavior increased during the initial intervention phase, Gary did not reach his goal of a 30% decrease. Due to this reason, Gary's teacher collaborated with his parents to make the intervention more successful by using the IBRST as a home-school note during the later sessions of the initial intervention phase. As shown in studies on Check-In-Check-Out (CICO) which requires teachers and students to utilize Daily Report Cards (DRCs) to monitor and report progress in the students' behavior and which involves parents by using the DRCs as a home-school note (Campbell & Anderson, 2011; Hawken & Horner, 2003), the results of the current study indicates that the IRBST can be used as a communication tool between the school and home, which will promote parents-teacher collaboration in implementing interventions and enhancing the outcomes of the interventions.

The results of the study also suggest that schools looking to implement self-monitoring with the IBRST should plan fading phases that systematically reduce the intensity of supports. As indicated by the data during initial intervention and fading phases, the participating students did not require frequent self-monitoring of their own behavior to increase and maintain their on-task behavior. In addition, the students did not require external reinforcement during intervention, rather, receiving teacher verbal complements and being motivated to improve their own behavior were enough to maintain their improved behavior.

Limitations

Although the self-monitoring with the IBRST intervention was successful in increasing on-task behavior and reducing problem behavior in the classroom for all target students, results are limited due to the fact that there were only three participating students. Due to the low number of participants, it is uncertain if other participants would have had similar results. The study suggests that future research studies should replicate with a larger number of participants.

Another limitation is that two of the students had the same teacher. Even though the student who received the intervention second did not receive an IBRST self-monitoring sheet during baseline, he was exposed to the teacher's prompts to complete the IBRST sheet for his peers. Being exposed to the academic time period where his peers were using the IBRST might have been a confounding factor that affected his behavior. However, considering the fact that his baseline data were stable and his intervention data consistently showed increases in on-task behavior and decreases in problem behavior, the impact of being exposed to the class activity environment with the IBRST might have been minimal.

Due to the school schedule and state testing dates, only one 1-week follow-up data point was collected for 2 students. Due to the limited number of follow-up data and the absence of

assessing maintenance effects, it is unknown whether self-monitoring with the IBRST intervention would have long-term maintenance effects. It is also important to mention that the color system that the teachers used in their classroom as part of their classroom management strategies could be considered a modified form of self-monitoring. It might be possible that the teachers' use of a color system might have been a confounding factor that affected the students' use of IBRST and its outcomes.

Implications for Practices and Future Studies

Teachers might consider curriculum adjustment before using the IBRST as a self-monitoring tool when targeting students who have difficulties in reading or other academic subjects. All three participating students in the current study were reading below grade level, and their disruptive behavior might have functioned as escaping from instructional activities or task demands during class. Modifying the curriculum to the student's current level may lead to improved classroom behavior without introducing a more invasive intervention.

A consideration for future research is to provide students with feedback on their ratings on their own behavior using the IBRST. Although the current study compared the student-collected IBRST with teacher-collected IBRST to examine the accuracy of the student ratings as part of assessing treatment integrity, no feedback was given to students on whether they were using the self-monitoring tool correctly. Feedback on students' ratings would ensure that students use the IBRST correctly and effectively. Future researchers who are interested in replicating the study should also examine the long-term maintenance effects of using the IBRST as a self-monitoring tool. Future research using additional measures of academic performance and assessments of generalization and long-term follow-up would contribute to the current literature on the IBRST.

Although the study has limitations, it contributes greatly to the current literature on self-monitoring tools. This study is the only study to evaluate the IBRST as a self-monitoring tool. Although data are limited to one student, this study is also the first to use an in-class self-monitoring behavior rating procedure that involved parents. Although two students were successful without their parent involvement, involving parents in addressing academic and behavioral issues using self-monitoring with the IBRST may enhance the intervention outcomes and promote stronger or faster behavior changes in students.

References

- Amato-Zech, N. A., Hoff, K. E., & Doepke, K. J. (2006). Increasing on-task behavior in the classroom: Extension of self-monitoring strategies. *Psychology in the Schools, 43*, 211-221. doi:10.1002/pits.20137
- Axelrod, M. I., Elizabeth, J. Z., Haugen, K. A., & Klein, J. A. (2009). Self-management of on-task homework behavior: A promising strategy for adolescents with attention and behavior problems. *School Psychology Review, 38*, 325-333.
- Bailey, K.M., & Blair, K.C. (2015). Feasibility and potential efficacy of the family-centered Prevent-Teach-Reinforce model with families of children with developmental disorders. *Research in Developmental Disabilities, 47*, 218-233. doi:10.1016/j.ridd.2015.09.019
- Barkley, R. A., Copeland, A. P., & Sivage, C. (1980). A self-control classroom for hyperactive children. *Journal of Autism and Developmental Disorders, 10*, 75-89.
doi:10.1007/BF02408435
- Brooks, A., Todd, A. W., Tofflemoyer, S., & Horner, R. H. (2003). Use of functional assessment and a self-management system to increase academic engagement and work completion. *Journal of Positive Behavior Interventions, 5*, 144-152. doi: 10.1177/10983007030050030301
- Campbell, A., & Anderson, C. M. (2011). Check-in/Check-out: A systematic evaluation and component analysis. *Journal of Applied Behavior Analysis, 44*, 315-326. doi: 10.1901/jaba.2011.44-315

- Carr, S. C., & Punzo, R. P. (1993). The effects of self-monitoring of academic accuracy and productivity on the performance of students with behavioral disorders. *Behavioral Disorders, 241-250*.
- Chafouleas, S. M., Riley-Tillman, T. C., & Christ, T. J. (2009). Direct Behavior Rating (DBR): An emerging method for assessing social behavior within a tiered intervention system. *Assessment for Effective Intervention, 34*, 195-200. doi: 10.1177/1534508409340391
- Chafouleas, S. M., Riley-Tillman, T. C., & Sassu, K. A. (2006). Acceptability and reported use of daily behavior report cards among teachers. *Journal of Positive Behavior Interventions, 8*, 174-182. doi: 10.1177/10983007060080030601
- Chafouleas, S. M., Sanetti, L. M. H., Jaffery, R., & Fallon, L. M. (2012). An evaluation of a classwide intervention package involving self-management and a group contingency on classroom behavior of middle school students. *Journal of Behavioral Education, 21*, 34-57. doi:10.1007/s10864-011-9135-8
- Clare, S. K., Jenson, W. R., Kehle, T. J., & Bray, M. A. (2000). Self-modeling as a treatment for increasing on-task behavior. *Psychology in the Schools, 37*, 517-522. doi:10.1002/1520-6807(200011)37:6<517::AID-PITS4>3.0.CO;2-Y
- Crozier, S., & Tincani, M. J. (2005). Using a modified social story to decrease disruptive behavior of a child with autism. *Focus on Autism and Other Developmental Disabilities, 20*, 150-157. doi: 10.1177/10883576050200030301
- Dalton, T., Martella, R. C., & Marchand-Martella, N. E. (1999). The effects of a self-management program in reducing off-task behavior. *Journal of Behavioral Education, 9*, 157-176. doi:10.1023/A:1022183430622

- DiGangi, S. A., Maag, J. W., & Rutherford, R. B. (1991). Self-graphing of on-task behavior: Enhancing the reactive effects of self-monitoring on on-task behavior and academic performance. *Learning Disability Quarterly, 14*, 221-230. doi: 10.2307/1510851
- Dunlap, G., Clarke, S., Jackson, M., Wright, S., Ramos, E., & Brinson, S. (1995). Self-monitoring of classroom behaviors with students exhibiting emotional and behavioral challenges. *School Psychology Quarterly, 10*, 165-177.
- DuPaul GJ, Power TJ, Anastopoulos AD, Reid R (1998). ADHD Rating Scale IV: Checklists, Norms, and Clinical Interpretation. New York: Guilford.
- Edwards, L., Salant, V., Howard, V. F., Brouger, J., & McLaughlin, T. F. (1995). Effectiveness of self-management on attentional behavior and reading comprehension for children with attention deficit disorder. *Child & Family Behavior Therapy, 17*(2), 1-17.
doi:10.1300/J019v17n02_01
- Ennis, C. R., Blair, K. C., & George, H. P. (2015). An evaluation of group contingency interventions and the role of teacher preference. *Journal of Positive Behavior Interventions, 1*-12. doi: 10.1177/10983300715577663
- Finn, J. D. (1993). *School Engagement & Students at Risk*. Buffalo, NY: U.S. Department of Education, National Center for Educational Statistics.
- Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology, 82*, 221.
- Fuchs, D., Fuchs, L. S., Bahr, M. W., Fernstrom, P., & Stecker, P. M. (1990). Prereferral intervention: A prescriptive approach. *Exceptional Children, 56*, 493-513.

- Ganz, J. B. (2008). Self-monitoring across age and ability levels: Teaching students to implement their own positive behavioral interventions. *Preventing School Failure: Alternative Education for Children and Youth*, 53, 39-48. doi: 10.3200/PSFL.53.1.39-48
- Greenwood, C. R., Horton, B. T., & Utley, C. A. (2002). Academic engagement: Current perspectives on research and practice. *School Psychology Review*, 31, 328.
- Hawken, L. S., & Horner, R. H. (2003). Evaluation of a targeted intervention within a school-wide system of behavior support. *Journal of Behavior Education*. 12, 225-240. doi: 10.1023/A:1025512411930
- Holifield, C., Goodman, J., Hazelkorn, M., & Heflin, L. J. (2010). Using self-monitoring to increase attending to task and academic accuracy in children with autism. *Focus on Autism and Other Developmental Disabilities*, 25, 230-238. doi: 10.1177/1088357610380137
- Improve Your Writing! (n.d.). Retrieved June 22, 2016, from <https://readability-score.com/>
- Iovannone, R., Greenbaum, P. E., Wang, W., Dunlap, G., & Kincaid, D. (2014). Interrater Agreement of the Individualized Behavior Rating Scale Tool. *Assessment for Effective Intervention*, 39, 195-207. doi: 10.1177/1534508413488414
- Jurbergs, N., Palcic, J., & Kelley, M. L. (2007). School-home notes with and without response cost: Increasing attention and academic performance in low-income children with attention-deficit/hyperactivity disorder. *School Psychology Quarterly*, 22, 358-378. doi: <http://dx.doi.org.ezproxy.lib.usf.edu/10.1037/1045-3830.22.3.358>
- Kincaid, D. K., Childs, K., & George, H. P. (2010). School-wide Bench-marks of Quality (BoQ). Unpublished instrument, University of South Florida, Tampa, FL.

- Kazdin, A. E. (1987). Treatment of antisocial behavior in children: Current status and future directions. *Psychological bulletin*, *102*, 187-203.
- Lambert, M. C., Cartledge, G., Heward, W. L., & Lo, Y. Y. (2006). Effects of response cards on disruptive behavior and academic responding during math lessons by fourth-grade urban students. *Journal of Positive Behavior Interventions*, *8*, 88-99. doi: 10.1177/10983007060080020701
- Lannie, A. L., & McCurdy, B. L. (2007). Preventing disruptive behavior in the urban classroom: Effects of the good behavior game on student and teacher behavior. *Education and Treatment of Children*, *30*, 85-98.
- Levendoski, L. S., & Cartledge, G. (2000). Self-monitoring for elementary school children with serious emotional disturbances: Classroom applications for increased academic responding. *Behavioral Disorders*, 211-224.
- Logan, K. R., Bakeman, R., & Keefe, E. B. (1997). Effects of instructional variables on engaged behavior of students with disabilities in general education classrooms. *Exceptional Children*, *63*, 481-497.
- Mathes, M. Y., & Bender, W. N. (1997). The effects of self-monitoring on children with attention-deficit/hyperactivity disorder who are receiving pharmacological interventions. *Remedial and Special Education*, *18*, 121-128. doi: 10.1177/074193259701800206
- McDougall, D., & Brady, M. P. (1998). Initiating and fading self-management interventions to increase math fluency in general education classes. *Exceptional Children*, *64*, 151-166.

- Miller, L. M., Dufrene, B. A., Sterling, H. E., Olmi, D. J., & Bachmayer, E. (2015). The Effects of Check-In/Check-Out on Problem Behavior and Academic Engagement in Elementary School Students. *Journal of Positive Behavior Interventions*, *17*, 28-38. doi: 10.1177/1098300713517141
- Moore, D. W., Anderson, A., Glassenbury, M., Lang, R., & Didden, R. (2013). Increasing on-task behavior in students in a regular classroom: Effectiveness of a self-management procedure using a tactile prompt. *Journal of Behavioral Education*, *22*, 302-311. doi: 10.1007/s10864-013-9180-6
- Riley-Tillman, T. C., Methe, S. A., & Weegar, K. (2009). Examining the Use of Direct Behavior Rating on Formative Assessment of Class-Wide Engagement A Case Study. *Assessment for Effective Intervention*, *34*, 224-230. doi: 10.1177/1534508409333879
- Rock, M. L. (2005). Use of strategic self-monitoring to enhance academic engagement, productivity, and accuracy of students with and without exceptionalities. *Journal of Positive Behavior Interventions*, *7*, 3-17. doi: 10.1177/10983007050070010201
- Ruhl, K. L., & Berlinghoff, D. H. (1992). Research on improving behaviorally disordered students' academic performance: A review of the literature. *Behavioral Disorders*, *17*, 178-190.
- Schloss, P. J., & Smith, M. A. (1998). *Applied behavior analysis in the classroom*. Boston: Allyn and Bacon.
- Schweinhart, L. J., Barnes, H. V., Weikart, D. P., Barnett, W., & Epstein, A. (1993). *Significant benefits: The High Scope Perry Preschool study through age 27* (Monographs of the HighScope Educational Research Foundation, 10). Ypsilanti: HighScope Press.

- Smith, D. J., Young, K. R., Nelson, J. R., & West, R. P. (1992). The effect of a self-management procedure on the classroom and academic behavior of students with mild handicaps. *School Psychology Review, 21*, 59-72.
- Smith, D. J., Young, K. R., West, R. P., Morgan, D. P., & Rhode, G. (1988). Reducing the disruptive behavior of junior high school students: A classroom self-management procedure. *Behavioral Disorders, 231-239*.
- Sugai, G., & Horner, R.H., (1994). Including students with severe behavior problems in general education settings: Assumptions, challenges, and solutions. In J. Marr, G. Sugai, & G. Tindal (Eds.). *The Oregon conference monograph* (pp.102-120). Eugene: University of Oregon.
- Todd A, Campbell A, Meyer G, & Horner R. (2008). Evaluation of a targeted group intervention in elementary students: The check-in/check-out program. *Journal of Positive Behavior Interventions, 10*, 46–55. doi: 10.1177/1098300707311369
- Todd, A. W., Horner, R. H., & Sugai, G. (1999). Self-monitoring and self-recruited praise effects on problem behavior, academic engagement, and work completion in a typical classroom. *Journal of Positive Behavior Interventions, 1*, 66-122. doi: 10.1177/109830079900100201
- Vannest, K. J., Davis, J. L., Davis, C. R., Mason, B. A., & Burke, M. D. (2010). Effective intervention for behavior with a daily behavior report card: A meta-analysis. *School Psychology Review, 39*, 654-672.
- Walker, H. M., Ramsey, E., & Gresham, F. M. (2003). Heading off disruptive behavior: How early intervention can reduce defiant behavior and how win back teaching time. *American Educator (Winter), 6-21*, 45-46.

- Webber, J., Scheuermann, B., McCall, C., & Coleman, M. (1993). Research on self-monitoring as a behavior management technique in special education classrooms a descriptive review. *Remedial and Special Education, 14*, 38-56. doi: 10.1177/074193259301400206
- Wilson, S. J., & Lipsey, M. W. (2007). School-based interventions for aggressive and disruptive behavior: Update of a meta-analysis. *American Journal of Preventive Medicine, 33*, S130-S143. doi:10.1016/j.amepre.2007.04.011

Appendices



Self-monitoring to Improve Academic Behavior Research

The Applied Behavior Analysis Program at the University of South Florida (USF) is currently recruiting children (grades 2-4) who might benefit from participating in a study that provides training to use a self-monitoring tool called the Individual Behavior Rating Scale Tool (IBRST) to improve student behavior in the classroom setting. The proposed study is to find out whether the IBRST used as a self-monitoring tool will reduce problem behavior and increase on-task behavior in students.

Your child may be eligible to participate in the study. If you allow your child to take part in the study, they would go through a short training on how to use the IBRST. The training consists of teaching the students how to use the tool, modeling how to use the tool, rehearsing with the students, and then providing them with feedback. The classroom teacher will provide the training, who is trained by the researcher, Dominique Martinez, a Masters student at USF. The training will be provided in the classroom for a maximum of 30 minutes. After the training, students will be allowed to use the IBRST to self-monitor their behavior during an instructional time period. If you, your child, and your child's teacher are included in the study, no monetary compensation will be provided for participating.

We would like to have permission to contact you so that we can explain the project in more detail. Please complete and return the bottom of this flyer to your child's teacher to let us know whether you want someone from Self-Monitoring project to contact you and make an appointment. If you have any questions about the study, you can call the researcher, Dominique Martinez, at ... or e-mail her at ...

.....

YES, I do want to be contacted to learn more about the project.

Child Name: _____ Grade: _____

Parent's Name: _____ Your Phone Number(s): _____

Your e-mail address: _____

Best times to contact you: _____ Best way to contact you: _____

NO, I am not interested in hearing about the project.

*Please note that this project is in no way an evaluation of your effectiveness as a parent. We are gathering this information for research purposes only. In addition, all information is confidential, and your name will not be associated with the results obtained from your participation

Appendix B. Teacher Interview Questions

- 1) Do you have a student that engages in problem behavior in your classroom?
- 2) Does this student disrupt instructional time when he/she engages in the problem behavior?
- 3) How many times a day does problem behavior occur?
- 4) How many times a week does problem behavior occur?
- 5) Does this student need help staying on-task during instructional periods?
- 6) What does the problem behavior look like?
- 7) How intense is the problem behavior?
- 8) During which instructional period is this problem behavior most likely to occur?
- 9) Does the problem behavior pose any physical harm to the student or others around the student?
- 10) Is the problem behavior affecting the student's academic success?
- 11) Do you believe an intervention is needed for this student's behavior?
- 12) Do you have any background knowledge of behavior rating scales?
- 13) If so, please describe your experience with behavior rating scales.
- 14) Are the parents aware of the student's problem behavior?
- 15) Would you be willing to implement a class-wide intervention?

Appendix C. Data Recording Sheet

Data Recording Sheet

Child Name: _____ Observer: _____ Date: _____
 Routine/Activity: _____
 Child Target Behaviors: _____

Directions: 1. Whenever the time interval is signaled, record the occurrence or nonoccurrence of each target behavior. 3. Count the total number of occurrences for each target behavior. 4. Calculate the total frequency number or percentage of occurrences for each target behavior.

Code: + (occurrence) - (nonoccurrence)

B1: _____ **B2:** _____

Min	0-15 s		16-30 s		31-45 s		46-60 s	
	B1	B2	B1	B2	B1	B2	B1	B2
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

Total number of occurrences with _____ (B1): ____
 Percentage of occurrence with _____ (B2): ____

Appendix D. Sample Student Individualized Behavior Rating Scale Tool (IBRST)

Sample Student Individualized Behavior Rating Scale Tool (IBRST)

Student: _____ Date: _____

Target Behavior	Date Observation	Day 1		Day 2		Day 3		Day 4		Day 4		Day 5	
		Ob 1	Ob 2	Ob 1	Ob 2	Ob 1	Ob 2	Ob 1	Ob2	Ob1	Ob2	Ob 1	Ob2
Problem Behavior	10+	6	6	6	6	6	6	6	6	6	6	6	6
	8-10	5	5	5	5	5	5	5	5	5	5	5	5
	6-8	4	4	4	4	4	4	4	4	4	4	4	4
	4-6	3	3	3	3	3	3	3	3	3	3	3	3
	2-4	2	2	2	2	2	2	2	2	2	2	2	2
	0-2	1	1	1	1	1	1	1	1	1	1	1	1
On-Task	Best day (67-100%)	6	6	6	6	6	6	6	6	6	6	6	6
		5	5	5	5	5	5	5	5	5	5	5	5
	Average (34-66%)	4	4	4	4	4	4	4	4	4	4	4	4
		3	3	3	3	3	3	3	3	3	3	3	3
	Poor day (0-33%)	1	1	1	1	1	1	1	1	1	1	1	1

Appendix E. Sample Teacher Individualized Behavior Rating Scale Tool (IBRST)

Sample Teacher Individualized Behavior Rating Scale Tool (IBRST)

Student: _____ Date: _____

Target Behavior	Date	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Problem Behavior	11+	6	6	6	6	6	6	6	6	6	6
	9-10	5	5	5	5	5	5	5	5	5	5
	7-8	4	4	4	4	4	4	4	4	4	4
	5-6	3	3	3	3	3	3	3	3	3	3
	2-4	2	2	2	2	2	2	2	2	2	2
	0-2	1	1	1	1	1	1	1	1	1	1
On-Task	Best day (67-100%)	6	6	6	6	6	6	6	6	6	6
		5	5	5	5	5	5	5	5	5	5
	Average (34-66%)	4	4	4	4	4	4	4	4	4	4
		3	3	3	3	3	3	3	3	3	3
	2	2	2	2	2	2	2	2	2	2	2
	1	1	1	1	1	1	1	1	1	1	1
	Poor day (0-33%)	1	1	1	1	1	1	1	1	1	1

Appendix F. Parent Involvement (Back of the IBRST)

Parent Involvement (Back of the IBRST)

Student Name: _____

Today's Date: _____

Today I...

- Met my goal

- Did not met my goal

Parent section:

Please check off the action that you performed:

- If your child met his/her goal: Provide specific verbal praise (e.g., "Great job meeting expectations!") and provide him/her with a reward. Examples of a reward are an extra 5 minutes watching T.V., picking a game to play, or a sweet treat.

- If your child did not reach his/her goal: Provide positive statements like, "Even though you did not reach your goal today, you still have a chance to reach it tomorrow if you follow expectations." Please go over the child's expectations at this time.

Please sign here: _____

Appendix G. Teacher Fidelity Checklists

Teacher Fidelity	
Class Routine	
1. Passed out the IBRST prior to instructional period.	Yes/No/NA
2. Reviewed expectations for instructional period.	Yes/No/NA
3. Clearly stated that the instructional period has started.	Yes/No/NA
4. Set the timer for 15 minutes.	Yes/No/NA
5. At 15 minutes, instructed the students to rate themselves	Yes/No/NA
6. Waited 2 minutes for students to score behavior.	Yes/No/NA
7. Provided positive praise for the using the IBRST.	Yes/No/NA
8. Instructed the students to put the IBRST to the side and put the instructional material back in front of them on the desk.	Yes/No/NA
9. Clearly stated that the instructional period has started.	Yes/No/NA
10. Set the timer for 15 minutes.	Yes/No/NA
11. Provided praise for using the IBRST during 2 nd half of instructional period.	Yes/No/NA
12. After the timer goes off, instructed the students to rate themselves	Yes/No/NA
13. Collected the IBRST from students.	Yes/No/NA
14. Provided positive statement when picking up the IBRST. (“Go job rating yourself.”)	Yes/No/NA
15. Filled out the IBRST with his or her own rating of the child’s behavior.	Yes/No/NA
16. Compared and documented the student’s score and his or her score on the IBRST.	Yes/No/NA
17. Concluded instructional period with a positive statement. (“Thank you for filling out the scale.”)	Yes/No/NA
Total “Y” =	Percentage of Fidelity =

Self-monitoring with the IBRST plus Parent Involvement

Teacher Fidelity	
Self-Monitoring with Parent Involvement	
1. Asked student for IBRST upon arrival.	Yes/No/NA
2. If the student does not have it, it is marked in their planner and asked the student to bring it the following day.	Yes/No/NA
3. If the student has it, provides praise for bring it back.	Yes/No/NA
4. Checks if IBRST is signed by parent.	Yes/No/NA
5. Checks if parent marked that they reviewed the IBRST with the student.	Yes/No/NA
6. Provided praise to the student for reviewing IBRST with parent.	Yes/No/NA
Total “Y” =	Percentage of Fidelity =

Appendix H. Teacher Acceptability Questionnaire (Modified IRP-15)

Teacher Acceptability Questionnaire

1) The self-monitoring using the IBRST was an acceptable option for student's problem behavior.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

2) Most teachers would use the IBRST as a self-monitoring tool for a student's problem behavior.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

3) The self-monitoring using the IBRST was effective in changing the student's problem behavior.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

4) I would suggest the use of the IBRST to other teachers.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

5) The student's behavior warranted the need for intervention.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

6) I would be willing to use this tool in other instructional times.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

7) The self-monitoring using the IBRST quickly decreased the student's problem behavior.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

8) The self-monitoring using the IBRST improved the student's on-task behavior.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

9) The self-monitoring using the IBRST will have a lasting improvement on the child's behavior in the classroom.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

10) Other behaviors related to the problem behavior are likely to improve with the use of the IBRST.

	Strongly Disagree				Strongly Agree
1	2	3	4	5	

11) The self-monitoring using the IBRST is likely to change problem behavior in other settings.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

12) The self-monitoring with the IBRST would be beneficial for the student.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

13) Most teachers would find the self-monitoring using the IBRST to be an acceptable intervention for problem behavior.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

14) The self-monitoring with the IBRST was quick to increase on-task behavior during instructional periods.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

15) The student appeared to enjoy self-monitoring their behavior using the IBRST.

Strongly Disagree					Strongly Agree
1	2	3	4	5	

Appendix J. Fidelity Checklist for Teacher Training

Fidelity Checklist for Teacher Training

Researcher: _____
 Completed By: _____
 Date of Training: _____

Set Up and Greeting	Did the implementer complete the step?
1. Has all materials ready prior to training start time	Yes No
2. Greets teachers as they arrive	Yes No
3. Goes over training objectives	Yes No
TOTAL (# Yes / # Total)	
Percent Score	
Creating the IBRST	Did the implementer complete the step?
1. Brief overview of the IBRST	Yes No
2. Explain how to create an IBRST	Yes No
3. Model how to create the IBRST	Yes No
4. Have the teacher create an IBRST	Yes No
5. Provide feedback to the teacher	
6. Answers any questions about how to create the IBRST	Yes No
TOTAL (# Yes / # Total)	
Percent Score	
Using the IBRST	Did the implementer complete the step?
1. Explain how to use the IBRST for self-monitoring and progress monitoring	Yes No
2. Model how to use the IBRST during target period	Yes No
3. Have the teacher rehearse how to use the IBRST	Yes No
4. Provide feedback to the teacher	Yes No
6. Explain what to do during implementation of self-monitoring using the IBRST	Yes No
7. Answers any questions about how to implement self-monitoring using the tool	
TOTAL (# Yes / # Total)	
Percent Score	
Conclusion	Did the implementer complete the step?
1. Answer any questions about the IBRST and self-monitoring	Yes No
2. Thank teachers for attending the training	Yes No
3. Clean training area	Yes No
TOTAL (# Yes / # Total)	
Percent Score	
Final Scoring	
GRAND TOTAL (# Yes / # Total)	
Percent Score	

Appendix K: USF IRB Approval



RESEARCH INTEGRITY AND COMPLIANCE
Institutional Review Boards, FWA No. 00001669
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-7091

1/13/2016

Dominique Martinez
ABA-Applied Behavior Analysis
13301 Bruce B. Downs Blvd
Tampa FL 33612

RE: **Expedited Approval for Initial Review**

IRB#: Pro00024563

Title: Use of the Individualized Behavior Rating Scale Tool (IBRST) as a Self-Monitoring Tool to Improve Academic Behavior

Study Approval Period: 1/13/2016 to 1/13/2017

Dear Ms. Martinez:

On 1/13/2016, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents contained within, including those outlined below.

No research related activities can begin until a letter of support from the Hillsborough County School District is submitted and approved through the IRB amendment process.

Approved Item(s):

Protocol Document(s):

[Thesis V3 01.09.16](#)

Consent/Assent Document(s)*:

[CombinedParentalConsentPermission_V1_1.12.16.pdf](#)

[Teacher_V1_12.22.15.pdf](#)

[Student_V2_12.22.15](#)

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent document(s) are only valid during the approval period indicated at the top of the form(s).

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR 56.110. The research proposed in this study is categorized under the following expedited review category:

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

This research involving children was approved under the minimal risk category 45 CFR 46.404: Research not involving greater than minimal risk.

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

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

Sincerely,



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