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Evaluation of a Self-Monitoring Program to Increase Treatment Integrity of Behavior Intervention Plans

Lela E. Taylor
University of South Florida

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Evaluation of a Self-Monitoring Program to Increase Treatment Integrity of Behavior

Intervention Plans

by

Lela E. Taylor

A thesis submitted in partial fulfillment
of the requirements for the degree of
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Major Professor: Carie L. English, Ph.D.
Roger A. Bothroyd., Ph.D
Bryon R. Neff, M.S.

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ABSTRACT

The growing number of school-aged children displaying challenging behavior has increased the need for effective interventions. School-based consultants (SBC) report using behavioral consultation to assist teachers in designing behavior intervention plans (BIP) that help students engage in appropriate behavior in the classroom. Research indicates that direct training methods increase teacher's implementation of the BIP. One commonly used direct training method, performance feedback (PF), is used to assess teachers' treatment integrity. Research also indicates that checklists (non-direct measures) are more cost efficient methods. The purpose of this paper was to evaluate a direct training method used to train teachers to self-monitor their own implementation of their student's BIP in an effort to increase accuracy of self-report and sustainable treatment integrity outcomes. Two educators who worked with children with challenging behavior participated in this study. The effect of using self-monitoring on both educators' implementation of BIPs was evaluated. Results indicated that both educators' implementation increased and maintained into the maintenance phase. Also, results indicated that educator's accuracy of reporting was similar to independent observers.

Chapter 1: Introduction and Literature

According to a 2005 national report from the Center for Disease Control (CDC), one in every twenty children between the ages of 4 and 17 has been identified (by their parents) as having difficulties behaviorally, academically, or socially (Simpson, Bloom, Cohen, Blumberg, & Bourdon, 2005). With the flourishing number of school-aged children displaying challenging behavior, the need increases for effective methods to reduce such behaviors. Functional behavior assessment (FBA) is one method that has proven to be successful to determine the variables affecting challenging behavior (e.g., Blair, Liaupsin, Umbreit, & Kweon, 2006; Burke, Hagan-Burke, & Sugai, 2003; Hughes, Alberto, & Fredrick, 2006; Stahr, Cushing, Lane, & Fox, 2006; Umbreit, Lane, & Dejud, 2004). Furthermore, behavior interventions plans (BIP) based on the results of FBAs have resulted in reductions in challenging behavior (Ingram, Lewis-Palmer, & Sugai, 2005).

Within schools, the FBA can be an effective tool for teachers to use when challenging behaviors are exhibited; however, many teachers have not received formal training to conduct an FBA (Scott et al., 2004). School-based consultants (SBC; e.g., behavior analysts and school psychologists) have the knowledge and skills to conduct an FBA and develop a BIP; however, the FBA/BIP process is implemented differently in different settings. Some SBCs utilize an expert model and conduct the FBA/BIP process

independently and then provide the information to the teacher leaving him/her to implement the plan on their own (Witt & Martens, 1988). Others use behavioral consultation to involve teachers and assist them through the FBA process (Sheridan, Welch, & Orme, 1996; Wickstrom, Jones, LaFleur, & Witt, 1998; Wilkinson, 2006).

Behavioral Consultation

Behavioral consultation is a team-based process in which the SBC problem-solves with the teacher to increase student engagement and appropriate behavior in the classroom. This process consists of identifying and assessing the challenging behavior and implementing and evaluating the plan (Kratochwill & Bergan, 1990). Because a team approach is utilized, at least one person with expertise in the FBA/BIP process works with the teacher to develop a BIP that matches the function of the challenging behavior, as well as the contextual fit of the classroom (Benazzi, Horner, & Good, 2006). By utilizing a team-based approach, greater teacher ownership in the BIP is observed, increasing the likelihood of implementation in the classroom (Witt & Martens, 1988).

While having all necessary stakeholders on the FBA/BIP team is likely to result in implementation of the BIP in the classroom, it does not guarantee the accuracy with which the plan is implemented. Failure to accurately implement the plan may not result in maximum effectiveness or worse, may result in an increase in challenging behavior. Thus, student behavior is not the only behavior targeted for change in the behavioral consultation process; teacher behavior also must change. Research has shown that different variables are associated with teacher implementation (e.g., Han & Weiss, 2005;

Hughes, Grossman, & Barker, 1990), including school-based, teacher-related, and plan-specific variables.

Han and Weiss (2005) discussed different variables that affect a program's implementation by a teacher. One school related variable that may influence implementation is support by the principal. The involvement of the principal has been shown to increase the teacher's likelihood of implementing the intervention (Gilat & Sulzer-Azaroff, 1994). Additionally, variables that may influence the teacher's likelihood of implementing a BIP include prior history of successes and failures. Teachers who have not been successful in producing behavior change in the past or those that do not believe school procedures facilitate behavior change are less likely to implement intervention plans with efficacy. Other variables that are specifically related to the plan include the teacher's buy-in of the program, the perceived level of difficulty, the anticipated effectiveness, the time it takes to implement the plan, and the plan's compatibility with their own beliefs about student behavior. Additional variables may include resources that are not available in the classroom setting, lack of adequate training, as well as needing several people for implementation (Gresham, 1989; Yeaton & Sechrest, 1981). Given that many variables may influence a teacher's motivation to implement a BIP, SBCs should strive to address these issues prior to implementation. Providing adequate teacher training prior to implementation is one method that may decrease the affects of plan related variables on implementation (Kratochwill & Bergan, 1990).

Indirect and direct training methods are used when training the teacher on the implementation of the BIP (Sterling-Turner, Watson, Wildmon, & Watkins, 2001).

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Indirect training consists of written or spoken instructions that describe the intervention. Direct training involves the SBC demonstrating the specific skills via role-playing, modeling, and/or rehearsal and receiving corrective or positive feedback by the trainer (Kratochwill & Bergan, 1990; Sterling-Turner et al., 2001; Watson & Robinson, 1996).

In 2001, Sterling-Turner and colleagues examined which training method (direct vs. indirect) lead to better treatment integrity. The participants were 64 undergraduate students who were trained to implement a treatment protocol for a confederate who exhibited a facial tic. Participants were trained using one of three training methods: didactic training (DT), modeling training (MT), and rehearsal/feedback training (RFT). Participants who were trained using didactic training received a verbal explanation of the treatment procedures, which was considered an indirect training method. The participants who were trained using modeling, a more direct method, watched a videotape of a person implementing the treatment protocol while being given a verbal explanation of treatment components. Participants who were trained using rehearsal/feedback training, the most direct method of training, practiced the actual protocol with the experimenter and confederate and received positive or corrective feedback on their implementation of the treatment protocol. Results indicated that participants who received the two most direct training methods, RFT and MT, obtained higher mean integrity scores than participants who received the indirect training, DT. However, the highest mean integrity scores were obtained by participants who received the most direct training method, RFT. These results suggest that direct training methods lead to higher treatment integrity scores.

Sterling's and Turner's (2001) results suggest that merely discussing the BIP during the behavioral consultation process may not lead to sufficient implementation. More direct training methods are needed to increase the likelihood of sufficient implementation (Watson & Robin, 1996). Additional strategies that could be used with direct training methods to increase teacher implementation of BIPs are training in the natural environment (Kratochwill & Bergan, 1990) or using prompts (Petscher & Bailey, 2006). Utilizing direct training methods increases the likelihood that not only will teachers implement the BIP but also that the plan will be implemented as intended.

Treatment Integrity

The extent to which the teacher implements the planned intervention as intended is called treatment integrity (Elliot & Busse, 1993; Gresham, 1989; Kratochwill & Bergan, 1990) or fidelity (Monsher & Prinz, 1991). When measuring treatment integrity, the consistency and accuracy of implementation are examined (Gresham, 1989; Lane, Bocian, MacMillan, & Gresham, 2004), providing further support that changes in student behavior are related to the intervention rather than extraneous variables (Kratochwill & Bergan, 1990). In addition, treatment integrity scores lend greater support for the external validity of an intervention because it demonstrates that changes in student behavior were a result of the intervention (Peterson, Homer, & Wonderlich, 1982).

While research suggests that it is necessary to measure treatment integrity, it is unclear what level of integrity is needed to yield desired changes in behavior. For example, if a prescribed intervention instructs the teacher not to attend to the challenging behavior and to praise the appropriate behavior, but the teacher only intermittently implements this strategy, the plan may result in a decrease in challenging behavior, but it

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may not be a sufficient decrease due to the inconsistency in teacher implementation. Research has yielded mixed results on the level of treatment integrity that is necessary to result in desired behavior change. For example, Gresham (1989) suggests that training participants to a high level of integrity (e.g., 80% or higher) is needed to produce changes in student behavior. However, Gansle and McMahon (1997) examined three different levels of integrity on a self-monitoring (SM) procedure that included three components: self monitoring, feedback and reward, and graphing of behavior. The purpose of the study was to determine if different levels of teacher integrity predicted change in student behavior. Participants were 21 3rd to 6th grade student-teacher dyads who were assigned to one of the three treatment integrity groups: 100% integrity (SM with feedback, reward, and graphing), 83.3% integrity (SM with feedback and reward), and 66.7% integrity (SM only). All student participants were trained to self-monitor their behavior; however, teachers in the higher treatment integrity groups were taught how to provide feedback, rewards, and graph behavior based on student self-monitoring records. Teachers in the 66.7% integrity group were not trained to provide any information to students on their self-monitoring records. Prior to the commencement of the intervention, one appropriate and one inappropriate classroom behavior was selected for the student to monitor. The accuracy of teacher implementation of treatment components was assessed by teacher self-report and collection of permanent products including records of data sheets, rewards earned by the student, and the graphs of behavior contingent on the condition. Results indicated that mean decreases in inappropriate behavior recorded were similar despite integrity level. However, the results indicated that higher levels of treatment integrity (i.e., implementing components of feedback, reward, and graphing) resulted in increased

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means of appropriate behavior recorded in the classroom.

The results of the Gansle and McMahon (1997) study indicate that different levels of treatment integrity result in different levels of behavior change. While reports of inappropriate behavior were similar across groups, reports on appropriate behavior were higher for groups receiving some type of feedback of reporting. These results suggest that implementing an intervention with greater levels of treatment integrity yields greater changes in behavior; however, it is still not clear what level of treatment integrity is necessary to result in what level of behavior change.

Despite the importance of the monitoring process of behavioral consultation, treatment integrity has not been assessed and/or reported adequately in experimental studies (Gresham, 1989; Gresham et al., 1993, 2000; Peterson et al., 1982). For instance, Peterson and colleagues (1982) examined 539 experimental studies published in the *Journal of Applied Behavior Analysis* from 1968-1980 and conducted an analysis of the treatment integrity of operational definition(s) and reported adherence for the independent variables (IV). Both variables were classified into three categories: 1) IV reliability and operational definition were included, 2) IV reliability and the operational definition were not included, but were classified as a low risk for error or unnecessary, and 3) IV reliability and operational definition were not reported but were considered as high risk for inaccurate reporting or needed further information. High- and low-risk inaccuracy was determined by the measurement tool utilized to measure implementation of treatment components. For instance, a study categorized as low-risk included permanent products while another included a systematic machine that distributed the

treatment components. An operational definition was considered unnecessary when the definition was clear and concise (i.e., the machine gave a child one M & M) or when a citation was provided that led to further detail. Results indicated that only 16% of articles operationally defined and reported reliability assessment of the IV. Other meta-analysis studies reported similar findings--the IV was operationally defined in approximately 35% and assessed in less than 20% (Gresham et al., 1993, 2000).

In the discussion section, Peterson and colleagues (1982) noted a "curious double standard" (pp.478) because more methodological rigor was used for the dependent variable (DV) than the IV in both assessment and operational definitions. Even though the dependent variables demonstrate the effectiveness of the intervention, if the independent variable is not clearly defined and assessed, internal and external validity problems may occur (Monsher & Prinz, 1991). Research demonstrates that numerous studies have not adequately reported assessment of the independent variable resulting in questions as to the internal and external validity of these studies. Despite the limited studies that report treatment integrity scores, it is a critical variable to measure when evaluating the effectiveness of BIPs implemented in classroom settings because it allows the SBC to identify the level of accuracy of implementation, strengthening the internal and external validity of the intervention.

In order to make sure that the plan is being implemented with integrity, one must monitor the implementation process. There are different ways to measure treatment integrity. Direct methods (systematic observation) require someone to see the plan being implemented in its environment. Whereas, indirect methods obtain the information on

implementation via self reports, questionnaires, and behavior rating scales from persons in the environment (Gresham, 1989).

Direct observation requires someone to observe the implementation of the prescribed plan, such as the SBC, a data collector, or someone else in the natural environment. When using direct observation to monitor treatment integrity, Gresham (1989) identified three steps that should be considered. Step one is to make sure that the components in the intervention are clearly defined. Step two is to make sure to have a way to measure both occurrence and nonoccurrence of the components in the intervention. Step three is to make sure to use percentages to measure the treatment integrity of each person implementing the plan. As a result of using these three steps during direct observation, the observer will be able to focus on the variables targeted for the intervention, report integrity of variables, and assess the change in integrity over time (Gresham, 1989).

Even though direct observation allows the SBC to observe what is occurring in the environment, there are limitations to this method of observation, including the implementer's reactivity to being observed (Gresham, 1989). Reactivity is defined as a change in behavior due to the presence of an observer (Johnson & Pennypacker, 1993). Brackett, Reid, and Green (2007) examined the effects on staff performance when being observed. The participants were two job coaches assigned to work with three support workers who were unable to walk, had limited upper body movements, and communicated via gestures and vocalizations. Each job coach was trained to prompt the support workers to complete the steps requesting a work break. The dependent variable,

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did the job coach prompt the worker to take a break, was measured during times of direct observation, inconspicuous observations, and inconspicuous observations during which the job coach was required to self-report on their implementation. Results indicated that during direct observation, neither job coach correctly prompted the support workers to complete the steps for work breaks. In fact, during inconspicuous observations, the job coaches were completing the steps of the work breaks for the support workers, rather than prompting them to complete the steps. These results lend further support that direct observation may result in reactivity and thus, inaccurate representation of the actual implementation of an intervention.

Gresham (1989) discusses practical ways in which an observer could minimize the reactivity. Three suggestions include: 1) varying the schedule in which to observe and use 'spot checks' on the implementation of intervention plans, 2) being inconspicuous with observational procedures (e.g., sitting in the back of the room or hiding measurement tools), and 3) not stating the purpose of the observation until it is finished. Even though reactivity is a natural reaction, it could misrepresent the actual performance of the person being observed. More specifically, when treatment integrity is influenced by the SBC's presence in the classroom, this could result in an unclear picture of what is being implemented when the SBC is not present weakening the treatment integrity of the BIP results.

In conclusion, there are advantages and disadvantages to using direct observation as measurement tool. The primary advantage is it allows the SBC to observe what is occurring within the classroom. However, the disadvantages in using this monitoring tool

are that it can be very time-consuming, and due to possible reactivity, it may not provide an accurate measure of implementation.

After direct observation of an intervention plan, performance feedback often is used to inform the implementer of their performance on an intervention plan (DiGennario, Martens, & McIntyre, 2005; Jones, Wickstrom, & Friman; 1997; Mortenson & Witt, 1998; Noell, Duhon, Gatti, & Connell, 2002). During performance feedback, the person observing reviews the data, praises correct implementation, addresses incorrect implementation, if needed, and discusses questions or comments (Codding, Feinberg, Dunn, & Pace, 2005).

Mortensen and Witt (1998) assessed performance feedback effects on implementation of a reinforcer-based classroom intervention. The participants were four classroom teachers. The experimental conditions were teacher training, no assistance after training, performance feedback, and maintenance (no assistance/feedback). The criterion that initiated a performance feedback condition was a decline in implementation to less than 70% accuracy. Teachers who dropped below the criterion level participated in weekly meetings with the consultant. During the weekly meetings, discussion consisted of (1) a review of treatment integrity data and student academic performance, (2) positive feedback for correct implementation of treatment components and corrective feedback for missed or incorrect implementation of treatment components, (3) verbal agreement of teachers' commitment to the plan, and (4) a reminder of continuation in submitting data summaries and the upcoming week's meeting. Results indicated that performance feedback increased three out of four teacher's implementation. Only one of the four

teachers did not meet the criterion for the performance feedback condition because her implementation remained at or above 80%. During the maintenance condition, only two teachers participated because the third teacher's student was absent for the remainder of the study. The results indicated that one teacher displayed a slight decrease in implementation from 80% to 72%, while the other teacher demonstrated more stable and higher levels of implementation. The authors noted that the teacher who demonstrated a higher and more stable level of implementation received more performance feedback sessions, which may have contributed to better treatment integrity outcomes.

These results yield two implications. First, performance feedback can produce an immediate increase in implementation, but the removal of the consultant may lead to a decrease in implementation. This suggests that the consultant's presence is necessary for continued high implementation. Moreover, this poses practical concerns because some consultants are not permanently stationed in the school. The second implication is that performance feedback can become a time-consuming process for the consultant and the teacher as results indicated that greater performance feedback sessions resulted in better results in implementation. This may pose a practical challenge for consultants who can not continually meet with teachers due to insufficient time (Wilczynski, Mandal, & Fusilier, 2000). While performance feedback is an effective tool to increase the implementation of treatment intervention, the time frame to fade performance feedback can pose a limitation, especially if their implementation decreases when consultants leave the environment. Such decreased implementation affects the sustainability of behavior change.

Sustainability of School-based Interventions

Sustainability is defined as the continuation of implementation of the intervention after the training and supports have been removed. While some authors have argued that the factors linked to sustainability are limited (Gersten, Chard, & Baker, 2000), other investigators have identified factors that either hinder or support sustainability. For example, Horner, Sugai, Lewis-Palmer, and Todd (2001) identified unclear curricula expectations, ineffective instructional delivery, inadequate staff and administrative support, underfunded budgets, and the failure to provide ongoing and meaningful feedback as factors that hinder sustainability. Additional factors identified include: district commitment to the intervention (Klingner, Arguelles, Hughes, &Vaughn, 2001; Vaughn, Klingner, & Hughes, 2000), leadership (Klingner et al., 2001; Greenberg, Weissberg, O'Brien, Zins, Fredericks, Resnik, & Elias, 2003), and teachers' acceptance of the intervention (Gersten et al., 2000; Klingner et al., 2001; Vaughn et al., 2000), which can support sustainability. Researchers argue that addressing such factors builds a system in which program implementation is more likely to be successful (Grimes, Kums, & Tilly III, 2006; Klingner et al., 2001; Massey, Armstrong, Boroughs, Henson, & McCash, 2005).

While trying to address the school/district factors that affect sustainability, researchers have used different approaches. One approach is the PAR model, which stands for Prevent, Action, and Resolution (Rosenberg & Jackman, 2003). PAR is a consensus-based team approach in which teachers, administrators, family members, and other service providers share responsibility in decision making of the rules and

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consequences established. Another approach proposed by Sugai, Horner, Sailor, Dunlap, Eber, Lewis, et al. (2005) outlined a nine-step approach for promoting the successful implementation and sustainability of positive behavior supports in schools. These steps are explained further in the *School-wide Positive Behavior Support (PBS): Implementers' Blueprint and Self-Assessment,* which depicts the critical implementation elements to be addressed when implementing PBS. These elements include: 1) leadership, 2) coordination, 3) funding, 4) visibility, 5) political support, 6) training capacity, 7) coaching capacity, 8) demonstrations, and 9) evaluation.

Although school/district factors are critical to the successful long-term sustainability of interventions, this takes ample time and effort to develop. Because teachers typically implement interventions, research on classroom strategies and teacher supports that are related to sustainability should be explored further. Classroom factors that might hinder or improve classroom level implementation include a teacher's acceptability of the program, the time it takes to implement the plan, resources that are or are not available in the classroom setting, and the need for additional staff for implementation (Gresham, 1989; Yeaton & Sechrest, 1981). Researchers have examined indirect training methods to address classroom factors including self-reports and self-monitoring.

Indirect methods provide documentation of the strategies implemented by the teacher. Unlike direct observation, reactivity is less likely to occur. Furthermore, the document itself may serve as a prompt for implementation, which is helpful in producing a sustainable element for implementing the plan. Despite these advantages in using

indirect methods, there is one main limitation. The SBC is relying on the self-report of the teacher that the data provided are an accurate representation of what is occurring in the environment. Research has indicated that this could lead to biased reporting of what it is actually occurring in the environment (Wickstrom et al., 1998).

Self-Report

Self report is a measure that has been described as the implementer reporting their level of implementation on each treatment component (Gresham et al., 2000; Wilkinson, 2006). One common format for the implementer to report integrity of implementation is a questionnaire (Jensen & Haynes, 1986). The questionnaire can vary in the responses used to measure treatment integrity. For example, the consultant may use a dichotomous response measure, asking whether the treatment component was implemented or not or a Likert scale ranging 1 to 5 (strongly disagree to strongly agree) that measures the extent to which the treatment component was implemented (Gresham, 1989). One of the main advantages of self-report measures is that they are cost efficient and require little time from the implementer and consultant (Hartman, Roper, & Bradford, 1979; Jensen & Haynes, 1986). Despite the benefits of self report, one main disadvantage is that certain biases, such as "social desirability," can occasion inaccurate reporting of implementation (Jensen & Haynes, 1986). For example, a teacher reports that she is implementing the plan as intended, but in actuality has not implemented it to the extent to which it is reported because she is trying to please the consultant or other authorities such as administrators (Robbins & Gutkin, 1994; Wickstrom et al., 1998). Wickstrom and colleagues (1998) examined the relation between selected

treatments and actual teacher implementation of the treatment. The participants were 29

consultant-teacher dyads in regular education classrooms. Treatment integrity was

monitored by teacher self-report and direct observation. Results indicated that the mean

teacher self-report was 54%; however, the mean observer score of integrity was 4%.

Thus, a large disparity was seen between teacher self-report and observed measures of

treatment integrity. Similar findings were reported by Robbins and Gutkin (1994) who

examined three teachers implementation of the recommended intervention. The teachers

self-reported that they implemented the intervention, but actual observation showed little

to no change in teacher behavior.

Due to the over-reporting that has occurred on self-report measures, it seems that

additional monitoring measures may be needed to accurately measure treatment integrity.

However, this requires additional time and resources that are often not available in school

settings.

Self-Monitoring

A measure that requires the individual to self-report their own behavior, but also

trains the person how to observe and record the targeted behavior (Bornstein, Hamilton,

& Bornstein, 1986) is self-monitoring. Research suggests that self-monitoring can result

in behavior (Frith & Armstrong, 1985). When training the individual to self-monitor, two

behaviors considered are reactivity and accuracy (Sharpiro, Durnan, Post, & Levinson,

2002). Reactivity is lessened because the individual is examining and providing

immediate results on their own behavior. In addition, the consultant can take less

responsibility for prompting the desired behavior (Richman, Riordan, Reiss, Pyles, &

Bailey, 1988). The accuracy of self-monitoring also can be assessed by internal agents such as supervisors, (Richman et al., 1988), teachers (DiGangi & Rutherford, 1991) or students in the classroom (Gilberts, Agran, Hughes, & Wehmeyer, 2001), which increases cost-efficiency. Self-monitoring has been used with various populations, including students (Gureasko-Moore, DuPaul, & White, 2006), residential staff (Richman et al., 1988; Suda & Miltenberger, 1993), and persons with disabilities (Gilberts et al., 2001). To date, self-monitoring has been used most frequently throughout the educational literature as a tool to help students who are exhibiting academic and challenging behavior (e.g., DiGangi et al., 1991; Gilberts et al., 2001; Maag & Reid, 1993). It also has been used with teachers in an effort to change their behavior in the classroom (e.g., Allinder, Bolling, Oats, & Gagnon, 2000; Browder, Liberty, Heller, & D'Huyvetters, 1986; Kalis, Vannest, & Parker, 2007).

In 2004, Munton examined the effects of three consultation follow-up methods (tip sheet, checklist, and performance feedback) on treatment integrity and student disruptive behavior. The participants consisted of 9 teacher/student dyads. The tip sheet condition consisted of a sheet that provided examples and non-examples of how to handle student disruptive behavior. The checklist condition required the teacher to record their implementation of the intervention component. The performance feedback session included data on treatment integrity, student progress, and positive and corrective feedback from the consultant. All participants' initial training consisted of reading through the tip sheet, providing examples of each step, suggesting a review of the tip sheet once per week, and keeping the tip sheet at the teacher's desk. Variables that were

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assessed were student behavior, treatment integrity, teacher and consultant time, school time, and social validity. Results indicated that rates of student disruptive behavior were lowest and treatment integrity scores were highest during the checklist condition and the performance feedback. In addition, both interventions were rated as acceptable interventions by teachers. According to these results, the checklist was the most cost-efficient method in terms of cost to implement and benefits produced.

Research has demonstrated that self-monitoring is an effective strategy in changing the behavior of the implementer (e.g., Allinder et al., 2000; Browder et al., 1986; Kalis et al., 2007) and allows the individual to take responsibility for their own behavior (Gilberts et al., 2001). In addition, self-monitoring has been reported to be a "non-intrusive intervention, easy to implement, allows for immediate feedback, and can be effective in changing behavior" (Kalis et al., 2007, p 26). Given that research has shown direct training methods are more effective when teaching implementation (Sterling, Watson, Wildmon, & Watkins, 2001), utilizing a direct training method to train educators to self-report may increase the accuracy of implementation and decrease the reactivity associated with direct observation procedures. No studies were found that used direct training methods to teach teachers to self-report on their implementation of behavior intervention plans.

Given this, the purpose of this study was to use self-monitoring procedure to increase and sustain implementation. The second purpose was to determine if the teacher level of reporting remained consistent with the consultant. To evaluate this, educators were trained to evaluate their self-report sheet to determine accuracy of implementation

of the student's individualized behavior intervention plans. Training consisted of direct

methods including role-modeling, role-playing, and performance feedback. Teachers

were asked to observe their behavior and record the occurrence of each intervention

component. In addition, at the end of implementation, teachers were required to calculate

their treatment integrity scores, providing immediate feedback on their implementation

for that day.

Chapter 2: Method

Participants

Participants in this study were two special educators from the Tampa Bay area who had nominated students with challenging behavior in their classroom for participation in the Prevent Teach Reinforce (PTR) individual behavior support project. The second participant, Lenora, was a para-professional who provided one-on-one services for a 5th grade student with developmental disabilities. The first participant, Maria, was a second grade educator. Both educators signed an informed consent (see Appendix A) to participate in the PTR project including participation in this research project. Both educators qualified for participation in this study due to low treatment integrity scores during the PTR process (see procedure below). This study took place in the respective educators' public school classrooms. Participants were provided with all materials needed to complete the study.

Response Definitions and Reliability

Adherence of implementation. For purposes of this study, adherence of implementation was defined as the specific steps for each intervention component to be implemented in order to demonstrate a minimal effect. The criterion for each intervention component was individualized for each student's behavior intervention plan. For example, in Appendix B, Maria's BIP included a curricular modification, which

involved two steps. The first step was reducing the student's assignment. The second step was reducing the student assignment by 25 to 50% immediately (within in minute) after presenting the assignment and before problem behavior began. Adherence of implementation for this student's BIP was that the educator must at least reduce the student's assignment by some amount for the intervention to function as an effective prevention strategy. Examples of the fidelity sheets designed for the participants' students are listed in Appendix B and C. During implementation, if the educator reduced the student's assignment, she would receive a "yes" that the intervention component was implemented with adherence because the indicated step that was needed to effectively prevent challenging behavior was implemented. Total percentage of adherence of implementation was calculated for each participant by dividing the total number of components scored as adhered to by the total number of intervention components to be adhered to and then multiplied by 100.

 Accuracy of implementation. For purposes of this study, accuracy of implementation served as a measure of the quality of implementation and was defined as implementing the specific steps under each intervention component in order to demonstrate an optimal effect. The criterion for each intervention component was individualized for each student's BIP. For example, as previously mentioned, the intervention component of curricular modification involved two steps: reducing the assignment and immediately reducing the assignment by 25 to 50% prior to problem behavior (see Appendix B). However, to obtain the optimal effect, both steps had to be implemented. Thus, if the educator completed both steps, a score of "yes" would be

obtained for accuracy of implementation for transition support. Total percentage of accuracy of implementation was calculated for each participant by dividing the total number of components scored as accurate by the total number of intervention components needed for accuracy and then multiplied by 100.

Interobserver Agreement. During baseline and maintenance phases, an independent observer and the researcher scored the adherence and accuracy of implementation. Prior to observation of educator implementation, the independent observer was trained in scoring implementation of the intervention components. The training consisted of instructions of what intervention components to look for, examples of adherence and accuracy of implementation, and practice scoring sessions on videotape. The independent observer scored 100% on three consecutive sessions during training to become eligible to score BIPs in the classroom.

During the classroom observation, each observer was provided with a sheet that contained each task analyzed intervention component for each participant. Reliability scores obtained during observations included 1) treatment integrity and 2) educator reporting. Treatment integrity was measured by calculating the adherence and accuracy score of implementation. The reliability score for treatment integrity between the independent observer and the researcher was scored as agreements of prescribed intervention components observed divided by agreements plus the disagreements of prescribed intervention components implemented during an observation period. Reliability checks on treatment integrity were conducted during at least 30% of all sessions. Reliability scores for participant one averaged 88% [range, 75 to 100] in

baseline, 85% [range, 75 to 94] in intervention, and maintenance 88% [range, 88].

Participant two received 8 sessions on reliability checks and participant two received 7

sessions of reliability checks. Reliability scores for participant two averaged 90% [range,

90] in baseline, 79% [range, 60 to 90] in intervention, and 90% [range, 79 to 100] in

maintenance.

During intervention, accuracy of educator reporting was measured by comparing

researcher's scores with the scores of the educator. Reliability scores for educator

reporting were calculated based on the researcher's or the independent observer's and the

educator's scores (see Table 1). Educator reporting was calculated as the number of

intervention components accurately reported when compared to the researcher or

independent observer. A percentage of reliability accuracy was obtained by dividing the

total number of agreements of prescribed intervention components implemented by the

agreements plus the disagreements of prescribed intervention components implemented

during an observation period multiplied by 100.

Results of the researcher's, Maria's, and Lenora's reliability are depicted in Table

1. Maria's reliability with the researcher averaged 84% [range, 80 to 90]. Thus, Maria's

accuracy of reporting was highly reliable with the researcher. Lenora's scores also

indicate high reliability with the researcher, averaged 85% [range, 70 to 94]. Thus, both

educators were highly accurate when reporting their level of implementation during an

observation.

Table 1. Reliability Scores

| | Participant | |
	Maria	Lenora
Consultant	90%	94%
	82%	81%
	80%	94%
	83%	70%

Prevent-Teach-Reinforce Process

The PTR process contained five steps that included team building, goal setting,

assessment, intervention and evaluation. The first step, team building, encouraged all

participants who work or have worked with the student to be part of the student-specific

team and included discussion of how to work together as a team to ensure effective team

functioning. The second step, goal setting, determined both appropriate and inappropriate

behaviors that were targeted for the intervention. After the goals were set, baseline data

collection on the student's targeted behaviors commenced. The third step, assessment,

involved conducting a functional behavior assessment (FBA) to gather information on

events in the environment that may have an effect on the student's behavior and

ultimately to determine the function(s) of the behavior(s) targeted for reduction. The

fourth step, intervention, involved determining the specific strategies that were used in

the BIP. The fifth step was the primary focus of this study and required training the educator in the implementation of the BIP and evaluating treatment integrity to determine the level of implementation.

During the fifth step of the PTR process, the educator was taught how to implement the student's individualized behavior intervention plan. Initially, each educator was provided with verbal instructions on how to implement the BIP. Next, the educator was given an opportunity to role-play and implement with the student the intervention components written in the plan. Once the educator demonstrated that she understood how to implement the BIP, the original consultant withdrew from the educator's classroom. If more training was needed as indicated by integrity levels falling below 70% on three consecutive days, (see below for specific procedures), further support was provided as part of this study. From PTR sample, two educators qualified to participate in this study.

Experimental Design and Procedure

To examine the effect of self-monitoring on educators' implementation of adherence and accuracy, this study used a multiple baseline design (Kazdin, 1982) across two educators including three potential phases: baseline, self-monitoring training, and maintenance (see Appendix E).

Baseline. During this phase, the researcher observed the participants' implementation of the targeted student's BIP. The researcher did not provide feedback to the educator. Following three consecutive days of treatment integrity scores at 70% or below, the participant entered the self-monitoring training phase.

Self-monitoring training. The self-monitoring training procedure was used to provide further assistance and training to the participant on implementation of the BIP to increase treatment integrity scores. The self-monitoring training occurred in the classroom and included two steps: 1) training in the absence of the student and 2) training in the presence of the student. Initially, the researcher provided the participant with a rationale and an explanation of the purpose of self-monitoring. The rationale statement included three explanations: 1) this is a tool to help the researcher understand what is occurring in the environment, 2) educator recording is a tool that will help you determine your level of implementation of the students' BIP, and 3) educator scores will only be used for this study and would not affect her job. Next, the educator was provided with a verbal explanation of self-monitoring, modeling, and positive and corrective feedback on the steps of the self-monitoring process. The researcher discussed the task analyzed steps for each intervention component. In addition, the researcher and educator discussed prompts that could be provided to assist the educator in implementing an intervention component. For example, if an educator was to prompt a student to ask for a break. A prompt to remind the educator would be the break pass on the student's desk, which would serve as a visual cue to prompt the educator to ask if the student needs a break. Finally, a discussion on how to self-monitor one's own implementation of the intervention components occurred. A checklist with all individualized intervention components was provided to the participant (see Appendix D and E). The checklist included two columns labeled: 1) Yes (I implemented this step of the plan) and 2) NA (changes in schedule prevented using this component; i.e. fire drill, exam, standardize test). When the educator did not implement   the step, they were trained to put a dash

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mark in the "yes" column, which represented "No, did not occur." The educator was taught to record on the checklist each step that was implemented or was not implemented immediately after the occurrence of the intervention component or at their next available moment. Additionally, at the bottom of the checklist, the educator was taught how to tally her responses and place a percentage in the box labeled total score. The percentage score was calculated as the number of prescribed intervention components implemented divided by possible interventions components for that day multiplied by 100.

Once the educator agreed that she understood the self-monitoring process, the researcher talked through the procedure with the educator. The researcher used the previous observation to demonstrate how to self-monitor implementation. Next, the educator was asked which of the following steps she implemented. Once an answer was reached, the researcher demonstrated how to provide a rating on implementation. For example, if the educator indicated that she did not implement the intervention step, the researcher made a dash mark for that component. If the educator did implement the intervention component, the researcher provided a check beside the intervention step that was implemented. This process was completed until all steps had been assessed. When the educator's accuracy ratings matched the consultant's at 80% or higher, then she had successfully self-monitored her implementation.

Once reliability between the educator's and consultant's ratings was matched, the educator was allowed to self-monitor their implementation in the classroom. This was step two of the training, in which the educator demonstrated skills acquired in the classroom with the student. The researcher observed the educator implementing the BIP and the self-monitoring steps. If the educator   and researcher ratings did not match

during an observation, the researcher provided verbal feedback. Verbal feedback included asking the educator to reflect when the intervention step may have occurred, determining if the intervention step was or was not implemented, and what they could do better to make sure that step was implemented during the next implementation. Once the educator obtained a consistent score of 80% or higher on accuracy of self-monitoring and a treatment integrity score of 70% or higher on implementation, the consultant removed verbal feedback.

After verbal feedback was removed, the participant was still required to self-monitor their implementation. If she demonstrated a consistent level of implementation when feedback was removed, then she entered the maintenance phase. However, if the implementation dropped below 70% then verbal feedback was reinstated until a consistent level of implementation was reached, in which verbal feedback was removed again.

Maintenance. During this phase, the researcher did not provide any feedback to the educators and the educator was instructed to stop self-monitoring. However, the educator was asked to continue implementing the behavior intervention plan.

Chapter 3: Results

Both participants' implementation data are displayed in Figure 1. The graph depicts the participants' adherence and accuracy of implementation during each phase of the study. The results of Lenora's implementation level are represented at the top of Figure 1. In baseline, Lenora's adherence and accuracy of implementation averaged 48% [range, 33 to 57] and 41% [range, 33 to 57], respectively. In the self-monitoring phase, Lenora's average level of implementation for adherence and accuracy increased to 70% [range, 33 to 88] and 63% [range, 33 to 75], respectively. Lenora notified the researcher of withdrawal from the study prior to obtaining the aforementioned criteria for moving into the maintenance phase. The checklist was removed immediately upon notification of withdrawal. Nevertheless, in maintenance, Lenora continued to implement the intervention plan with high fidelity, resulting in an average of 86% [range, 86] for adherence and 71% [range, 71] for accuracy. Overall, Lenora's implementation improved and maintained until she withdrew from the study.

Figure 1. Percentage of Implementation of Behavior Intervention Plans
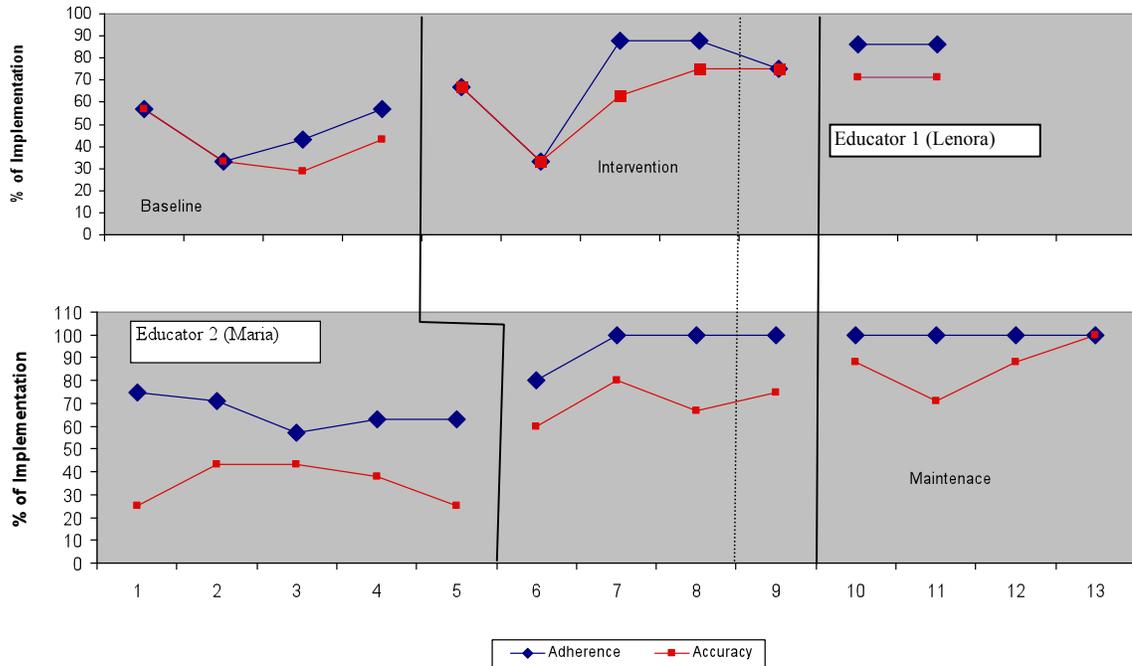
The bottom graph in Figure 1 displays participant two's (Maria) adherence and accuracy of implementation. In baseline, Maria's adherence and accuracy level averaged 66% [range, 57 to 75] and 35% [range, 25 to 43], respectively. When self-monitoring was implemented, Maria's average level of implementation for adherence was 95% [range, 80 to 100] and accuracy increased to 71% [range, 60 to 80]. Once the participant reached stability, with and without verbal feedback, the fidelity checklist was removed. During the maintenance phase, the results indicated that Maria's implementation remained high. The average level of implementation was 100% [range, 100] for adherence and 87% [range, 71 to 100] for accuracy. Overall, self-monitoring implementation increased

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Maria's implementation level for both adherence and accuracy.

In conclusion, both educators implementation increased after self-monitoring was implemented. However, self-monitoring had differential effects on adherence and quality of implementation. For example, once self-monitoring was implemented, adherence of implementation immediately increased to higher levels; where as, quality of implementation gradually increased in the maintenance phases. This would suggest an upward trend for learning and/or correct responding. In addition to high implementation scores, both educators demonstrated high levels of accurate reporting in the classroom. Accuracy of reporting for participant 1 averaged 85% [range, 70 to 94] and for participant 2 average 84% [range, 80 to 90]. This demonstrates that the participants were highly truthful when reporting their implementation.

Chapter 4: Discussion

Self-monitoring has been shown to be an effective procedure with different populations. However, little research has been done with using direct training methods to teach educators how to self-monitor their own treatment integrity of behavior intervention plans. This study utilized self-monitoring as a means to help the educators monitor implementation of students' individualized intervention plans. Two educators were trained, in and out of the classroom, on how to use self-monitoring in their classrooms. Once implemented, both participants demonstrated an increase in their level of treatment integrity. In addition, when self-monitoring was removed, the treatment integrity continued to ascend. These results are important because it demonstrates that self-monitoring may be a sustainable tool for implementation of treatment integrity.

There are several possible reasons why self-monitoring was an effective tool. One reason was the checklists were readily available and could be placed anywhere in the classroom environment. For example, one educator put the checklist on her desk and the other educator put it on her blackboard. Having the checklist easily accessible allowed the educators to review or glance at the checklist frequently; thus, increasing the likelihood that the educator would implement interventions as intended. In addition to having the checklist in the environment, the educator was required to assess their implementation after an intervention component was completed. Requiring the educators

to assess themselves based on the checklist criteria may have increased their accountability of implementation, and thus, the likelihood to perform components as intended because the checklist served as an environmental prompt for implementation in the classroom.

Another reason self-monitoring could have been an effective tool was because the participants may have taken ownership on self-monitoring their implementation. Once the checklist was assessed, the educators were given immediate feedback on implementation. In addition to the score they received after implementation, one participant, Maria, took it amongst herself to personalize the checklist to either remind her to "Be proactive" or commend herself for reaching a goal by writing "I rock." The written statements made by the participant demonstrate the participant's level of commitment to implement the intervention plan, thus, further demonstrating the importance of having the educator involved throughout the implementation process. As a result of allowing the participants to assess themselves and determine if they were successful or unsuccessful may have aided them in their continual improvement.

Another possible reason why self-monitoring could have been effective was because it taught the educator how to evaluate their own treatment integrity. Traditionally, the consultant provides feedback to the educator on correct and incorrect implementation. However, in this study, the checklist provided immediate feedback to the educator on implementation. Evaluating one's implementation may have taught the educator what to do better next time; thus, requiring the educator to change their behavior in order to improve their implementation the next time. Another factor that may have

influenced change in the educator's behavior was comparing scores amongst the consultant and the educator. Discovering there was a mismatch between the ratings may have increased correct teacher responding while implementing the intervention. Teaching the educator how to assess their implementation may have increased the likelihood of implementation in the maintenance stage.

Yet another reason why self-monitoring could have been effective was due to direct training methods. The purpose of this study was to use this method of training to increase the likelihood of implementation. As Sterling-Turner and colleagues (2001) demonstrated, direct training methods allow for practice and feedback on implementation. In this study, most direct training occurred in the intervention phase. As a result, the results in the maintenance phase showed a slight increase and/or maintained from intervention. As a result, using direct training methods in intervention may have lead to better sustainable implementation outcomes as demonstrated in the maintenance phase for both educators.

Despite intervention effectiveness, there were limitations to this study. First, the measurement of implementation was conducted through direct observation. As a result, the participant could have been reactive to the presence of observers in the classroom as this method has been associated with reactivity. However, this is not likely given the constant ascending improvement of each participant's progress into the maintenance phase. But, nevertheless, reactivity may have influenced the participants' implementation performance.

The second limitation of this study was that the participants' were instructed to

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engage in repeated practice of self-monitoring. Although this study required the participant to self-monitor during only one period of the day, which was the equivalent to an hour of data collection, this may be viewed as highly repetitive or time-intensive to some educators. Thus, the results found in this study may not generalize to other participants who may find repetitive or time-intense tasks aversive. This further stresses the point discussed by Han and Weiss (2005) on factors that influence teacher's implementation.

The third limitation was the number of participants. This study included only two educators in the public school system and one of whom withdrew during the study. As a result, these findings may not be generalizable to other educators. Future research should implement this study to see if the results generalize to other educators.

The fourth limitation of self-monitoring was the differential effects on both adherence and accuracy. This study demonstrated that self-monitoring demonstrated a quicker effect on adherence than accuracy. More specifically, both participants adherence to implementation quickly changed when self-monitoring was introduced where as quality of implementation gradually improved throughout the study. One reason may be due to self-monitoring being a learned behavior. The self-monitoring premise of providing one's self immediate feedback on their own behavior may have lead to results found in this study, in which some intervention components were easier to implement than others. For instance, adherence only required the participants to implement the minimum amount of steps in a component where as quality required the participant to perform multiple component steps, which may have taken longer to learn.

In summary, using a direct training method to train teachers to self-monitor was an effective intervention that sustained once the researcher and tools required to self-monitor were removed. Although the results are limited to two participants, both individuals demonstrated progress in both accuracy and quality of their implementation. Future research is needed to evaluate the sustained effectiveness of the training method used in this study as well as the generality to other educators.

References

Allinder, R. M., Bolling, R. M., Oats, R. G., & Gagnon, W. A. (2000). Effects of teachers self-monitoring on implementation of curriculum-based measurement and mathematics computation achievement of students with disabilities. *Remedial and Special Education, 21*(4) 219-226.

Benazzi, L., Horner, R. H., & Good, R. H. (2006). Effects of Behavior Support Team Composition on the Technical Adequacy and Contextual Fit of Behavior Support Plans. *Journal of Special Education, 40*(3), 160-170.

Blair, K. C., Liaupsin, C. J., Umbreit, J., & Kweon, G. (2006). Function-based intervention to support the inclusive placements of young children in Korea. *Education and Training in Developmental Disabilities, 41*(1), 48-57.

Bornstein, P. H., Hamilton, S. B., & Bornstein, M. T. (1986). Self-monitoring procedures. In A. R. Ciminero, K. S. Calhoun, H. E. Adams (eds.), *Handbook of behavioral assessment,* (pp.176-222), New York: John Wiley & Sons Inc.

Bracett, L., Reid, D. H., & Green, C. W. (2007). Effects of Reactivity to observations on staff performance. *Journal of applied behavior analysis, 40*,191-105.

Browder, Liberty, Heller, & D'Huyvetters. (1986). Self-management by teachers: Improving instructional decision-making. *Professional School Psychology, 1*(3), 165-175.

Burke, M. D., Hagan-Burke, S., & Sugai, G. (2003). The efficacy of function-based interventions for students with learning disabilities who exhibit escape-maintained problem behaviors: Preliminary results from a single-case experiment. *Learning Disability Quarterly, 26*(1), 15-25.

Codding, R. S., Feinburg, A. B., Dunn, E. K., & Pace, G. M. (2005). Effects of immediate performance feedback on implementation of behavior support plans. *Journal of applied behavior analysis, 38*(2), 205-219.

DiGangi, S. A., Maag, J. W., & Rutherford, R. B. Jr. (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*(3), 221-230.

DiGennaro, F. D., Martens, B. K., & McIntyre, L. L. (2005). Increasing treatment integrity through negative reinforcement: Effects on teacher and student behavior. *School Psychology Review, 34*(2), 220-231.

Elliott, S. N., & Busse, R. T. (1993) ' Effective Treatments with Behavioural Consultation', In J. E. Zins, T. R. Kratochwill, & S. N, Elliott (Eds.), *Handbook of Consultation Services for Children: Applications in Educational and Clinical Settings*, (pp. 179-203), San Francisco, CA: Jossey Bass.

Frith, G. H., & Armstrong, S. W. (1985). Self-monitoring for behavior disordered students. *Exceptional Children, 18,* 144-148.

Gansle, K. A., & McMahon, C. M. (1997). Component integrity of teacher intervention management behavior using a student self-monitoring treatment: An experimental analysis. *Journal of Behavioral Education*, 7*(4),* 405-419.

Gersten, R., Chard, D., & Baker, S. (2000). Factors enhancing sustained use of research-based instructional *pTACiices. Journal of Learning Disabilities, 33,* 445-457.

Gilberts, G. H., Agran, M., Hughes, C., & Wehmeyer, M. (2001). The effects of peer delivered self-monitoring strategies on the participation of student with severe disabilities in general education classrooms. *The Journal of the Association for Person with Severe Handicaps*, *26*, 25-36.

Gillat, A., & Sulzer-Azaroff, B. (1994). Promoting principals' managerial involvement in instructional improvement. *Journal of applied behavior analysis, 27*, 115-129.

Greenberg, M., Weissberg, R., O'Brien, M., Zins, J., Fredericks, L., Resnik, H., & Elias, M. (2003). Enhancing school based prevention and youth development through coordinated social, emotional and academic learning. *American Psychologist*, *58*, 466– 474.

Gresham, F. M. (1989). Assessment of treatment integrity in school consultation and prereferral intervention. *School Psychology Review, 18*, 37-50.

Gresham, F. M., Gansle, K., Noell, G. H., Cohen, S., & Rosenblum, S. (1993). Treatment integrity in school based intervention studies: 1980-1990. *School Psychology Review, 22,* 254-272.

Gresham, F. M., MacMillan, D. L., Beebe-Frankenberger, M. E., & Bocian, K. B. (2000). Treatment integrity in learning disabilities intervention research: Do we really know how treatments are implemented? *Learning Disabilities Research & Practice, 15,* 198-205.

Grimes, J., Kums, S., & Tilly III, W. D. (2006). Sustainability: An enduring commitment to success. *School Psychology Review*, *35*(2), 224-244.

Gureasko-Moore, S., DuPaul, G. J., & White, G. P. (2006). The effects of self-

    management in general education classrooms on the organizational skills of

    adolescents with adhd. *Behavior modification, 30*(2), 159-183.

Han, S. S., & Weiss, B. (2005). Sustainability of teacher implementation of school-based

    mental health programs. *Journal of Abnormal Child Psychology, 33*(6), 665-679.

Hartman, D. P., Roper, B. L., & Bradford, D. C. (1979). Some relationships between

    behavioral and traditional assessment. *Journal of Behavioral Assessment*, *1*, 3-21.

Horner, R. H., Sugai, G., Lewis-Palmer, T., & Todd, A.W. (2001). Teaching school-wide

    behavioral expectations. *Emotional & Behavioral Disorders in Youth*, *1*, 77–96.

Hughes, J. N., Grossman, P., & Barker, D. (1990). Teachers' expectations, participation

    In consultation, and perceptions of consultant helpfulness. *School Psychology*

    Quarterly, *5*, 167-179.

Hughes, M. A., Alberto, P. A., & Fredrick, L. L. (2006). Self-operated auditory

    prompting systems as a function-based intervention in public community settings.

    Journal of Positive Behavior Interventions, 8(4), 230-243.

Ingram, K., Lewis-Palmer, T., & Sugai, G. (2005). Function-based intervention planning:

    Comparing the effectiveness of FBA function-based and non-function-based

    intervention plans. *Journal of Positive Behavior Interventions, 7*(4), 224-236.

Jensen, B. J., & Hayes, S. H. (1986). Self-report questionnaires and inventories. In A. R.

    Ciminero, K. S. Calhoun, & H. E. Adams (Eds.), *Handbook of behavioral*

    assessment (pp.150-222) New York: John Wiley and Sons.

Johnston, J. M., & Pennypacker, H. S. (1993). *Strategies and tactics of behavioral research* (2nd ed.). Hillsdale, New Jersey: LEA Publishers.

Jones, K. M., Wickstrom, K. F., & Friman, P. C. (1997). The effects of observational feedback on treatment integrity in school-based behavioral consultation. *School Psychology Quarterly, 12*(4), 316-326.

Kadzin, A. E. (1982). *Single-case research designs: Methods for clinical and applied settings*. Oxford, New York: Oxford University Press.

Kalis, T. M., Vannest, K. J., & Parker, R. (2007). Praise counts: Using self-monitoring to increase effective teaching practices. *Preventing School Failure, 51*(3), 20-27.

Klingner, J. K., Arguelles, M. E., Hughes, M. T., & Vaughn, S. (2001). Examining the school wide "spread" of research-based practices. *Learning Disability Quarterly, 24,* 221-254.

Kratochwill, T. R., & Bergan, J. R. (1990). Treatment Implementation. In A.S. Bellack, & M. Hersen (Eds.), *Behavioral consultation in applied settings: An individual guide*, (pp.143-156), New York: Plenum Press.

Kratochwill, T.R., & Bergan, J.R. (1990). Behavioral Consultation: An Overview. In A.S.Bellack, & M. Hersen (Eds.), *Behavioral consultation in applied settings: An individual guide*, (pp.15-44), New York: Plenum Press.

Lane, K. L., Bocian, K. M., MacMillan, D. L., & Gresham, F. M. (2004). Treatment integrity: An essential but often forgotten component of school-based interventions. *Preventing School Failure, 48*, 36-43.

41

Maag, J. W., Reid, R., & Digangi, S. A. (1993). Differential effects of self-monitoring

attention, accuracy, and productivity. *Journal of Applied Behavior Analysis, 26*(3),

329-344.

Massey, O. T., Armstrong, K., Boroughs, M., Henson, K., & McCash, L. (2005). Mental

health services in schools: A qualitative analysis of challenges to implementation,

operation, and sustainability. *Psychology in the Schools*, *42*(4), 361-372.

Monsher, F. J., & Prinz, R. J. (1991). Treatment fidelity in outcome studies. *Clinical

Psychology Review, 11*(3), 247-266.

Mortenson, B., & Witt, J. C. (1998). The use of weekly performance feedback to increase

teacher implementation of a prereferral intervention. *School Psychology Review, 27*,

613-627.

Munton, S. M. (2004). *Uncovering the most cost beneficial methods of consultation in

terms of disruptive behavior, treatment integrity, and social validity*. Unpublished

doctoral dissertation, University of California, Riverside.

Noell, G. H., Duhon, G. J., Gatti, S. L., & Connell, J. E. (2002). Consultation, follow-up,

and implementation of behavior management interventions in general education.

School Psychology Review, 31(2), 217-234.

Peterson, L., Homer, A. L., & Wonderlich, S. A. (1982). The integrity of independent

variables in behavior analysis. *Journal of Applied Behavior Analysis, 15*(4), 447-

492.

Petscher, E. S., & Bailey, J. S. (2006). Effects of training, prompting, and self-monitoring

on staff behavior in a classroom for students with disabilities. *Journal of Applied

Behavior Analysis, 39*(2*), 215-226.*

Richman, G. S., Riordan, M. R., Reiss, M. L., Pyles, D. A. M., & Bailey, J. S. (1988). The effects of self-monitoring and supervisor feedback on staff performance in a residential setting. *Journal of Applied Behavior Analysis, 21*(4), 401-409.

Robbins, J. R., & Gutkin, T. B. (1994). Consultee and client remedial and preventive outcomes following consultation: Some mixed empirical results and directions for future researchers. *Journal of Educational and Psychological Consultation, 5*(2), 149-167.

Rosenberg, M. S., & Jackman, L. (2003) Development, implementation, and sustainability of comprehensive school-wide behavior management systems. *Intervention and School Clinic*, *39*(1) 10-21.

Scott, T. M., Bucalor, A., Liaupsin, C., Nelson, C. M., Jolivette, K., & DeShea, L. (2004). Using functional behavior assessment in general education settings: Making a case for effectiveness and efficiency. *Behavioral Disorders, 29*(2) 190-201.

Sharpiro, E. S., Durnan, S. L., Post, E. E., & Levinson, T. S. (2002). Interventions for academic and behavior problems. Self-monitoring procedures for children and Adolescents. *Interventions for Academic and Behavior Problems II: Preventive and remedial approaches*. In M. A. Shinn, H. M. Walker, & G. Stoner (Eds.), (pp. 433-454), New York: National Association of School Psychologists.

Sheridan, S. M., Welch, M., & Orme, S. F. (1996). Is consultation effective? A review of outcome research. *Remedial and Special Education*, *17*(6), 341-354.

Simpson, G. A., Bloom, B., Cohen, R. A., Blumberg, S., & Bourdon, K. H. (2005). U.S.
Children with emotional and behavioral difficulties: Data from the 2001, 2002,
and 2003 National Health Interview Surveys. Advance data from vital and health
statistics; no 360. Hyattsville, MD: National Center for Health Statistics.

Sterling-Turner, H. E., Watson, T. S., Wildmon, M., & Watkins, C. (2001). Investigating
the relationship between training type and treatment integrity. *School Psychology
Quarterly*, *16*(1), 56-67.

Stahr, B., Cushing, D., Lane, K., & Fox, J. (2006). Efficacy of a function-based
intervention in decreasing off-task behavior exhibited by a student with ADHD.
Journal of Positive Behavior Interventions, 8(4), 201-211.

Suda, K. T., & Miltenberger, R. (1993). Evaluation of staff management strategies to
increase positive interactions in a vocational setting. *Behavioral Residential
Treatment, 8*(2), 69-88.

Sugai, G., Horner, R., Sailor, W., Dunlap, G., Eber, L., Lewis, T., et al. (2005). *School-
wide positive behavior support: Implementers' blueprint and self-assessment*.
Washington, DC: Technical Assistance Center on Positive Behavioral
Interventions and Supports.

Sugai, G., Lewis-Palmer, T., Todd, A. W., & Horner, R. H. (2001). *School-wide
evaluation tool*. Eugene: University of Oregon, Educational and Community
Supports.

Umbreit, J., Lane, K. L., & Dejud, C. (2004). Improving classroom behavior by
modifying task difficulty: Effects of increasing the difficulty of too-easy tasks.
Journal of Positive Behavior Interventions, 6(1), 13-20.

Vaughn, S., Klingner, J. & Hughes, M. (2000). Sustainability of research-based practices. *Exceptional Children, 66,* 163-171.

Watson, T. S., & Robinson S. L. (1996). Direct behavioral consultation: an alternative to traditional behavioral consultation. *School Psychology Quarterly*, *11*(3), 267-278.

Wickstrom, K. F., Jones, K. M., LaFleur, L. H., & Witt, J. C. (1998). An analysis of treatment integrity in school-based behavioural consultation. *School Psychology Quarterly, 13*, 141-154.

Wilczynski, S. M., Mandal, R. L., & Fusilier, I. (2000). Bridges and barriers in behavioral

consultation. *Psychology in the Schools*, *37*(6), 495-504.

Wilkinson, L. A. (2006). Monitoring treatment integrity: An alternative to the 'consult and hope' strategy in school-based behavioural consultation. *School Psychology International, 27*(4), 426-438.

Witt, J. C., & Martens, B. K. (1988). Problem with problem-solving consultation: A re-analysis of assumptions, methods, and goals. *School Psychology Quarterly, 17,* 211-226.

Yeaton, W. H., & Sechrest, L. (1981). Critical dimensions in the choice and maintenance of successful treatments: Strength, integrity, and effectiveness. *Journal of Consulting and Clinical Psychology, 49*(2), 156-167.

Informed Consent

Sample Informed Consent for an Adult
Social and Behavioral Sciences
University of South Florida

Information for People Who Take Part in Research Studies

Researchers at the University of South Florida (USF) study many topics. We want to
show the effectiveness of behavioral supports for student with problem behavior. To do
this, we need the help of people who agree to take part in a research study.
Title of research study: Evidence-Based Interventions for Severe Behavior Problems:
The Prevent-Teach-Reinforce Model
Person in charge of study: Don Kincaid, Ed.D.
Where the study will be done: We will conduct this study within the student's school
settings. We want to learn more about the student's behavior and their interactions with
others at school. We will visit the school to see how the student interacts with others and
engages in activities. You will be asked to attend meetings, complete data collection
forms, and learn new strategies to prevent the student's behavior problems and support
positive development.
Who is paying for it: This study is being funded by the U.S. Department of Education.

Should you take part in this study?

This form tells you about this research study. You can decide if you want to take part in
it. You do not have to take part. Reading this form can help you decide.

Before you decide:

- Read this form.

- Talk about this study with Dr. Kincaid or the person explaining the study.

- You can have someone with you when you talk about the study.

You can ask questions:

- You may have questions this form does not answer. If you do, ask Dr. Kincaid or
  study staff as you go along.

- You don't have to guess at things you don't understand. Ask the people doing the
  study to explain things in a way you can understand.

Appendix B

Maria's Fidelity Sheet

Interventions	Was the intervention implemented? *(Adherence)*	Was the intervention done accurately? *(Quality)*	Fidelity Score Y/Y = 2 Y/N = 1 N/N = 0.0 NA/NA = NA	Comments
1. **Curricular Modification (Eliminating Triggers) --** Immediately (within 1 minute) after presenting assignment and before problem behavior begins, go to Jason and reduce his assignment by 25-50%. Ex. "I am crossing out these 3 problems so you don't even have to do them. Do your best on the other 7 problems."	*Y / N / NA*	*Y / N / NA*		
2. **Adult Verbal Behavior (Just Be Nice) --** <u>Maintain a ratio of 4:1 praise/comment to demand/request.</u> Respond to inappropriate behavior redirecting with a calm voice and using simple language to tell Jason what to do.	*Y / N / NA*	*Y / N / NA*		
3. **Teach Asking for a Break --** Teach Jason to ask for a break using the break pass through direct instruction. Model for Jason how to raise the break pass for the educator to see it, then sit quietly. <u>Have him role play the skill with specific feedback.</u>	*Y / N / NA*	*Y / N / NA*		
4. **Prompt Asking for a Break --** <u>Immediately prior to the students minimum sustained engaged time and BEFORE challenging behavior occurs (about X minutes into assignment),</u> prompt Jason "Do you need a break? If so, show me your break pass."	*Y / N / NA*	*Y / N / NA*		
5. **Teach Asking for Help --** Teach Jason the appropriate way to ask for help <u>using the reminder card on his desk</u> (see steps). Model the skill for him and <u>provide an opportunity for him to practice the skill with specific feedback.</u>	*Y / N / NA*	*Y / N / NA*		
6. **Prompt Asking for Help --** <u>Immediately after presenting the assignment and BEFORE challenging behavior occurs,</u> prompt Jason, "If you come to a hard question, raise your hand and I will help you." <u>Give another prompt at least one time per assignment.</u>	*Y / N / NA*	*Y / N / NA*		
7. **Reinforce Asking for a Break** -- When Jason appropriately requests a break, <u>IMMEDIATELY (within 30 seconds)</u> honor his request and give <u>specific praise for using the break pass.</u> Ex. "Great job using the break pass Jason! That is the correct thing to do!"	*Y / N / NA*	*Y / N / NA*		

Appendix B-1

Maria's Fidelity Sheet

8. Dicontinue Reinforcement of Problem Behavior - If Jason begins a class disruption, do not let problem behavior 'pay off' for Jason and let him escape the activity or go to time out. Give the prompts, "Do you need a break? and Do you need help? <u>Matter of factly provides assistance to complete the task and ensure the task is completed.</u>	*Y / N / NA*	*Y / N / NA*	
9. **Reinforce Asking for Help** -- When Jason raises his hand, <u>IMMEDIATELY (within 30 seconds)</u> acknowledge the hand raise and give <u>specific praise.</u> Ex. <u>"Great job using the raising your hand quietly Jason! I will be right with you."</u> Provide assistance <u>immediately (within 1 minute)</u> and give Jason a check on his sheet for asking for help with <u>specific praise</u>.	*Y / N / NA*	*Y / N / NA*	
10. **Reinforce Starting Assignment**<u>--</u> <u>About 2 minutes after presenting the assignment</u>, give Jason a check on his work skills sheet with <u>specific praise.</u> Ex. <u>"Nice job getting started right away Jason! Keep it up and you will earn your computer time.</u> If Jason does not earn one of the checks, respond with minimal attention and low affect	*Y / N / NA*	*Y / N / NA*	
11. **Reinforce Completing Assignment** -- When Jason completes his assignment, give him a check on his work skills sheet <u>with specific praise.</u> If Jason does not earn one of the checks, respond with minimal attention and low affect.	*Y / N / NA*	*Y / N / NA*	
12. **Checklist Reinforcement** -- If Jason has earned at least 2 checks for that subject period, he will be allowed 5 minutes of computer time (educator approved activity). If Jason earns 8 checks for the day (to be increased), he will earn something from his menu of reinforcers.	*Y / N / NA*	*Y / N / NA*	
████████████████████			
Implementation Scores (Total Y's/Total Y's + N's in column)			
Total Implementation/Fidelity Score (Total Y's/Total Y's + N's across 2 domains)			

Appendix C

Lenora's Fidelity Sheet

Interventions **PREVENT**	Was the intervention implemented? *(Adherence)*	Was the intervention done accurately? *(Quality)*	Fidelity Score Y/Y = 2 Y/N = 1 N/N = 0.0 NA/NA = NA
1. Environmental Support - Hallway Transition • Transition visual is available *and easily accessible* for student's use *prior to start of transition* • Staff reviews visual with student *prior to each transition* • Staff verbally & physically prompts student to use visual during transition, as needed • Staff *immediately* reviews support upon return to class	Y / N / NA	Y / N / NA	
2. **Environmental Support: Cafeteria Routine** • Step card present and *provided to student upon arrival* • Staff reviews card with student *prior to getting in line* • Staff provides verbal and physical prompts for using card through routine	Y / N / NA	Y / N / NA	
3. **First-Then & Choices for Academic Activities** • First-then strip present on student's desk • Staff reviews first-work (folder), then-choice strip with student *prior to start of each* work session • Staff offers student choice between two academic folders and *immediately* honors choice • Staff *offers student two choice items* for 'then' activity and honors student's choice	Y / N / NA	Y / N / NA	
4. **Environmental Support: Choice Board for Wait/Down Time** • Choice board present with *2 highly preferred, hands-on* activities • Choice board provided *prior to start of 'wait/down' time* • Staff *immediately* honors student choice of activity • Timer set for 3-minutes	Y / N / NA	Y/ N / NA	
TEACH			

Lenora's Fidelity Sheet

1. **Functional: Requesting a Break** • Break card is present *& easily accessible* to student • Staff reviews the use of the card with student *prior to non-preferred activities* • Staff verbally prompts student to card *prior to problem behavior and point to visual.* • Staff *immediately* releases student to break upon request. • Timer set for 1 minute • Staff prompts student to return to activity *immediately* after break	Y / N / NA	Y / N / NA	
REINFORCE			
1. **Environmental Support for Hallway Transition** • Educator provides "Visitor" pass with 50% success on transition card and *immediately* allows student to visit preferred staff	Y / N / NA	Y / N / NA	
2. **First-Then & Choices for Academic Activities** • Staff *immediately* provides or releases student to choice activity/reinforcer upon completion of folder task • If activity (vs. edible), timer is set for 3-minutes	Y / N / NA	Y / N / NA	
3. **Functional: Requesting a Break** • *Immediately* provides praise *every* time card is used • *Immediately* released to 'break' area for 1-minute	Y / N / NA	Y / N / NA	
Implementation Scores (Total Y's/Total Y's + N's in column)			
Total Implementation/Fidelity Score (Total Y's/Total Y's + N's across 2 domains)			

Appendix D

Maria's Checklist

	Yes	NA
Teach Asking for a Break		
1. Did you model for J how raise the break pass or ask for a break, and then sit quietly during a time when he is calm?		
2. Did you allow J to demonstrate the steps on how to ask for a break and provide feedback? For example, "I like how you asked for a break appropriately."		
Teach Asking for Help		
3. Did you demonstrate for J how to ask for help during a time when he is calm?		
4. Did you allow J to demonstrate how raising his hand appropriately and provide feedback? For example, "Great job, raising your hand! How can I help you?"		
Prompt Asking for a Break		
5. Did you prompt J "Do you need a break?"		
6. Did you prompt J within 4 minutes of presenting the assignment and before problem behavior occurred?		
Prompt Asking for Help		
7. Did you prompt J to raise his hand and ask for help?		
8. Did you prompt J within 1-2 minutes of presenting the assignment and before problem behavior occurred?		
Curricular Modification		
9. Did you reduce J's assignment?		
10. Did you do so by 25—50% of the assignment?		
11. Did you do so within 1-2 minutes after presenting the assignment and before problem behavior occurred?		
Adult Verbal Behavior		
12. Did you use a praise/comment and then present a request?		
13. Did you redirect inappropriate behavior in a calm voice?		
14. Did you maintain a ratio of 4:1 praise/comments to demand request?		
Reinforce Asking for a Break		
15. When J requested a break, did you honor and praise his request for a break? For example, "Great job asking for a break. You may take one."		
16. Did you provide the break within 1-2 minutes of the request?		
Discontinue Reinforcement of Problem Behavior		
17. If J engaged in a classroom disruption, did you provide the prompts, "Do you need a break?" and/or "Do you need help?"		
18. Did you provide the above prompts in a calm manner?		
Reinforce Asking for Help		

Maria's Checklist

19. When J requested a break, did you honor and praise his request for a break? For example, "Great job asking for a break. You may take one."		
20. Did you provide the break within 1-2 minutes of the request?		
Discontinue Reinforcement of Problem Behavior		
21. If Jason engaged in a classroom disruption, did you provide the prompts, "Do you need a break?" and/or "Do you need help?"		
22. Did you provide the above prompts in a calm manner?		
Reinforce Asking for Help		
23. When J raises his hand, did you acknowledge him and provide praise? For example, "Thank you for raising your hand. What can I help you with?"		
24. Did you do so within 30 seconds of J's raising his hand?		
Reinforce Starting Assignment		
25. If earned, did you give J a check on his work skills sheet?		
26. Did you give specific praise for starting assignment? For example, "I love how you got started on your work."		
Reinforce Completing Assignment		
27. If earned, did you give J a check on his sheet for completing the assignment?		
28. Did you give specific praise for completing the assignment? For example, "You are finished. Awesome job!"		
Checklist Reinforcement		
29. If earned set # of checks, did you allow J 5 minutes of computer time or a preferred activity?		
Total		
Total number of Yes's	**Total number of components implemented = 24—Total number of NAs**	**Total number of Yes's / Total number of components implemented**

Intervention	Yes	NA
Environmental Support-Hallway Transition		
1. Did you have the visual available for student's use?		
2. Did you review visual with DB?		
3. Prior to going down the hallway, did you review the visual support?		
4. Did you verbally and physically prompt student to use visual during transition?		
5. Did you review the visual when you returned to class?		
6. Did you review immediately review the visual when you returned to class?		
Environmental Support- Cafeteria Routine		
7. Did you present the step card when the student arrived to cafeteria?		
8. Did you review the steps with the student?		
9. Did you review the steps before going in line?		
10. Did you verbally and /or physically prompt student to use the steps on the card through routine?		
Prevent: First-Then & Choices- Academic Activities		
11. Did you review the First-work (folder), then choice strip with DB?		
12. Before you began the work session, did you review First-work, Then-choice strip with student?		
13. Did you offer the student a choice between two academic folders and then honor choice?		
14. Did you provide the Then activity or edible?		
15. Did you immediately honor the Then activity or edible?		
16. Did you offer the student two choice items?		
Environmental Support- Choice Board for 'Wait/Down' Time		
17. Did you provide 2 choices of activities on the choice board?		
18. Did you provide 2 choices of highly preferred, hands on activities?		
19. Did you honor the student's choice?		
20. Did you set the timer for 3 minutes?		
21. Did you immediately honor student's choice of activity?		
Teach: Functional-Request a Break		
22. Did you have the break card available?		
23. Did you review the break card?		
24. Did you review the break card prior to non-preferred activities?		
25. Did you prompt the student to take the card prior to problem behavior?		
26. **When DB requested a break**, did you verbally or physically prompt student to take the card?		
27. Did you set the timer for 30 seconds when the student arrived at break area?		
28. Did you release the student to the break area?		
29. Did you release the student immediately to the break area?		
30. Did you verbally or physically prompt student to return to activity?		
31. Did you prompt student to return immediately after break?		
Reinforce: Environmental Support for Hallway Transition		
32. **When DB successfully completed 50% of steps in the transition**, did you provide "Visitor" pass?		
33. Did you allow the student to immediately visit preferred staff?		
REINFORCE: First-Then & Choices for Academic Activities		
34. **When task was completed**, did you honor the student's choice of activity/ edible?		
35. Did you honor choice immediately?		
REINFORCE: Functional- Requesting-A-Break		

36. **When student requested a break**, did you <u>provide praise occasionally</u>? For example, "Great job, requesting a break!"		
37. Did you <u>immediately provide praise every time</u> student used the break card?		
Total		
Total Number of Y's	Total Number of Components Implemented = 37 minus Total Number of NA's	Total Number of Y's divided by Total Number of Components Implemented