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# Effects of a Tiered Intervention Package to Increase Teacher Behavior Specific Praise

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# EFFECTS OF A TIERED INTERVENTION PACKAGE TO INCREASE TEACHER BEHAVIOR SPECIFIC PRAISE

by

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ABSTRACT

EFFECTS OF A TIERED INTERVENTION PACKAGE TO INCREASE TEACHER BEHAVIOR SPECIFIC PRAISE

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Disruptive behaviors have been shown to impact academic performance in the classroom. Praise is a commonly prescribed intervention to decrease classroom disruptive behaviors and increase academic engagement. In this study, an intervention package consisting of large-group training, verbal reminders, and visual performance feedback (VPF) combined with contingent preferred rewards was used to target three elementary school teachers' use of behavior specific praise (BSP) in the classroom during a selected intervention period. Disruptive behaviors as nominated by teacher report were additionally assessed to determine if increased praise would lessen the frequency of class wide disruptive behaviors.

Using a multiple baseline design, three elementary school teachers observed to be nonadherent following large-group instruction were verbally prompted to deliver praise at an increased rate. When teachers failed to increase BSP rate, individual training on BSP was provided using behavior skills training (BST) procedures followed by provision of preferred rewards following each session. Reward fading and two-week maintenance observations were also conducted. Results indicate an increase in BSP above baseline levels for all three teachers in the intervention, maintenance and follow-up conditions.

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LIST OF ABBREVIATIONS

| | |
|---|---|
| *BC* | Behavioral Consultation |
| *BSP* | Behavior Specific Praise |
| *BST* | Behavior Skills Training |
| DBC | Direct Behavioral Consultation |
| *VPF* | Visual Performance Feedback |

# CHAPTER I - INTRODUCTION

Although reported rates of problem behaviors of students may vary by study, problem behaviors have been reported to be exhibited by approximately 25% of students (Snider et al., 2002). Common problem behaviors seen in the classroom include aggression and noncompliance—behaviors that have a negative effect on the pupil as well as the learning environment. Disruptive behaviors typically lead to punitive action, such as warnings and office discipline referrals (Villa et al., 2005). Classroom instructional time is compromised when problem behaviors must be addressed, decreasing learning opportunities for both the student and his or her peers (De Martini-Scully, Bray, & Kehle, 2000). Disruptive behaviors have also been linked to high teacher stress levels (Friedman, 1995) as well as teacher attrition (Kratochwill, 2012).

Fortunately, the addition of praise within the classroom has been associated with a reduced frequency of classroom disruptive behavior (Cherne, 2008; McAllister, Stachowiak, Baer, & Conderman, 1969). Two types of praise have been identified: general praise and behavior specific praise (BSP). General praise is defined as praise that does not refer to a specific behavior that a child has performed. However, BSP provides an explanation of why the child is being praised though acknowledgement of appropriate behavior (Sutherland et al., 2008). Specifically, BSP contingent on appropriate behavior has been linked to both a reduction in classroom disruptive behavior and academic improvements (e.g., Hall, Lund, & Jackson, 1968; Reinke, Lewis-Palmer, & Merrell, 2008).

Although praise is commonly used as an intervention for problem behavior in the classroom, teacher rates of praise are typically low. For example, 104 teachers of first

through eighth grades praised an average of 0.34 per times per minute, with a range of 0.05-1.21 praise statements per minute (Reinke et al. 2007; Floress and Jenkins, 2015). Additionally, teachers rarely use praise effectively in the classroom (Sutherland, Wehby, & Copeland, 2000). Observations across 379 classrooms in four states observed praise rates ranging from 0.2 to 0.4 statements per hour (Wehby, Symons, and Shores, 1995). Whereas praise is free and the effects of praise on student disruptive behavior have been well documented for decades (Madsen, Becker, & Thomas, 1968), classroom praise rates remain low as a result of lack of teacher training on evidence-based classroom behavior intervention procedures (Martinussen, Tannock, & Chaban, 2011).

Given the potential positive effects of teacher praise on student behavior, researchers have investigated strategies for increasing use of praise statements by teachers. In one example, Kirby and Shields (1972) found BSP to increase on task behavior of a student, as well as increase performance on math worksheets. During baseline, mean on task behavior was reported to be 47%. When BSP was implemented, on task behavior increased to 97%. The student also completed more math problems when BSP was delivered, increasing from 0.47 problems per minute during baseline and 1.44 problems per minute during intervention.

In another example, contingent praise increased on task behavior of two students (Riley et al., 2011). Functional assessment data indicated that the two participants' off-task behavior was maintained by teacher attention. Baseline on task behavior for both participants was 70% and 60%, and praise rates were 0.03 and 0.01 statements per minute for both participants. Participants were provided with attention every five minutes, and were praised or redirected contingent upon on task behavior, and on task behavior

increased to 90% and 80%. Praise rates increased to 0.17 and 0.18 statements per minute, respectively.

Withdrawal of intervention procedures resembled baseline levels (Riley et al., 2011). On task behavior decreased to 70% and 63%, and praise rates declined to 0.02 statements per minute for both participants. Reimplementation of intervention procedures resulted in 92% and 81% on task behavior, in addition to increased praise rates of 0.15 statements per minute for both participants. It should be noted that teacher attention was present during the withdrawal phase as instructed by the researcher (Riley et al., 2011).

## Consultation

Praise has become a desirable intervention strategy because it is economical and may be increased through consultation procedures. Consultation is the practice of a specialist (i.e., consultant) and staff member (i.e., consultee) working jointly to alleviate a referral concern in the consultee's setting. Because school-based consultants (e.g., school psychologists) do not always work directly with students, consultation is considered an indirect service delivery model (Erchul & Sheridan, 2014). Instead, consultants work directly with consultees (e.g., teachers) to influence behavior change in a target student. Although consultative services aim to address a referral concern, an additional goal of consultation is to provide the consultee with knowledge to address similar situations in the future (Gutkin & Curtis, 2009).

### *Behavioral Consultation (BC)*

BC is widely adopted among school psychologists and includes four phases of service delivery executed in a collaborative manner between two or more persons

(Bergan, 1977). The client's needs are clarified and evaluated and intervention strategies are then developed and implemented based on assessment data (Sheridan & Elliott, 1991). The Problem Identification stage involves defining the referral concern in behavioral terms and selection of data collection practices. Typically, a Problem Identification Interview (PII; Kratochwill & Bergan, 1990) is conducted to define the problem according to behavioral terms, identify goals, and identify antecedents and consequences. Next, the problem behavior, in addition to other variables that might maintain occurrence of problem behavior, is further investigated in the Problem Analysis phase. The Problem Analysis stage of BC involves the interpretation of data that has been collected, and intervention procedures are designed.

Next, the intervention plan is implemented (Plan Implementation stage). In this stage, implementation is monitored to assess for behavioral change and treatment integrity. Last, the Problem Evaluation stage provides an opportunity to assess treatment goals and intervention effects. Modifications to the plan are made at this time contingent upon lack of behavior change, or terminated if change is assessed to be complete and stable.

*Direct Behavioral Consultation (DBC)*

Whereas BC provides training for teachers through verbal interactions, the lack of in vivo training may impede skill acquisition and maintenance for some teachers (Witt, Gresham, & Noell, 1996). DBC uses the same four-part model as BC, but in vivo training is used as opposed to verbal exchanges (Watson & Sterling-Turner, 2008). DBC has been shown to increase teacher adherence to intervention procedures through direct training conducted in the classroom setting (Witt et al., 1997).

Several studies have evaluated the application of DBC to increase teacher praise. In a study conducted by Dufrene and colleagues (2012), didactic and direct training procedures were used to address teacher praise and effective instruction delivery (EID), as well as student disruptive behaviors in four Head Start classrooms. Prior to intervention, all teachers were trained on the delivery of praise and EID at the beginning of the school year. Using a nonconcurrent multiple baseline across participants, baseline data were collected on child disruptive behaviors and teacher use of praise and EID. Didactic training followed, in which teachers were individually trained on the use and rationale of praise and EID, modeling and role-play of praise and EID, and lastly feedback on teacher performance during training. Teachers were then provided with an instructional handout and had the opportunity to ask questions about training procedures.

Following didactic training, direct training procedures were used to prompt teachers to use praise and EID in vivo through a one-way radio. Teachers were instructed to deliver praise statements every 30 seconds during direct training (Dufrene et al., 2012). Teachers were then instructed to provide 10 instructions using EID as prompted by a researcher. Maintenance of behavior change was assessed immediately following DBC procedures and one-month post intervention.

During baseline, teachers issued a mean of 0.98, 1.08, 0.82, and 0.78 praise statements per minute. Following implementation of didactic and direct training procedures, teacher rates of praise increased from baseline levels for all four teacher participants (Dufrene et al., 2012). Teacher mean praise rates following both intervention procedures were 2.71, 2.55, 3.60, and 2.70 statements per minute. Follow-up data indicated mean praise rates above baseline levels (1.59, 1.75, 1.70) for the first three

participants, and no follow-up data were available for the fourth participant. Teacher use of EID also increased as a result of intervention, and student disruptive behaviors decreased during intervention and follow-up (Dufrene et al., 2012).

In a replication and extension of the previous study, Dufrene and colleagues (2014) assessed the use of didactic and then a direct training procedure with two teachers in alternative classrooms during math time. During routine screening, each teacher's use of a token economy and behavioral level system was assessed, in addition to use of BSP. Mean baseline praise was 0.18 statements per minute for the first participant and 0.13 statements per minute for the second participant (Dufrene et al., 2014).

Following a referral, indirect training consisted of an explanation and rationale for BSP, modeling, role-play, feedback, and an opportunity for teacher participants to ask questions. In the DBC phase, researchers delivered praise statements to the teacher using a bug-in-the-ear (BITE). BSP statements were delivered once per minute in situ, and teachers were expected to repeat the statement as indicated by the researcher. DBC resulted in 0.94 and 1.30 BSP statements per minute for the first and second participant, respectively, resulting in an immediate increase in level (Dufrene et al., 2014).

Maintenance followed for the first participant only, and DBC and the BITE were removed, similar to baseline. Maintenance data indicated a mean of 0.13 praise statements per minute. Following maintenance for DBC, performance feedback was implemented for one teacher, who failed to maintain increased rates of BSP. Performance feedback included a graph of past performance made available to the teacher prior to that day's session. The teacher also received corrective feedback or praise on her previous performance. When DBC was combined with performance feedback, the

teacher's praise rates increased to 0.94 statements per minute. Although one-month follow-up data rates were similar to baseline, both participants exhibited increased rates of praise in the two-month follow-up observations, with means of 0.98 and 1.37 praise statements per minute (Dufrene et al., 2014).

Although both studies by Dufrene and colleagues (2012; 2014) show increases in teacher praise due to DBC, it is possible that indirect training procedures could have impacted performance. It is possible that DBC could be effective without indirect training (Dufrene et al., 2014). In addition, in situ training as utilizing a BITE device represents a relatively more intrusive procedure than other strategies that may be utilized to address low levels of teacher praise.

## Performance Feedback

One strategy that may be less intrusive than in situ training is the provision of performance feedback. Whereas in-situ training requires feedback delivery while the teacher is actively teaching, performance feedback can be delivered during breaks or outside of the classroom environment. Performance feedback procedures typically involve review of data, praise for the target behavior, corrective feedback if necessary, and answering questions and responding to comments (Codding et al., 2005). Performance feedback has been successfully used to promote behavior change (e.g., Codding et al., 2005; Jones et al., 1997).

Cossairt, Hall, and Hopkins (1973) investigated praising and providing feedback to elementary teachers when they praised students for on task behavior. All observations contained 25 intervals. The first two teacher participants gave praise statements in zero intervals during baseline, and student on task behavior was observed during a mean of

7% and 16% of intervals. Teachers were then provided with a rationale for teacher praise as well as a written reminder, and were instructed to praise students contingent upon on task behavior. Following this instructional phase, praise intervals only increased for teacher A. Teacher A provided praise during a mean of 1.4 of intervals and student on task behavior increased to a mean of 31% of intervals, whereas teacher B provided praise in 0% of intervals and student on task behavior decreased to a mean of 11% of intervals.

Teachers were then provided with performance feedback after each subsequent observation, and were told the number of intervals of student on task behavior and number of praise delivery intervals. During this phase, teacher A provided praise during a mean of 0.7 of intervals and student on-task behavior increased slightly to a mean of 36% of intervals. Teacher B provided praise during 1.0 of intervals, and student on task behavior increased to a mean of 47% of intervals during this condition.

In the last condition, teachers were provided with performance feedback as detailed above, but were also praised by an experimenter for praising students' on task behavior. Teacher praise increased when teachers were praised for praising students and teacher praise was correlated with increased student on task behavior (Cossairt, 1973). Both teachers exhibited substantial increases in praise, with a mean of 5.0 and 14.5 intervals for teachers A and B. Additionally, student on task behavior increased to means of 85% and 86% of intervals for teachers A and B.

Teacher C also had 0 intervals of praise statements during baseline, although student on task behavior occurred in 62% of intervals, coupled with an increasing trend (Cossairt et al., 1973). Teacher C received a packaged intervention of instructions,

feedback, and praise. This package resulted in praise occurring in 5 intervals and on task behavior during a mean of 94% of intervals.

Results indicate that a packaged intervention can produce more immediate increases in teacher praise, as well as a decrease in student disruptive behavior (Cossairt et al., 1973). Despite effectiveness of a package, several limitations are present in this study. First, a substitute teacher replaced teacher A during the instruction condition, during which student on task behavior decreased. Second, praise data were collected as a percentage of intervals, leaving number of praise statements unknown. Further, although classroom C exhibited high student on task behavior following intervention (Cossairt et al., 1973), baseline data show an increasing trend.

Witt et al. (1997) assessed the effect of performance feedback on teacher treatment integrity when implementing academic interventions. Researchers found high implementation levels following teacher training. However, integrity was observed to be low after several days. Following observation of low intervention integrity, performance feedback was provided to teachers. Relative to didactic training, intervention integrity increased once more when teachers were given feedback on their performance. Maintenance data revealed integrity levels in between performance feedback and post-training conditions in three of the four participants.

Noell et al. (1997) assessed teacher treatment integrity with the implementation of performance feedback during a traditional model of consultation. A consultant described a reinforcement-based academic intervention to a teacher who then implemented the intervention each day. Treatment integrity was assessed through permanent products and was steady up to four days post intervention, at which point integrity decreased. The

addition of daily performance feedback increased teacher adherence to the intervention protocol. Based on the need for constant performance feedback, Noell et al. (1997) suggested that practitioners might need to provide training opportunities other than the initial teacher training to promote maintenance of teacher behavior.

Nguyen (2015) used in situ training to increase teacher praise directed at four target students identified for problem behavior in the classroom. Using a BITE device to deliver prompts during classroom instruction, teachers were trained to increase use of BSP to the target student. Following in situ training, an increase in praise towards each target student was observed. Additionally, problem behavior exhibited by the target student decreased with the increase rate of teacher BSP. Despite increases in praise statements towards target children, generalization of praise was limited. Three of the four teachers required performance feedback to promote the delivery of praise to other students in the classroom.

Although these studies support the use of performance feedback to increase teacher use of BSP, several limitations should be noted. Primarily, performance feedback represents a resource-intensive strategy for modifying behavior (Dufrene et al., 2012). Effective performance feedback typically requires continuous progress monitoring of teacher implementation of procedures and frequent face-to-face feedback meetings. Relatedly, traditional performance feedback meetings could potentially disrupt class time and interfere with instruction (Dufrene et al., 2012). As such, alternative means of providing performance feedback have been investigated.

## Visual Performance Feedback

Visual performance feedback (VPF) allows for performance feedback to occur, but in a more parsimonious manner. VPF involves the distribution of a graphical representation of past performance (e.g., line graph) as well as future goals. In most cases, a line indicating a minimum criterion of engagement in a certain behavior is used to represent a future goal. Once a learner has been trained on interpretation of data, VPF sessions are brief as compared to traditional performance feedback sessions. This allows for more instructional class time and a less intrusive intervention for the consultee, addressing limitations of traditional performance feedback.

Using VPF to target praise, Keller, Brady, and Taylor (2005) trained three teacher interns who were serving as full-time substitutes on a self-evaluation praise intervention. Intervention procedures were implemented during 'teacher led instruction,' or when the intern was teaching verbally and excluded independent seatwork. During baseline, interns were instructed to record these sessions using an audiotape, but did not listen to their recordings.

Training was conducted in one session, and included the researcher informing the intern of their specific social praise (i.e., BSP) rate and training on benefits of implementing the intervention. Additionally, the researcher and intern scored baseline audiotapes until 100% agreement was met. Interns were then given VPF on their baseline BSP performance as well as a goal for future praise rates. It was then the intern's responsibility to graph BSP.

Results indicated an increase in praise frequency post-training for all participants (Keller et al., 2005). During baseline, intern use of BSP was 0.3 (range = 0-1), 0.1 (range

= 0-1), and 0.5 (range = 0-4) statements per five minutes for interns 1, 2, and 3, respectively. During intervention, intern use of BSP was 4.8 (range = 1-13), 2.9 (range = 1-4), and 4.5 (range = 3-5) for interns 1, 2, and 3, respectively.

Overall, maintenance data resulted in similar rates of praise to intervention phases (Keller et al., 2005). For the first intern, maintenance data appeared similar to intervention data, with 4.4 (range 0-10) BSP statements per five minutes. The second participant's maintenance data also appeared similar to intervention, with 2.8 (range = 0-6) statements per five minutes. Although the sample of maintenance data was small, it should be noted that decreasing trends were evident for both participants 1 and 2 during maintenance. During maintenance, the third intern had a praise rate of 5.8 (range = 3- 9), indicating an increase in delivery of praise statements during this phase.

When intervention procedures were implemented and praise was assessed in the generalized setting, two participants exhibited increases in rate of praise (Keller et al., 2005). The first participant had a mean of 0 BSP during baseline, while participants 2 and 3 had means of 0.8 (range = 0-2) and 0.6 (range = 2-3). Upon implementation of intervention procedures, participants exhibited praise rates of 0.7 (range = 0-2), 0.0, and 2.5 (0-7) for participants 2 and 3, respectively. Maintenance data indicated a mean of 1.4 (range = 0-3), 4.4 (range = 0-12), and 5.5 (range 2-12) praise statements per five minutes for the three participants. Maintenance for participants 2 and 3 was increasing, yet variable (Keller et al., 2005).

Despite results attained in both the instructional and generalization settings for some participants, it should be highlighted that participants were interns and teaching was part of their educational program. Thus, it can be assumed that these participants were

motivated to implement intervention protocols considering their status. Further, child data were not assessed, and therefore it cannot be assumed that intervention procedures impacted either student academics or behavior.

Reinke, Lewis-Palmer, and Martin (2007) used VPF to increase behavior-specific praise in three general education classrooms. Participants included three general education teachers, in addition to two students from each class referred for exhibiting disruptive classroom behavior. Two additional same-sex peers were chosen as a comparison in each classroom as well. Twenty-minute direct observations occurred daily to assess teacher use of praise and student academic engagement. Teacher praise was coded as either general or behavior specific, and student disruptive behavior was coded if a child exhibited negative verbal or physical interactions.

A multiple baseline across classrooms design was implemented with teacher group consultation meetings and visual VPF. Three consultation meetings occurred throughout the study. The first instructed teachers on how to use BSP to decrease disruptive behavior in the classroom, and how to interpret graphs that would be used in VPF. Two more meetings followed days 12 and 22 of data collection and focused on the maintenance of BSP usage. The meetings provided teachers an opportunity to discuss barriers to BSP, to which researchers provided possible solutions. Teachers also received VPF graphs every day with behavior specific praise rates in baseline and intervention, yet no traditional feedback (i.e., verbal feedback) was given.

Disruptive behaviors during baseline ranged from 14 to 33% for all target students, whereas peers' disruptive behaviors ranged from 7 to 20%. Disruptive behaviors for both groups of students decreased during intervention, with 8 to 20%

disruptive behaviors exhibited by target students and 5 to 17% disruptive behaviors exhibited by peers (Reinke, Lewis-Palmer, & Martin, 2007).

All teachers had low usage of BSP during baseline, with Teacher 1 ranging from 0 to 13 statements, Teacher 2 ranging from 0 to 30 statements, and Teacher 3 ranging from 0 to 10 statements, each across all four students in their class. When intervention procedures were implemented, behavior specific praise rates rose to a range of 0 to 33 for Teacher 1, 2 to 33 for Teacher 2, and 0 to 27 for Teacher 3, again across all four students (Reinke, Lewis-Palmer, & Martin, 2007). Despite these increases in the intervention phases, all three teachers' use of behavior specific praise declined in follow-up.

In a follow-up study, Reinke, Lewis-Palmer and Merrell (2008) combined the Classroom Check-up (CCU) and VPF to increase teacher use of praise and decrease reprimands, as well as decrease disruptive behavior in the classroom. Participants included four general education teachers at an elementary school, as well as their classes.

Purposes of the CCU include capitalizing on teacher motivation to maintain current practices within the classroom, reduction of future stressful interactions between teachers and students, and increasing positive teacher behavior (Reinke, Lewis-Palmer, & Merrell, 2008). Implementation of the CCU involves a classroom assessment, giving the teacher feedback, providing the teacher with multiple interventions to choose from, jointly choosing an intervention with the teacher, and teacher self-monitoring of the chosen intervention.

A multiple baseline design across classrooms was utilized to assess the effects of the intervention. During baseline, direct observations were conducted to assess teacher and student behaviors (i.e., teacher use of praise and reprimands, student classroom

behavior) as the first stage of the CCU. In the second stage, teachers were provided with both positive and corrective feedback based on the CCU assessment (e.g., behavior management, classroom expectations).

Next, an intervention was jointly chosen between the consultant and teacher. During implementation of the intervention, the teacher was then instructed to mark each intervention component as it was implemented on a self-monitoring sheet. When classroom observation data reached stability as determined through visual analysis of direct observation of intervention procedures, VPF was given on praise and disruptive behavior. Direct observations continued to monitor teacher and student behaviors, and VPF continued daily.

Results indicated that teachers' use of behavior specific praise increased when VPF was implemented. In baseline, behavior specific praise was 0.03, 0.21, 0.25, and 0.40 statements per minute for classrooms 1, 2, 3, and 4, respectively. When the CCU was implemented with teachers self-monitoring their behavior, behavior-specific praise increased for each classroom to 0.20, 0.40, 0.88, and 1.17 statements per minute for each classroom. And, when visual performance feedback was added to the CCU, behavior-specific praise increased additionally to 0.84, 1.1, 1.78, and 1.77 statements per minute for each classroom. It should be noted that VPF given to teachers was only in the context of general praise, yet behavior specific praise increased (Reinke, Lewis-Palmer, & Merrell, 2008).

Teacher use of reprimands in baseline averaged 0.38, 0.79, 1.60, and 0.30 per minute in classrooms 1, 2, 3, and 4, respectively. When the CCU was implemented with teacher self-monitoring and VPF, reprimands fell to 0.20, 0.22, 0.23, and 0.57 per minute

in classrooms 1, 2, 3, and 4 (Reinke, Lewis-Palmer, & Merrell, 2008). Additionally, disruptive behavior decreased with the addition of VPF. In baseline, disruptive behavior was 3.18, 1.23, 2.67, and 0.86 occurrences per minute for classrooms 1, 2, 3, and 4. Following the CCU, teacher self-monitoring, and VPF, disruptive behavior fell to 1.24, 0.96, 1.78, and 0.73 occurrences per minute for each classroom. Despite encouraging results, teacher use of praise declined in three out of four classrooms during follow-up. Although not incorporated into previous studies, reinforcement of teacher praise behavior may represent a strategy that may support increased praise use in the target setting and, through systematic thinning of reinforcement, allow for greater maintenance of treatment gains.

## Reinforcement

It is important to consider both positive and negative reinforcement when promoting behavior change. Positive reinforcement delivered immediately following a behavior increases likelihood of future occurrences of the behavior (Cooper et al., 2007). According to Cooper et al., positive reinforcement might consist of edibles (i.e., food items), sensory items (e.g., lights, music), tangibles (e.g., stickers), activities (e.g., games, music), or social reinforcers (e.g., high-fives) depending on child preference. Negative reinforcement occurs when a stimulus is weakened or removed immediately following a behavior to increase the behavior's frequency in the future (Cooper et al., 2007). For example, removal of homework for earning an 'A' on a test.

The use of a reinforcer can assist in promotion of behavior change by encouraging an increased frequency of responding. Initially, reinforcement should be delivered in a predictable manner to encourage stability of responding (Cooper et al.,

2007). Because continuous reinforcement delivery is not feasible long term, thinning of the schedule of reinforcement may be considered. Schedule thinning describes the process of changing the reinforcement contingency resulting in a leaner schedule of reinforcement (Cooper et al., 2007). Systematic thinning is an important component of intervention protocols, allowing naturally occurring contingencies for which no external change agent is required to maintain behavior. Schedule thinning should not occur until the reinforcement schedule has been in place for some time and responding is stable (Cooper et al., 2007). Premature thinning of reinforcement can produce instability in responding, and therefore interferes with maintenance of behavior change.

Several studies have investigated the delivery of reinforcement to teachers to promote behavior change. For example, Noell, Witt, LaFleur, Mortenson, Ranier, and LeVelle (2000) compared two consultation procedures on teachers' intervention integrity. Five teachers referred students in need of academic interventions for reading. A peer tutoring intervention was implemented that consisted of reading followed by comprehension questions. Teacher implementation of the peer tutoring intervention was assessed through permanent product review to determine if the peer tutoring session occurred, the correct activity (i.e., tutoring or reward) was implemented, grading was correct, and reinforcement coupons were delivered contingent on exceeding the goal. Reading comprehension was also assessed following peer tutoring sessions.

Following teacher training to 100% integrity, teachers implemented the intervention during baseline. Teacher 1 implemented baseline procedures correctly in five out of nine instances, whereas the other four teachers exhibited low integrity (Noell et al.,

2000). Teacher 2 implemented 10% of steps. Teachers 3, 4, and 5 exhibited partial implementation integrity, but ended with implementation of 0% of steps.

In the next phase, teachers were required to attend follow-up meetings with a consultant that had no access to teacher or student data. Follow-up consisted of the consultant talking to the teacher about the intervention and answering any questions the teacher may have. In this phase, Teachers 2, 3, and 4 did not implement the intervention after follow-up (Noell et al., 2000).

In the performance feedback condition, teachers met with consultants for 3 to 5 minutes each morning to review student performance data and inform the teacher of any missing intervention components and how to improve during the next session. When a teacher implemented all treatment components for 4 consecutive days, feedback was reduced to every other day. Teacher 2 implemented procedures to integrity initially, yet temporarily. Teacher 3 exhibited 97% integrity during the last nine days, and Teacher 4 exhibited 93% integrity during the performance feedback condition. A follow-up meeting was implemented for teacher 5 only, who failed to implement intervention procedures correctly during performance feedback, with only 72% integrity.

DiGennaro, Martens, and Kleinmann (2007) assessed treatment integrity of four special education teachers in a residential setting. During pretraining baseline, teachers were told to respond to problem behavior according to each student's behavior plan, and all teachers attained 0% implementation. Next, intervention procedures specific to each student were taught to teachers through instruction, modeling, coaching, and feedback to 100% integrity. Implementation baseline data were then collected after teachers had been

fully trained. During implementation baseline, Teachers A, B, and C yielded 0% implementation and teacher D implemented 46% of components.

In the next phase, goal setting and student performance feedback procedures were implemented for Teachers A and B. A goal was set for students, and teachers were given feedback on student progress, both in writing and graphically. Feedback was given for student performance only, and not for teacher accuracy of implementation. Teacher A exhibited an increase to 58%, whereas Teacher B still maintained 0% integrity. A negative reinforcement procedure was also in place, directed rehearsal with meeting cancellation, where teachers could avoid meeting with a researcher contingent upon 100% integrity of intervention steps (DiGennaro et al., 2007). Teacher A implemented intervention with 100% integrity, and Teacher B with 79% integrity.

Concurrently, Teachers C and D were exposed to performance feedback and directed rehearsal with meeting cancellation first. Teacher C implemented interventions with 74% integrity and Teacher D with 94%. When goal setting and student performance feedback was implemented, teachers C and D exhibited integrity decreases to 67% and 63% implementation. Upon reimplementation of the first condition, 100% and 97% implementation was attained by teachers B and C, respectively.

Performance feedback was implemented in the last phase for all participants, with the addition of a fading component. If teachers maintained 100% integrity for three observations, meetings were faded to every other day, once per week, and every other week. When meeting schedules were thinned, teacher implementation averaged 98%, 91%, 98%, and 97% for Teachers A, B, C, and D, respectively. Results indicated that

high levels of implementation integrity could be maintained through systematic fading of intervention procedures (DiGennaro et al., 2007).

Performance feedback and directed rehearsal with meeting cancellation's success highlight the principle of negative reinforcement, while successes in schedule thinning support high integrity can be maintained without daily feedback, with substantial training (DiGennaro et al., 2007). But, time constraints did not allow for schedule thinning to every other week for three out of four participants as originally intended (DiGennaro et al., 2007). It should also be noted that the intervention packages used in this study do not allow for conclusions on the effectiveness of any single component.

Myers, Simonsen, and Sugai (2011) used positive reinforcement to assess the impact of response to intervention (RtI; National Center on Response to Intervention, 2012) procedures on teacher praise rates, a tiered model for academics and behavior. Baseline observations were conducted to assess teacher ratio of praise to reprimands and specific praise frequency in teachers already trained on positive behavior interventions and supports (PBIS; National Technical Assistance Center on Positive Behavioral Interventions and Supports, 2011) procedures. Teachers were eligible for participation if they gave more reprimands than praise statements, or specific praise was given in less than 5% of intervals. Teachers 1, 2, 3, and 4 had baseline median ratios of praise statements to negative statements of 1:2.2, 1:2.1, 1:1.8, and 2:7.1, respectively. Three students were chosen from each class to assess problem behavior occurrences.

Tier II procedures involved weekly meetings to review baseline data and receive praise contingent upon performance (i.e., positive social reinforcement). Teachers were told that if praise statements were delivered at a high rate and praise exceeded negative

statements, the tiered process would be discontinued and maintenance would occur. If the teacher only implemented one out of the two requirements, tier II procedures would continue. And, if a teacher failed to implement both procedures, a more intensive tier III intervention would commence, in which feedback would be given both in person and via email every day.

One teacher improved on both measures when the tier II procedures were implemented, and one teacher remained in tier II for only succeeding on one measure. Results suggest that positive reinforcement improved two teachers' behavior (Myers et al., 2011). The other two teachers progressed to tier III, indicating that positive reinforcement was not potent enough to produce behavior change in the other two participants (Myers et al., 2011). Maintenance observations indicated more praise than negative statements for all four teachers (Myers et al., 2000). Mean ratio of positive to negative statements was 6.3:1, 8:0, 8.8:1, and 24:1 for Teachers 1, 2, 3, and 4, respectively.

Research has focused on use of negative reinforcement to drive behavior change (Noell et al., 2000; DiGennaro et al., 2007). Additionally, social reinforcement (i.e., praise) may be a less potent reinforcer in some instances, as highlighted in Myers et al. (2011). Alternative reinforcers should be considered when modifying teacher behavior. Schedule thinning of reinforcement should also be carefully implemented until natural contingencies can take place.

## Purpose

Classroom disruptive behavior results in reduced learning opportunities for both the disruptive student in addition to his or her peers (Lannie & McCurdy, 2007).

Therefore, it is imperative that teachers be able to successfully lessen behavior issues within the classroom. Praise is a commonly prescribed intervention that has been linked to reduction of classroom misbehavior (Cherne, 2008), and is relatively easy and economical to implement. One way to encourage teacher use of praise is through VPF and reinforcement. By allowing teachers to view graphs of past performance as well as goals for future praise delivery, information delivery occurs in a parsimonious manner. VPF allows for a streamlined consultation experience, therefore maximizing teacher instructional and planning time. Although VPF may be effective, previous studies have found decreases in use of praise during maintenance phases. Provision of potent, teacher-identified reinforcers may facilitate modification of teacher behavior, and subsequent thinning of reinforcement may allow for naturally occurring contingencies to maintain behavior change. As such the purpose of the current study was to investigate the effect of VPF plus reinforcement on teacher use of praise.

## Research Questions

1. Does use of a tiered intervention package to increase BSP increase teacher's use of BSP during a selected intervention period?
2. Does use of a tiered intervention package to increase BSP decrease student disruptive behavior during a selected intervention period?
3. Does use of a tiered intervention package to increase BSP decrease teacher use of negative statements during a selected intervention period?
4. Does use of a tiered intervention package to increase BSP impact teacher perception of the consultation process as measured by the BIRS and CASS?

# CHAPTER II - METHODS

## Participants

Participants included three general education teachers at a local elementary school in a southeastern state in the United States and were identified through administrative referral. This study was approved by the University of Southern Mississippi's Institutional Review Board (Appendix A) and the school district (Appendix B) prior to initiation of data collection and all teachers provided consent prior to participation in the study (Appendix C). The student population of the school consisted of 90% Black, 3% White, and 7% Other (i.e., Asian, Native American, and Hispanic). Of the student population, 49% were female and 51% were male. Approximately 11% of the student population received special education services and 93% of students were eligible for free or reduced price lunches.

The Problem Identification Interview (PII; Kratochwill & Bergan, 1999; Appendix D) was administered to determine teacher identification of classroom disruptive behaviors in addition to a separate classroom demographics form (Appendix E) to identify classroom composition. Teacher 1 was a 35-year-old female in her eighth year of teaching third grade. She had obtained a Master's degree in education one year prior to data collection. Her classroom included 21 students, of which 52% were female and 48% were male, and all were Black. Teacher 2 was a 42-year-old female in her sixth year of teaching and held a Bachelor's degree. She was in her first year of teaching first grade, and had previously been employed at the high school level. Her classroom included 16 students, of which 56% were male and 44% were female, and all were Black. Teacher 3 was a 52-year-old female in her eleventh year of teaching the third grade. She was pursuing a Master's degree in education

while the study was in progress. Her classroom included 22 students, of which 50% were male and 50% were female, 95% were Black, and 5% were White.

A screening observation was then completed in which teachers were instructed to use typical classroom management procedures. For a classroom to be included in the study, the teacher was required to demonstrate a BSP rate of less than 0.20 praise statements per minute and student disruptive behavior was required in at least 20% of observation intervals. All classrooms met screen-in criteria. Supplemental intervention procedures would have been offered if a classroom had not meet screen-in criteria.

## Setting

One classroom instructional period was designated for intervention according to teacher report of disruptive classroom behaviors. Teacher 1 identified language arts as the target period, Teacher 2 identified center time, and Teacher 3 identified math instruction. All observations were conducted in each teacher's classroom with trained observers sitting in an unobtrusive area. VPF sessions immediately followed observations and were also conducted in each teacher's classroom.

## Materials

### *Problem Identification Interview (PII)*

The PII (PII; Kratochwill & Bergan, 1990; Appendix D) was used to operationalize problem behaviors and select an intervention period for each classroom. The selected intervention period was chosen based on teacher perception of severity of problem behaviors and reported difficulty with classroom management. The PII additionally seeks information pertaining to previous classroom interventions or strategies employed to address problem behavior.

*Observation Form and Audio Device*

An observation form utilizing 10-second momentary time sampling of behavior was used to assess student disruptive behavior over a 20-minute period (Appendix F). An audio device was used to signal the beginning and end of each interval and cue observers to mark target behaviors on the observation form. A separate column on the form was used to record a frequency count of teacher BSP statements and negative statements (i.e., reprimands and redirections) during the whole intervention period. Teacher rates of BSP were tracked on the same form using a frequency count within intervals. An audio device was used to signal the beginning and end of each interval and cue observers to mark target behaviors on the observation form.

*MotivAider*

A small, pager-like device was used to prompt Teacher 2 to deliver BSP at one-minute intervals following nonadherence to VPF as stipulated in retraining procedures. A MotivAider can be set to vibrate at timed intervals to discreetly prompt the occurrence of behavior. In this study, the MotivAider was clipped to the teacher's waistband to signal the teacher to praise a student.

*Behavior Intervention Rating Scale (BIRS)*

The BIRS (Appendix G) was used to assess social validity of the intervention (Brock & Elliott, 1987). The BIRS includes all of the items on the IRP-15 (Martens et al., 1985), plus 9 additional items. The BIRS has an alpha of .97. Factor analysis of the BIRS has revealed three factors: acceptability, effectiveness, and time of effect, with alphas of .97, .92, and .87, respectively (Elliott & Treuting, 1991). Items are rated on a 6-point Likert scale from "Strongly Disagree" (1) to "Strongly Agree" (6). Modifications to the BIRS

included assessment of the acceptability of a class wide intervention as opposed an intervention designed for a single student. Past modifications of wording have not interfered with psychometric properties of the BIRS (BIRS; Sheridan et al., 2001).

*Consultation Acceptability and Satisfaction Scale (Taber, 2015)*

The CASS (Appendix H) was used to assess teacher perception of the consultative process (Taber, 2015). Development of the CASS was modeled after the BIRS (Sheridan et al., 2001) and IRP (IRP; Witt & Elliott, 1985). Items were rated on a 6-point Likert scale, with a score of 6 indicating "Strongly Agree" and a score of 1 indicating "Strongly Disagree." Scores range from 0 to 72, with higher scores reflecting greater consultation satisfaction.

*Visual Performance Feedback Graphs*

Teachers viewed single case design graphs of their praise rates during VPF sessions following classroom observations. Teacher were trained on interpretation of graphically represented data (Appendix I) to ensure all teacher participants were given equal opportunity to produce behavior change.

*Dependent Measures*

*Teacher behavior.* BSP served as the primary dependent variable in this study. For the purposes of this study, BSP was defined as a verbal statement directed toward a specific student that also labels a positive behavior in which the student had engaged. For example, "I love the way you are working so quietly!" is an example of BSP. General praise, or praise that is not directed to a certain student and does not label appropriate behavior, was not evaluated in this study.

BSP was graphically represented and reported as rate per minute. Following each behavioral observation of teacher rates of praise, BSP rates per minute were graphed using Microsoft Excel. Teachers were then given the opportunity to view their BSP praise rates on the researcher's password-protected laptop computer for immediate feedback on teacher performance in the classroom setting.

*Student behaviors.* Student disruptive behaviors were assessed based on teacher referral of problem behavior as identified through the PII within the intervention class period. All behaviors nominated by teachers were operationalized for data collection purposes. Disruptive behaviors included: Off-Task Behavior (OT), defined as a student oriented away from the teacher or materials as determined by a task demand for three or more seconds; Inappropriate Vocalizations (IV), defined as vocalizations that are unrelated to the task demand; and Out of Seat Behavior (OOS), defined as a student's buttocks breaking contact with his or her seat for three or more seconds. Individual fixed observation procedures were used to observed student behavior (Briesch et al., 2014; Dart et al., 2016). Disruptive behaviors were collapsed across each observation and reported by percentage of intervals in which disruptive behavior occurs.

## Research Design and Data Analysis

A multiple baseline design (Cooper, Heron, & Heward, 2007) was used across three classrooms comparing baseline to intervention and follow-up, in addition to generalization to untrained class periods. A multiple baseline design is advantageous as it allows for demonstration of experimental control through staggered intervention implementation without treatment withdrawal. Thus, multiple baseline designs are ideal when treatment cannot be removed (Cooper et al., 2007). A minimum of five data points were collected

for each phase, excluding follow-up, so as to most accurately determine level, trend, variability, immediacy of effect, overlap between phases, and consistency across participants (Kratochwill et al., 2010). Phase changes occurred when teacher praise rates were observed to be stable or reflected a decreasing trend as determined through visual analysis.

## Procedures

### *Screening*

Teacher participants were identified through principal referral. Prior to data collection, teachers were interviewed using the PII (Appendix D) to determine classroom disruptive behaviors, and demographic information was collected. Next, all classrooms were screened to determine inclusionary status. To be included in the study, teachers were required to display a praise rate of less than 0.20 praise statements per minute and students were required to engage in disruptive behavior during 20% or more intervals (Nguyen, 2015). It was requested that teachers continue to implement typical classroom management procedures during the screening observation.

### *Baseline*

Baseline data collection included three or more observations for each classroom during the selected intervention period identified by the teacher as most problematic. The consultant did not provide any instructions to the teacher and teachers were encouraged to conduct class in their typical manner. Observers were positioned in an unobtrusive location and did not interact with the teacher or students during observation periods. Feedback was not provided to the teacher or students. Phase changes were contingent upon a decreasing or stable trend in teacher rate of BSP.

*Implementation Baseline*

Implementation baseline data collection included five or more observations for each classroom during the selected intervention period. Teachers were instructed to increase their use of praise in the classroom to a level of 0.50 statements per minute, as mentioned in a teacher training in the beginning of the school year. No other instructions or feedback on teacher or student behaviors was provided. Teachers were not provided an opportunity to earn rewards during this phase. Phase changes were contingent upon a decreasing or stable trend in teacher rate of BSP.

*Reward Identification*

Teachers were given a reward menu from which to choose preferred reinforcers for implementing a praise intervention. Rewards were first identified through consultation with the school principal to determine appropriateness within the school setting. Reward options included a $2 Walmart or Amazon gift card or preferred edibles (e.g., candy, chips, fruit). Reward delivery procedures are detailed below. Teachers 1 and 3 selected Walmart gift cards and Teacher 2 selected apples.

*Teacher Training*

Using the staggered implementation model for multiple baseline designs (Kratochwill et al., 2010), teachers were trained on praise intervention procedures using a script and standardized graph (Appendix I) for reference. First, teachers were trained on general versus BSP, as well as a rationale for using BSP in the classroom setting. Teachers were trained using behavioral skills training (BST), an intervention package consisting of instruction, modeling, rehearsal, and feedback. BST has been used to teach a wide variety of skills (e.g., Stoutimore et al., 2008; Ward-Horner & Sturmey, 2012). Teachers were first

taught via instruction, in which they received a document detailing general and BSP (Appendix I). Next, the primary researcher modeled correct usage of BSP. Teachers then participated in role-plays of BST and received corrective feedback on their performance. Following training, the primary researcher provided VPF of baseline performance. A horizontal line on the VPF graph indicated the minimum BSP rate needed to obtain contact with the teacher's selected reinforcer.

*Intervention*

Undergraduate students trained in data collection procedures conducted all subsequent observations to reduce potential reactivity of the primary researcher. All teachers had the opportunity to earn their preferred reward immediately following each observation and the review of data for meeting or exceeding the criterion of one BSP statement per minute. No additional training was providing following the consultation experience with the primary researcher, with the exception of Teacher 2. The teacher was asked to wear a MotivAider, a small pager-like device, to serve as a prompt for delivering BSP statements following instability of responses. She was instructed to provide one praise statement per minute during each 20-minute observation, as cued by the MotivAider. The selected reward was provided upon every instance of meeting or exceeding the BSP goal and VPF continued after each observation.

*Prompting*

A prompting phase with a reduced praise statement criterion was introduced for Teacher 2 following further instability of BSP usage and the use of MotivAider to cue delivery of BSP. During this phase, the teacher was instructed to provide BSP at a rate of 0.50 statements per minute during each 20-minute observation. VPF still occurred after

each observation. The MotivAider was removed at the conclusion of this phase. The selected reward was provided upon every instance of meeting or exceeding the BSP goal immediately following the observation period.

*Maintenance*

Teachers were given the opportunity to earn their preferred reward, on average, every other day (i.e., VR2 schedule) with no more than three days without an opportunity. Teachers were not informed that the opportunities to earn the preferred reward had decreased and trained data collectors continued observation procedures. VPF continued following each classroom observation.

*Follow-Up*

Follow-up observations were conducted two weeks following the last maintenance observation. At that time, no intervention procedures were in place, and all reinforcement was removed.

## Interobserver Agreement, Procedural Integrity, and Treatment Integrity

*Interobserver agreement (IOA)*

Undergraduate students trained in behavioral observations collected IOA data in 30% of observations for all phases. All observers were trained to 100% integrity, and any observers that failed to reach 85% IOA were retrained to 90% agreement. IOA for classroom disruptive behavior was calculated by dividing the total number of agreements by the total number of agreements and disagreements and multiplying by 100. IOA for BSP and negative statements was calculated using the Total Count within interval procedure, by dividing the number of praise statements in which the observers agreed by both the

agreed and disagreed upon statements, and multiplied by 100 (Cooper, Heron, & Heward, 2007).

For Teacher 1, IOA was collected during 33.33% of baseline sessions with 100% agreement for teacher use of BSP and negative statements and 91.67% agreement for student behaviors. IOA was collected for 40% of implementation baseline sessions with 100% agreement on teacher use of BSP, 99.4% agreement (range = 99.1 – 100%) for negative statements, and 98.34% (range = 96.63-100%) agreement for student behaviors. IOA data were collected for 33.33% of intervention sessions with 96.67% agreement for teacher BSP, 97.29% (range= 93.33 – 100%) agreement for negative statements, and 99.4% (range = 99.1-100%) agreement for student behaviors. IOA was collected during 40% of maintenance sessions with 100% agreement for BSP, 95.27% agreement for teacher use of negative statements (range = 93.33 – 96.67%), and 93.75% (range = 91.67 – 95.83%) agreement for student behaviors. IOA was collected for 50% of follow-up sessions with 95% agreement for BSP, 100% agreement for negative statements, and 95.83% agreement on student disruptive behaviors.

For Teacher 2, IOA was collected during 33.33% of baseline observations with 100% agreement on teacher use of BSP, 93.75% agreement on negative statements, and 100% agreement on student disruptive behaviors. IOA was collected for 42.86% of implementation baseline sessions, with 100% agreement on teacher use of BSP and negative statements and 95.27% (range = 93.33 - 96.67%) agreement for student disruptive behaviors. IOA was collected for 50% of intervention sessions with 93.75% (range 85 - 100%) agreement for teacher use of BSP, 91.90% (range = 85.71 – 100%) agreement for teacher use of negative statements, and 97.29% (range = 93.33 – 100%) agreement for

student disruptive behaviors. IOA was collected for 33.33% of prompting sessions with 95% (range = 90 – 100%) agreement for BSP, 97.29% (range = 93.33 – 100%) of negative statements, and 95% (range = 93.33 – 96.67%) agreement for student behaviors. IOA was collected for 40% maintenance sessions with 100% agreement for teacher use of BSP and negative statements, and 93.75% (range = 91.67 – 95.83%) agreement for student behaviors. IOA was collected during 100% of follow-up observations with 88.89% agreement for teacher use of BSP, 91.67% agreement for teacher use of negative statements, and 100% agreement for student disruptive behaviors.

For teacher 3, IOA was collected during 33.33% of baseline sessions with 100% agreement on teacher use of BSP, 93.75% agreement on teacher use of negative statements, and 91.67% agreement on student disruptive behaviors. IOA was collected during 33.33% of implementation baseline sessions with 91.90% (range = 85.71 – 100%) agreement on teacher use of BSP, 93.75% (range= 85 – 100%) agreement on teacher use of negative statements, and 97.78% (range = 96.67 – 100%) agreement on student behaviors. IOA was collected during 40% of intervention sessions with 100% agreement on teacher use of BSP, 89.9% (range = 88.89 – 90.91%) of negative statements, and 96.67% of student behavior (range = 93.33 – 100%). IOA was collected for 40% of maintenance sessions with 100% agreement for teacher use of BSP, 89.9% (range = 88.89 – 90.91%) agreement for teacher use of negative statements, and 99.16% (range= 97.29 – 100%) of student behaviors. IOA was collected for 33.33% of follow-up sessions with 100% agreement on teacher use of BSP, 93.33% agreement for teacher use of negative statements, and 100% agreement on student disruptive behaviors.

Kappa was also used to calculate interobserver agreement using Ubersax's (1987) formula. Kappa is a more stringent measure of agreement, as it accounts for chance agreement between observers. Kappa calculations range from -1.00 to +1.00. Excellent agreement values are greater than 0.75, good agreement ranges from 0.60 to 0.74, and fair agreement ranges from 0.40 and 0.59, and poor agreement is less than 0.40 (Cicchett, 1994; Watkins & Pacheco, 2000).

For Teacher 1, Kappa was Kappa was 0.815 (range=0.800-1.00) for BSP, 0.744 (range=0.698-0.912) for student disruptive behavior, 0.732 (range=0.699-0.843) for teacher use of negative statements. For Teacher 2, Kappa was 0.843 (range=0.732-1.00) for BSP, 0.933 (range=0.912-1.00) for student disruptive behavior, and 0.787 (range=0.654-0.843) for negative statements. For Teacher 3, Kappa was 0.933 (range=0.912-1.00) for BSP, 0.897 (range=0.912-1.00) for student disruptive behavior, and 0.912 (range=0.843-1.00) for teacher use of negative statements.

*Procedural Integrity*

Procedural integrity data (Appendices J and K) was collected during every teacher training or retraining session. To ensure that procedures were implemented to their full extent, both the primary investigator as well as a trained graduate student will complete procedural integrity checklists for at least 30% of training and retraining sessions. Procedural integrity was calculated by adding the number of completed steps by the total number of steps and multiplying by 100. IOA for procedural integrity was calculated by diving the number of steps in which agreement was met by the total number of steps and multiplying by 100. If integrity fell below 100%, procedures dictated that observers must

be retrained to 90% accuracy. Procedural integrity was 100% for all trainings across all participants.

*Treatment Integrity*

Treatment integrity data (Appendix L) was collected for 100% of training and VPF sessions, and the primary investigator as well as a trained graduate student completed treatment integrity checklists for at least 30% of sessions to ensure correct treatment delivery. Treatment integrity and IOA for treatment integrity were calculated in the same manner as procedural integrity. If agreement had fallen below 85%, procedures indicated that observers must retrain to 90% agreement. Treatment integrity was 100% for all trainings across all participants.

## Data Analysis

*Visual Analysis*

Intervention data were evaluated primarily through visual analysis and assessed for changes in level, trend, variability, immediacy of change, overlap across phases, and consistency across participants (Kratochwill et al., 2010). Supplemental statistical analysis procedures were also conducted.

*Statistical Analysis*

Individual effect sizes, as well as a weighted average, were obtained for each class using statistical analysis procedures. These data were calculated for both teacher BSP, negative statements and student disruptive behavior. Tau-U (Parker et al., 2011) was used to assess the degree of overlap between all data points in baseline phases and all data points in intervention conditions. Tau-U allows for the control of trend in baseline, allowing for a more conservative estimate of effect when trend is present than other effect size metrics,

such as NAP (Parker et al., 2011). Interpretation guidelines by Vannest and Ninci (2015) were used for evaluation of Tau-U effect sizes. Guidelines state that values between 0 and 0.20 are classified as ‘small’ changes, values between 0.20 to 0.60 are ‘moderate, values between 0.60 and 0.80 are ‘large,’ and values above 0.80 indicate ‘very large’ change.

# CHAPTER III - RESULTS

## BSP

The percentages of teacher rates of BSP and student disruptive behaviors are displayed graphically in Figure 1. BSP data for Teacher 1 were stable during baseline (*M* = 0.17, range = 0 – 0.05). Implementation baseline data for Teacher 1's use of BSP displayed an immediate increase in level, followed by a gradual decrease in trend and stabilization (*M* = 0.34, range = 0.25-0.5). The initiation of the VPF and contingent reward intervention package procedures resulted in an immediate, sharp increase in level, followed by marked variability and eventual stabilization (*M* = 1.22, range = 0.88- 1.75). When maintenance procedures were implemented for Teacher 1, BSP data remained stable throughout the phase with a slight increase in trend (*M* = 0.96, range 0.9-1.05). Two-week follow-up data decreased slightly in level for Teacher 1 (*M* =0.83, range =0.8-0.85).

Teacher 2's use of BSP was minimal and stable throughout baseline (*M* =0.02, range =0-0.05). Implementation baseline levels of BSP demonstrated an initial increase in level followed by a decrease and stabilization of data (*M* =0.24, range =0-0.4). Intervention procedures produced an increase in level and substantial variability throughout the phase (*M* =0.79, range =0.05-1.8). When the criterion was reduced, variability continued and then stabilized (*M* =0.92, range =0.5-1.05). When maintenance procedures were implemented, Teacher 2's use of BSP decreased initially and then increased in level (*M* =0.79, range =0.65-0.95). One 2-week follow-up datum fell above baseline levels (*M* =0.5).

BSP baseline data for Teacher 3 exhibited a low and stable trend (*M* =0.02, range

=0-0.05). When implementation baseline was introduced, an initial increase in level was exhibited and maintained throughout the phase (*M* =0.2, range =0-0.3). Intervention data for Teacher 3 exhibited an increase in level (M = 1.11, range = 1.05 – 1.25). Implementation of maintenance procedures produced an initial decrease in level followed by an increase in level and stability of trend (*M* =0.8, range =0.55-1). Follow-up data for Teacher 2 produced a decrease in level above all baseline data points (*M* =0.45, range =0.4 - 0.5).

The effect of the tiered intervention package on teacher use of BSP was also assessed using Tau-U (Parker et al., 2011; Vannest & Ninci, 2015). Tau-U was used to evaluate the percentage of nonoverlapping data between baseline and implementation baseline and intervention conditions and controlling for trend. Improvements in teacher use of BSP were observed following the introduction of intervention procedures, including the use of VPF. Tau-U indicated very large intervention effects for each teacher's use of BSP, as evidenced by Tau-U values of 1.00, 0.95, and 1.00 for Teachers 1, 2, and 3, respectively (Vannest & Ninci, 2015).

## Student Disruptive Behavior

Student disruptive behavior data for Teacher 1 demonstrated an increasing trend (*M*= 33.61%, range 27.50-38.33%) in baseline. Upon introduction of implementation baseline, student disruptive behaviors demonstrated an immediate decrease in level followed by an increasing trend (*M* = 11.63, range = 3.33-19.16%). Intervention implementation resulted in a decrease in level of student disruptive behaviors, with slight variability and eventual stabilization (*M* = 2.22, range = 0.008- 10.83%). Maintenance procedures were characterized by a steady increasing trend in student disruptive

behaviors (*M* = 5.84, range =0.008-10%), and follow-up data were stable (*M* = 8.75%, range =6.67-10.83%).

For Teacher 2, student disruptive behaviors displayed an increasing trend during baseline (*M*= 43.89%, range= 37.5-50.83%). Implementation baseline data were characterized by highly variable data (*M*= 28.93%, range= 14.16 – 46.67%). A decrease in level and variable responding was observed during intervention (*M*= 14.19, range= 6 – 21.67). When a prompting component was introduced, a small increase in level was observed, followed by a decreasing trend (M= 10.42, range= 5 – 13.33%).

Implementation of maintenance procedures produced an increase then sharp decrease in disruptive behavior (M= 13.17, range= 5 – 21.67%). One two-week follow-up datum was observed at 6.67% student disruptive behavior.

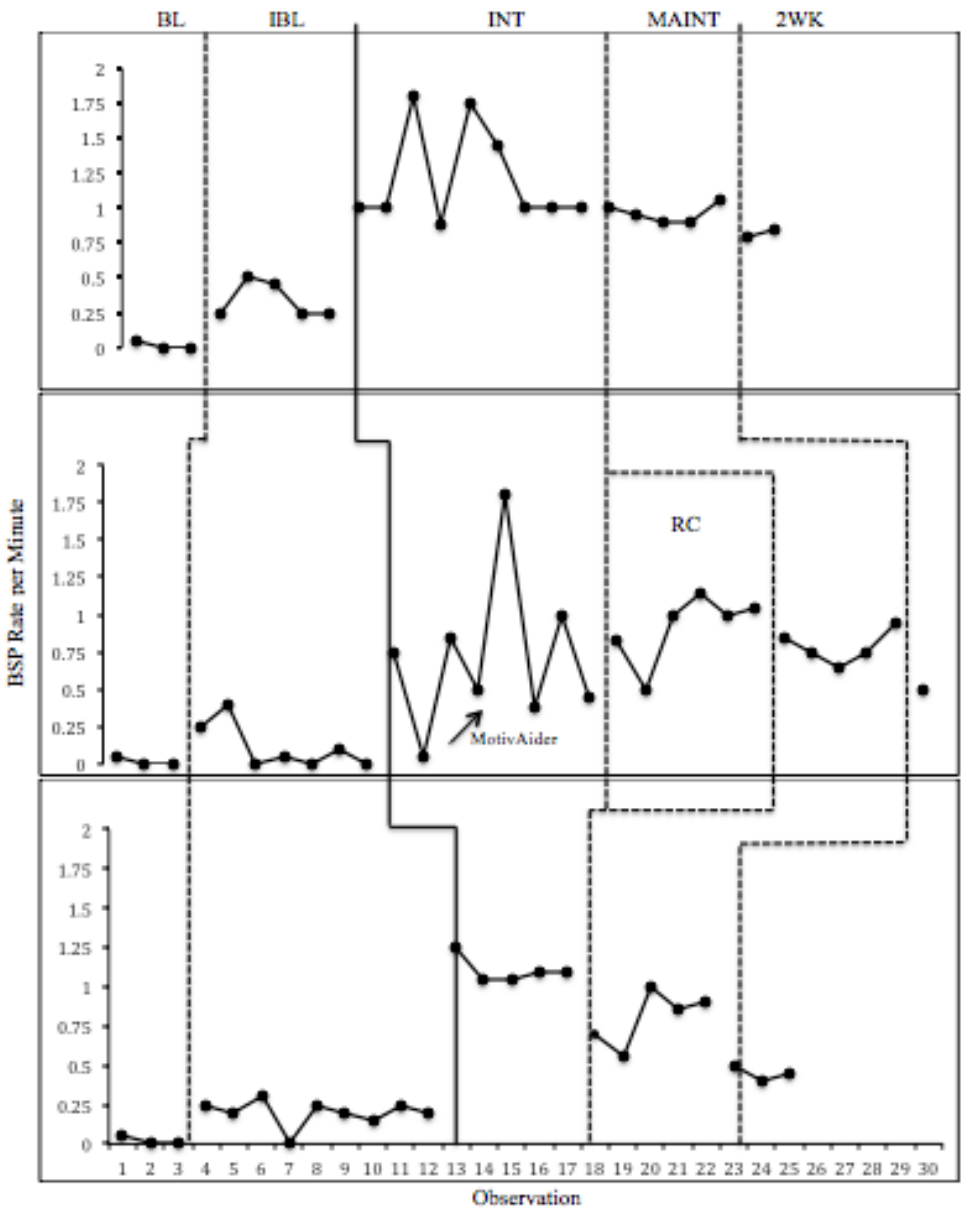



*Figure 1.* Teachers' rates of BSP per minute.

For Teacher 3, student disruptive behaviors were present in 21.67% to 28.33% (*M*= 25.28%) of intervals during baseline. A decreasing trend and increased variability was observed in the implementation baseline phase (*M*= 17.75, range = 1.67 - 20.28%). Upon implementation of intervention procedures, student disruptive behavior data stabilized (*M*= 6.67, range = 1.67 - 9.16). When maintenance procedures were

introduced, an immediate increase in level was observed, followed by a decrease in level and stabilization with a slight increasing trend (M= 8.16, range= 4.14 – 16.67). Follow-up data produced a slight increasing trend (M= 5, range= 3.33 – 6.67%).

When assessing student disruptive behavior data using statistical analysis procedures, Tau-U indicated large effect sizes for Teacher 1 (Tau-U = 0.66) and Teacher 2 (Tau-U = 0.80). Tau-U produced a small effect size for student disruptive behavior for Teacher 3 (Tau-U = 0.33; Vannest & Ninci, 2015).

## Negative Statements

Teacher use of negative statements is additionally displayed as Figure 3. These data were collected as rate per minute and also assessed using single case methodology as described above. In baseline for Teacher 1, the rate of negative statements displayed a slight increasing trend (*M* =0.2, range =0.1-0.25). Upon introduction of implementation baseline, a decreasing trend was observed (*M*=0.03, range= 0 - 0.1). When intervention procedures were implemented, low levels of negative statements continued to be observed (*M*= 0.04, range= 0 – 0.2). An increasing trend was observed during maintenance procedures, followed by stabilization (*M*=0.09, range= 0 – 0.2). An increasing trend was observed during follow-up observations (*M*= 0.05, range= 0 – 0.1).

For Teacher 2, negative statements displayed an increasing trend in baseline (*M*=0.2, range = 0.1 – 0.25). When implementation baseline procedures were introduced, increased variability was present, with an increasing then decreasing trend observed (*M*=0.14, range= 0 – 0.34). When intervention procedures were implemented, a decrease in level was observed while variability was still present (*M*=0.05, range= 0 – 0.2). An immediate increase in level was observed when a reduced criterion was introduced

(*M*=0.29, range= 0.15 – 0.45). One follow-up datum produced a decrease in level to 0 instances negative statements observed.

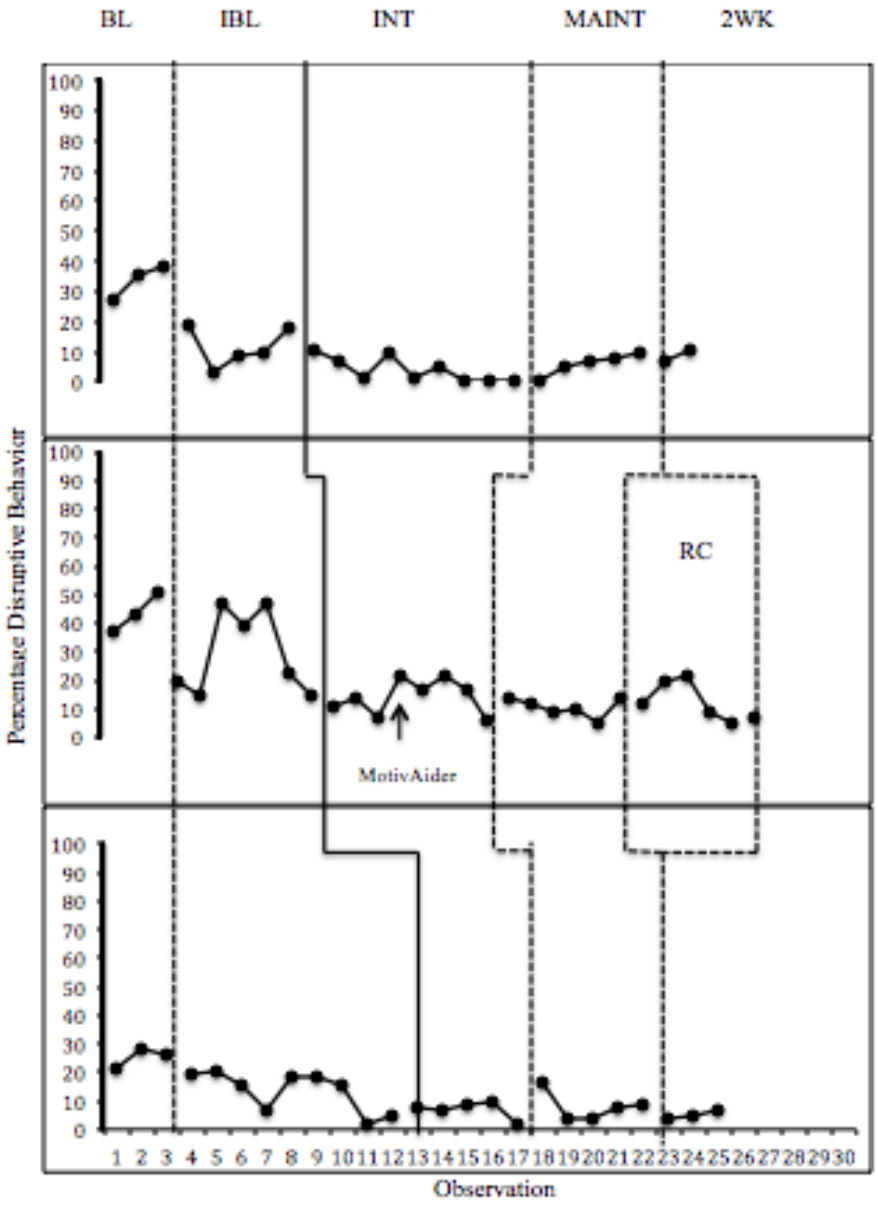



*Figure 2.* Percentage of student disruptive behavior.

For Teacher 3, an increasing trend was observed in baseline for negative statements (M = 0.17, range= 0 – 0.25). Use of negative statements remained stable during implementation baseline with a decrease in level observed (*M* = 0.02, range= 0 –

0.1). No negative statements were observed during intervention procedures. Slight increased variability was observed during use of maintenance procedures (*M* = 0.05, range= 0 – 0.15). Follow-up data remained stable (*M* = 0.03, range= 0 – 0.1). When assessing teacher use of negative statements using statistical analysis procedures, Tau-U indicated small effect sizes for Teacher 1 (Tau-U = 0.19), Teacher 2 (Tau-U = 0.13), and Teacher 3 (Tau-U = 0.15; Vannest & Ninci, 2015).

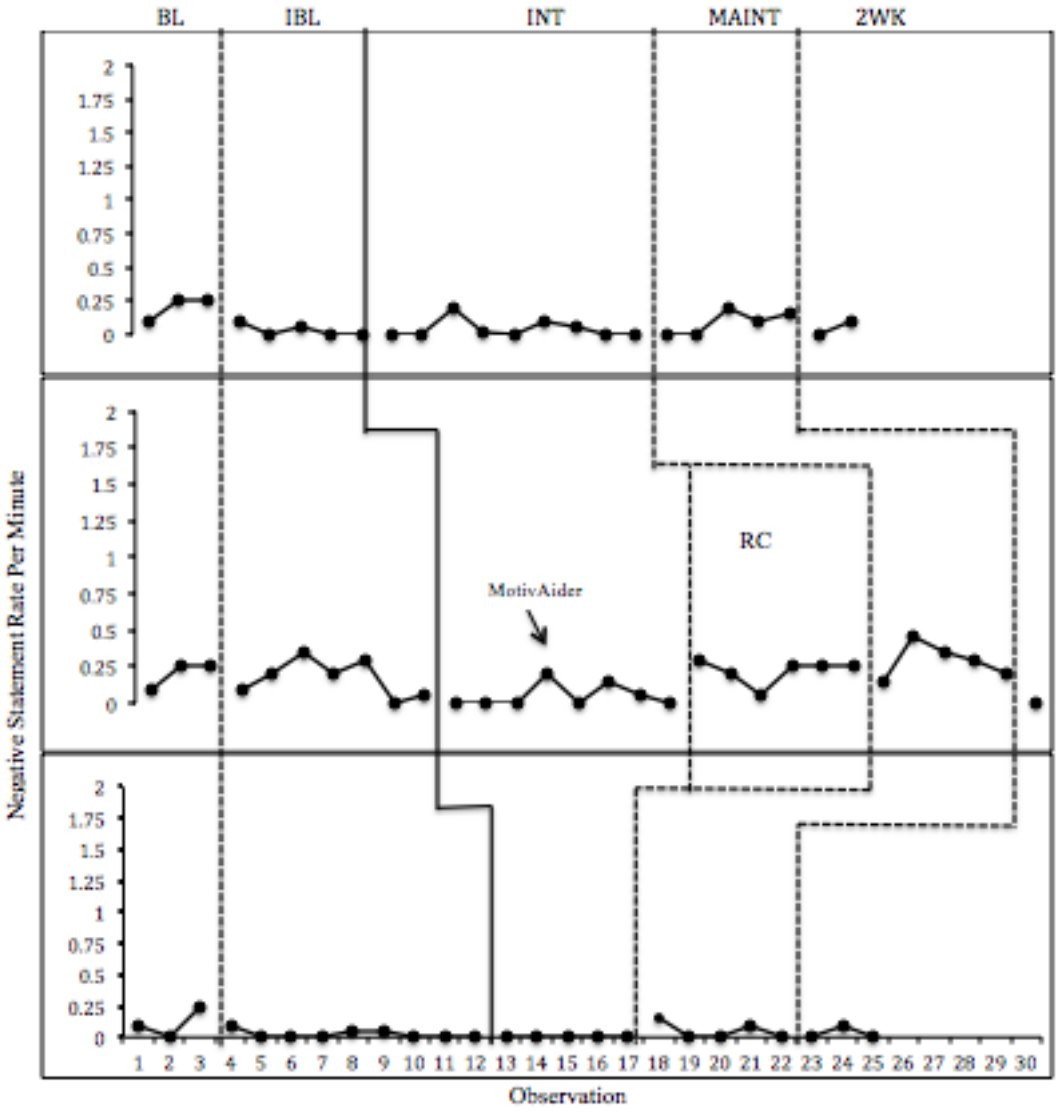



*Figure 3.* Teachers' rate of negative statements per minute.

## Acceptability

Each teacher completed the BIRS within one week of the end of data collection. Mean scores across teachers were 5.17 (range 4-6), 5.5 (range 5-6), and 5.08 (range 4-6), for Teachers 1, 2, and 3, respectively. Items loading on the acceptability factor had a mean score of 5.22 (range = 4.67-5.67).

Items loading on the effectiveness factor had a mean score of 5.11 (range = 5-5.67). Items loading on the time factor had a mean score of 5.17 (range 5-5.33). All teachers agreed that the intervention was suitable for classroom referral behaviors, acceptable, and appropriate.

Each teacher completed the CASS (Table 2) within one week of termination of data collection. Mean scores across teachers were 4.5, 4.75, and 4.42. According to the scores, results appeared to be similar across all teachers, as all questions were scored as either "Agree" or "Strongly Agree."

Table 1

*BIRS Results*

| Factor | Mean Score | Range |
|---|---|---|
| Acceptability | 5.22 | 4.67 – 5.67 |
| Effectiveness | 5.11 | 5 – 5.67 |
| Time | 5.17 | 5 – 5.33 |

Table 2

*CASS Results*

| | Mean Score<br><br>4.33 (range 4-5) |
|---|---|
| 1. The consultant seemed knowledgeable about effective classroom practices. | |
| 2. The consultant effectively answered my questions. | 4.33 (range 4-5) |
| 3. The consultant provided recommendations that were appropriate given my concerns. | 4.67 (range 4-5) |
| 4. The consultant clearly explained the assessment and/or intervention procedures. | 4.67 (range 4-5) |
| 5. The consultant effectively taught me how to implement their recommendations. | 5 |
| 6. The consultant provided me with the resources to implement their recommendations. | 4.33 (range 4-5) |
| 7. The consultation process seemed appropriate given the severity of the referral concern. | 4.67 (range 4-5) |
| 8. The consultation process did not significantly interfere with classroom activities. | 4 |
| 9. The consultation process was completed in a timely fashion. | 4.67 (range 4-5) |
| 10. The students benefited from the consultation process. | 4.67 (range 4-5) |
| 11. I would like to work with this consultant again in the future. | 5 |
| 12. Other teachers would benefit from working with this consultant. | 4.33 (range 4-5) |

# CHAPTER IV – DISCUSSION

The current study aimed to extend the consultation literature by evaluating a tiered consultative procedure incorporating VPF in an effort to increase teacher use of BSP. Student disruptive behaviors, teacher use of negative statements, and teacher's perceptions of the consultation process were also measured. Results of the study indicate the utility of the procedure in providing teachers with consultative feedback in the form of VPF in an unobtrusive manner and in the teacher's own classroom.

## Research Question 1

Use of the tiered intervention package increased teachers' use of BSP statements in the classroom during selected intervention periods. Increases in level were observed following the baseline and implementation baseline phases as evidenced by very large effect sizes for all teachers (Tau-U =1.00, 0.95, 1.00). These results are consistent with Reinke and colleagues (2007) in which use of VPF provided initial increases in teacher use of BSP. Teachers 1 and 2 displayed no overlap of baseline and intervention data and immediate increases in level were apparent at the initiation of intervention procedures. Inconsistent with Reinke and colleagues (2007), results maintained at or above baseline levels in follow-up sessions. It is possible that individualized VPF sessions contributed to maintenance of BSP increases in follow-up observations, as opposed to group feedback sessions used by Reinke and colleagues (2007).

Teacher 2 displayed some overlapping data from baseline to intervention and required retraining procedures to promote consistency of BSP usage. Retraining procedures included the use of a MotivAider to prompt delivery of BSP at a rate of 1 statement per minute in the intervention phase. Teacher 2 also required an additional

phase where the criterion was reduced to 0.50 statements per minute to further address inconsistent use of BSP. Following implementation of modified procedures, all maintenance and follow-up data were observed to be above baseline levels (Tau-U=1.00). Results are similar to Dufrene et al. (2014), where performance feedback was delivered graphically, in addition to praise or corrective feedback, to the teacher participant who failed to maintain BSP levels. Results indicate modified procedures, including frequent delivery of feedback, can be effective in increasing BPS in previously non-adherent participants.

### Research Question 2

Decreases in student disruptive behavior were observed following the initiation of implementation baseline procedures. Disruptive behaviors, as evaluated via Teacher interview using the PII (PII; Kratochwill & Bergan, 1990), included off-task behavior and inappropriate vocalizations in all three classrooms. Teacher 2 additionally categorized out of seat behavior as a disruptive behavior in her classroom during the selected intervention period.

It is possible that small increases in teacher use of BSP in the implementation baseline phase, as compared to baseline, were effective at producing decreases in student disruptive behaviors in the classroom. Disruptive behaviors decreased in frequency following initiation of implementation baseline procedures, mirroring increases in teacher BSP, and occurred less frequent following implementation of intervention procedures. Data appear similar to Noell et al. (2000) in which improvement in student reading comprehension was observed irrespective of teacher adherence to intervention procedures.

## Research Question 3

Frequency of use of negative statements remained similar to baseline levels throughout the study irrespective of intervention procedures. Visual analysis of negative statement data revealed similarities to baseline, and statistical analysis procedures indicated small effect sizes for Teachers 1, 2, and 3, respectively (Tau-U= 0.19, 0.13, 0.15; Vannest & Ninci, 2015). It is hypothesized that teacher use of negative statements remained static as a result of lack of targeted training to reduce the number of negative statements in the classroom. In this instance, teacher use of BSP did not function as a keystone behavior, and therefore had little effect on teacher frequency of negative statements (Barnett, Bauer, Erhhardt, Lentz, & Stollar, 1996). Similar to previous consultation literature, behavior change was not observed in the absence of training procedures (Cossairt et al., 1973; DiGennaro et al., 2007; Reinke, Lewis-Palmer, & Martin, 2007). Further, floor effects limited the ability to produce large decreases in teacher frequency of negative statements.

## Research Question 4

All teachers reported favorable views of the consultation process and tiered intervention procedures as indicated by responses on the BIRS (BIRS; Sheridan et al., 2001) and CASS (Taber, 2015). Both rating scales were completed within one week of termination of data collection procedures. On the CASS, teacher 1 had a mean score of 5.5, Teacher 2 had a mean score of 5.75, and teacher 3 had a mean score of 5.42. All questions were rated as either “Agree” or “Strongly Agree” on this measure.

When administered the BIRS, Teacher 1 had a mean score of 5.17 (range 4-6), Teacher 2 had a mean score of 5.5 (range 5-6), and teacher 3 had a mean score of 5.08

(range 4-6). While Teacher 2 was the only teacher to require retraining procedures, including use of the MotivAider and a reduced criterion for rate of BSP, she rated items on the BIRS slightly higher than Teachers 1 and 2. These data suggest that the extra training provided to was not detrimental to the consultation process. Similar to previous research, teachers reported high intervention acceptability despite intensive intervention procedures (Taber, 2015; Hiralall & Martens, 1998).

## Limitations

Though results suggest that a tiered intervention package can be helpful in increasing teacher use of BSP, several limitations should be noted. Student disruptive behavior decreased following initiation of implementation baseline procedures, with additional decreases in disruptive behavior observed in the classrooms of Teachers 1 and 3. It is possible that implementation baseline procedures (i.e., reminding the teacher of use of BSP in the classroom in accordance with instructions detailed in an earlier large-group teacher training) could have been sufficient to produce decreased disruptive behaviors. Further, it could be interpreted that providing teachers with a prompt to use BSP could be sufficient to initiate behavior change in the classroom.

Also, generalization data were not collected in this study. It is unknown whether these teachers used BSP during instructional periods other than the targeted intervention period. It is also unknown if decreases in child disruptive behavior were present during additional instructional periods. Additionally, all observations were conducted in lower-elementary school classrooms, as Teachers 1 and 3 were third grade teachers and Teacher 2 taught first grade. It is possible that classrooms with more advanced students require

differing levels of BSP than provided in this study to promote decreased disruptive behaviors.

Further, Teacher 1 was in her eighth year of teaching, Teacher 2 in her sixth year of teacher, and Teacher 3 in her eleventh year of teaching. Additionally, Teacher 1 held a Master's degree and Teacher 3 was taking Master's courses during data collection. It is possible that these teachers' years of experience and advanced degrees impacted their ability to respond favorably to performance feedback and implement intervention procedures as requested. As such, future researchers may consider implementing similar procedures with teachers with varying levels of experience and education.

## Conclusion

In the current study, teachers increased their use of BSP in the classroom following use of a tiered intervention package. Decreases in student disruptive behaviors were observed upon implementation of a prompt to increase BSP in the implementation baseline phase, and additional decreases were apparent when VPF was introduced in the intervention phase. School psychologists should consider VPF when working with teachers who have failed to implement behavioral intervention procedures discussed in large group trainings. School psychologists should also consider the use of frequent prompts to produce desired teacher behaviors, as increases in teacher use of BSP were observed following a reminder prompt. Decreases in teacher use of negative statements were not observed throughout the study. School psychologists should not assume that changes teacher behavior would occur in the absence of frequent or specific training. Furthermore, these data suggest that school psychologists can maintain intervention

acceptability in the presence of retraining procedures. Thus, school psychologists should not shy away from measures to correct teacher behaviors for fear of loss of rapport.

APPENDIX A – IRB Approval Document

THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

**INSTITUTIONAL REVIEW BOARD**
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

**NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
  Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 16020505
PROJECT TITLE: Effects of a Tiered Intervention Package to Increase Teacher Praise
PROJECT TYPE: New Project
RESEARCHER(S): Hannah Cavell
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Psychology
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 03/01/2016 to 02/28/2017
**Lawrence A. Hosman, Ph.D.**
**Institutional Review Board**

APPENDIX B – School Approval Document

LAUREL
Learning for Life

POST OFFICE BOX 288
LAUREL, MS 39441
PHONE: (601) 649-6391
FAX: (601) 649-6398

January 26, 2016

Hannah J. Cavell
School Psychologist-In-Training
The University of Southern Mississippi

RE: Support

To Whom It May Concern,

Laurel School District supports Hannah Cavell, a graduate student at the University of Southern Mississippi and her proposed use of Visual Performance Feedback and Rewards as an intervention package to increase praise in the classroom.

We anticipate that this project will increase the usage of behavior-specific praise statements by teachers. High levels of praise may also lead to a reduction of classroom disruptive behavior.

In conclusion, I fully support the efforts of Hannah Cavell and the School Psychology doctoral program at the University of Southern Mississippi as they seek approval for this study.

Sincerely,

Dr. Chuck Benigno
Superintendent, Laurel School District

APPENDIX C – Teacher Consent Form

**Title of Study:** The Effects of Rewards and Visual Performance Feedback to Increase Teacher Praise.

**Purpose:** You are being asked to participate in a study that is evaluating the generalized effects of a praise intervention on child disruptive behavior in the classroom.

**Procedures:** If you agree to participate in this study, you will be asked to perform several tasks throughout the study. First, I will observe your classroom to see if the level of disruptive behavior is high enough for your classroom to be included in this study. If it is not, there will be other services available to you. I and other trained graduate students from the School Psychology program at the University of Southern Mississippi will be collecting classroom observations throughout all phases of this study. You will first be instructed to teach in your usual manner while baseline data are collected. In the next phase, you will be trained on intervention procedures using a Motivaider, a small pager-like device that will vibrate at certain intervals. You will then be asked to implement the intervention protocol, and additional training may take place depending on the data collected. At the end of the study, you will be asked to complete a questionnaire to assess your perception of the intervention procedures.

**Benefits and risks:** The study may have beneficial effects for you and your students. Your students may exhibit less problem behaviors and more appropriate behaviors, and you may learn a new skill that you can use with other students. There are minimal risks related to the study. Potential risks include disruptions in the classroom due to observers being present, or not preferring the intervention protocol.

**Voluntary Nature of the Study/Confidentiality:** Your participation in the study is entirely voluntary and you may refuse to complete the study at any point without penalty, prejudice, or loss of benefits. All data collected from, checklists, questionnaires and observations will be recorded in the password-protected computer belonging to the Principal Investigator. Only people directly connected to the study will have access to this or other information. All identifying information will be removed before the dissemination of results from the study. Your name and other identifying information will not be used in the research papers, any submission to a professional journal for publication, or presentation.

**Teacher Consent:** If you agree to participate, please read, sign, and return the following page. Please keep this letter for your records. If you have any questions about this study, please contact Hannah Cavell (email: hannah.cavell@eagles.usm.edu) or Dr. Keith Radley (Phone: 601-266-5255; email: keith.radley@usm.edu). This project and this consent form have been reviewed by the Human Subjects Protection Review Committee

at USM, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the Institutional Review Board Office, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406-5147, (601) 266-6820.

Sincerely,

| | |
|---|---|
| Hannah J. Cavell, B.A. | Keith. Radley, Ph.D. |
| School Psychologist-in-Training | Supervising School Psychologist |
| Department of Psychology | Department of Psychology |
| The University of Southern Mississippi | The University of Southern Mississippi |

**THIS SECTION TO BE COMPLETED BY TEACHER**

Please Read and Sign the Following:

*I have read the above documentation and consent to participate in this project. I have had the purpose and procedures of this study explained to me and have had the opportunity to ask questions. I am voluntarily signing this form to participate under the conditions stated. I have also received a copy of this consent. I further understand that all*

*data collected in this study will be confidential and that my name, my student's name, and their parents' will not be associated with any data collected. I understand that I may withdraw my consent for participation at any time without penalty, prejudice, or loss of privilege.*

_____

*Printed Name of Teacher*

_____ _____

*Signature of Teacher* *Date*

APPENDIX D – Problem Identification Interview

Students: Class-wide Teacher(s):

School: Age: Sex: Male Female

Date:

1. Describe the class' behavior problems in order of severity and give examples:

2. How manageable is the problem behavior?

3. In what settings does the problem behavior occur?

4. Goals for the problem behavior (what would you like to see happen)

5. Tell me about what happens before the behavior occurs. After the behavior occurs?

6. Intervention attempts, degree of success, reasons for failure.

   a. What procedures have you tried din the past to deal with this behavior?

   b. What, if anything, have you done to deal with similar behavior problems in the past?
   c. What's worked? What hasn't?

7. Rules and typical procedures carried out in the classroom (constraints and assets).

8. Reinforcers- used now and potentials for future (e.g., praise, activities, or notes sent home).

9. Any data collected presently?

10. Ask teacher for any additional comments or questions.

Adapted from Kratochwill, T.R., & Bergan, J. R. (1990). Behavioral consultation in applied settings: An individual guide. New York, NY: Plenum Press.

APPENDIX E – Classroom Demographics Form

**Teacher Demographics:**

Age:

Number of Years Teaching:

Race:

Gender:

Highest Degree Earned

**Classroom Demographics**

Number of Students in Class:

Number of: Males _____ Females _____

Number of: African-American _____ Asian _____ Caucasian _____

Hispanic _____ Other _____

Circle *one* General Education Special Education Inclusion

Number of SPED students in your classroom _____

Please list the disability categories of each child in SPED (do NOT include names or any other identifying information:

_____

_____

_____

# APPENDIX F – Observation Form

| | Dis Bx | Neg | BSP | | Dis Bx | Neg | BSP |
|---|---|---|---|---|---|---|---|
| 1.1 | | | | 11.1 | | | |
| 1.2 | | | | 11.2 | | | |
| 1.3 | | | | 11.3 | | | |
| 1.4 | | | | 11.4 | | | |
| 1.5 | | | | 11.5 | | | |
| 1.6 | | | | 11.6 | | | |
| 2.1 | | | | 12.1 | | | |
| 2.2 | | | | 12.2 | | | |
| 2.3 | | | | 12.3 | | | |
| 2.4 | | | | 12.4 | | | |
| 2.5 | | | | 12.5 | | | |
| 2.6 | | | | 12.6 | | | |
| 3.1 | | | | 13.1 | | | |
| 3.2 | | | | 13.2 | | | |
| 3.3 | | | | 13.3 | | | |
| 3.4 | | | | 13.4 | | | |
| 3.5 | | | | 13.5 | | | |
| 3.6 | | | | 13.6 | | | |
| 4.1 | | | | 14.1 | | | |
| 4.2 | | | | 14.2 | | | |
| 4.3 | | | | 14.3 | | | |
| 4.4 | | | | 14.4 | | | |
| 4.5 | | | | 14.5 | | | |
| 4.6 | | | | 14.6 | | | |
| 5.1 | | | | 15.1 | | | |
| 5.2 | | | | 15.2 | | | |
| 5.3 | | | | 15.3 | | | |
| 5.4 | | | | 15.4 | | | |
| 5.5 | | | | 15.5 | | | |
| 5.6 | | | | 15.6 | | | |
| 6.1 | | | | 16.1 | | | |
| 6.2 | | | | 16.2 | | | |
| 6.3 | | | | 16.3 | | | |
| 6.4 | | | | 16.4 | | | |
| 6.5 | | | | 16.5 | | | |
| 6.6 | | | | 16.6 | | | |
| 7.1 | | | | 17.1 | | | |
| 7.2 | | | | 17.2 | | | |
| 7.3 | | | | 17.3 | | | |
| 7.4 | | | | 17.4 | | | |
| 7.5 | | | | 17.5 | | | |
| 7.6 | | | | 17.6 | | | |
| 8.1 | | | | 18.1 | | | |
| 8.2 | | | | 18.2 | | | |
| 8.3 | | | | 18.3 | | | |
| 8.4 | | | | 18.4 | | | |
| 8.5 | | | | 18.5 | | | |
| 8.6 | | | | 18.6 | | | |
| 9.1 | | | | 19.1 | | | |
| 9.2 | | | | 19.2 | | | |
| 9.3 | | | | 19.3 | | | |
| 9.4 | | | | 19.4 | | | |
| 9.5 | | | | 19.5 | | | |
| 9.6 | | | | 19.6 | | | |
| 10.1 | | | | 20.1 | | | |
| 10.2 | | | | 20.2 | | | |
| 10.3 | | | | 20.3 | | | |
| 10.4 | | | | 20.4 | | | |
| 10.5 | | | | 20.5 | | | |
| 10.6 | | | | 20.6 | | | |

## APPENDIX G – BIRS

Behavior Intervention Rating Scale (BIRS; Elliot and Von Brock Treuting, 1991)
1=Strongly Disagree 2=Disagree 3=Slightly Disagree 4=Slightly Agree 5=Agree 6=Strongly Agree

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. This would be an acceptable intervention for the students' problem behaviors. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. Most teachers would find this intervention appropriate for behavior problems in addition to the ones described. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. The intervention was effective in changing the students' problem behaviors. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. I would suggest the use of this intervention to other teachers. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. The students' behavior problems were severe enough to warrant the use of this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. Most teachers would find this intervention suitable for the behavior problems described. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. I would be willing to use this in the classroom setting. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8. The intervention did not result in negative side-effects for the students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 9. The intervention was an appropriate intervention for a variety of students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 10. The intervention was consistent with those I have used in the classroom setting. | 1 | 2 | 3 | 4 | 5 | 6 |
| 11. The intervention was a fair way to handle the students' problem behaviors. | 1 | 2 | 3 | 4 | 5 | 6 |
| 12. The intervention was reasonable for the behavior problems described. | 1 | 2 | 3 | 4 | 5 | 6 |
| 13. I liked the procedures used in this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 14. The intervention was a good way to handle the students' behavior problems. | 1 | 2 | 3 | 4 | 5 | 6 |
| 15. Overall, the intervention was beneficial for the students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 16. The intervention quickly improved students'' behaviors. | 1 | 2 | 3 | 4 | 5 | 6 |
| 17. The intervention produced a lasting improvement in the students' behaviors. | 1 | 2 | 3 | 4 | 5 | 6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 18. The intervention improved students'' behaviors to the point that it did not noticeable deviate from other classroom's behaviors. | 1 | 2 | 3 | 4 | 5 | 6 |
| 19. Soon after using the intervention, I noticed a positive change in the problem behaviors. | 1 | 2 | 3 | 4 | 5 | 6 |
| 20. The students' behavior remained at an improved level even after the intervention discontinued. | 1 | 2 | 3 | 4 | 5 | 6 |
| 21. Using the intervention not only improved the students' behaviors in the classroom, but also in other settings (e.g., other classrooms, home). | 1 | 2 | 3 | 4 | 5 | 6 |
| 22. When comparing students with a well-behaved peer before and after the use of the intervention, the students' and the peer's behavior were more alike after using the intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 23. The intervention produced enough improvement in the students' behaviors so the behaviors were no longer a problem in the classroom. | 1 | 2 | 3 | 4 | 5 | 6 |
| 24. Other behaviors related to the problem behaviors were likely to be improved by the intervention. | 1 | 2 | 3 | 4 | 5 | 6 |

Adapted from Elliott, S. N., & Von Brock Treuting, M. (1991). The Behavior Intervention Rating Scale: Development and validation of a pretreatment acceptability and effectiveness measure. *Journal of School Psychology, 29,* 43-51.

APPENDIX H – CASS

| | Mean Score |
|---|---|
| 1. The consultant seemed knowledgeable about effective classroom practices. | 1 2 3 4 5 6 |
| 2. The consultant effectively answered my questions. | 1 2 3 4 5 6 |
| 3. The consultant provided recommendations that were appropriate given my concerns. | 1 2 3 4 5 6 |
| 4. The consultant clearly explained the assessment and/or intervention procedures. | 1 2 3 4 5 6 |
| 5. The consultant effectively taught me how to implement their recommendations. | 1 2 3 4 5 6 |
| 6. The consultant provided me with the resources to implement their recommendations. | 1 2 3 4 5 6 |
| 7. The consultation process seemed appropriate given the severity of the referral concern. | 1 2 3 4 5 6 |
| 8. The consultation process did not significantly interfere with classroom activities. | 1 2 3 4 5 6 |
| 9. The consultation process was completed in a timely fashion. | 1 2 3 4 5 6 |
| 10. The students benefited from the consultation process. | 1 2 3 4 5 6 |
| 11. I would like to work with this consultant again in the future. | 1 2 3 4 5 6 |
| 12. Other teachers would benefit from working with this consultant. | 1 2 3 4 5 6 |

APPENDIX I – Teacher Training Script and Graph

**Instruction**

General Praise: Praise that does not refer to a specific behavior that a child has performed

"Good job!"

"Thank you!"

Behavior Specific Praise (BSP): BSP is a praise statement that includes a behavior a child has performed. Providing an explanation of why the child has been praised has been linked to academic improvements and decreases in classroom disruptive behavior.

"Thank you for sitting in your seat!"

"I love the way you are working so hard on your math worksheet!"

**Modeling**

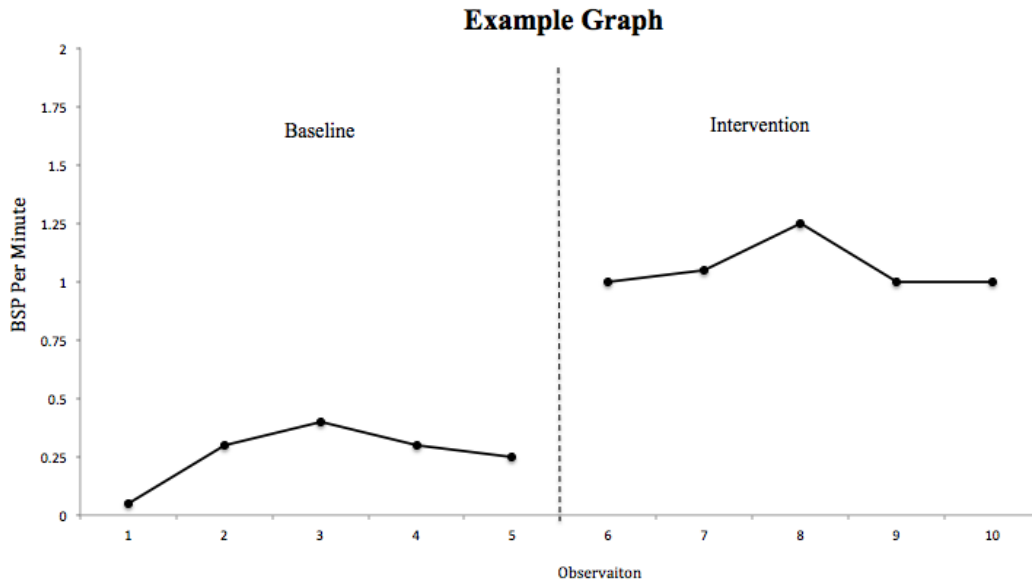
Use of BSP is modeled by providing five examples of BSP to teacher

**Rehearsal**

Teacher is instructed to provide five examples of BSP

**Feedback**

Positive and/or corrective feedback is provided based on teacher use of BSP



APPENDIX J – Maintenance Procedural Integrity Form

Teacher Name:_____ Date:_____

Observer:_____ IOA:_____

| Procedure Steps: | Yes | No |
|---|---|---|
| Researcher does not give any instructions to teacher | | |
| Following observation, teacher views VPF graph | | |
| Teacher receives access to preferred reinforcer if goal is met | | |

# Steps completed correctly: _____

# Steps possible: _____

Percent Integrity: _____

APPENDIX K – Treatment Integrity Form

Teacher Name:_____ Date:_____

Observer:_____ IOA:_____

| Procedure Steps: | Yes | No |
|---|---|---|
| 1. BST Instruction: Teacher is given handout of BSP | | |
| 2. BST Modeling: Modeling of correct BSP procedures | | |
| 3. BST Role Play: Teachers and researchers role-play BSP | | |
| 4. BST Feedback: Teachers are delivered feedback on BSP usage | | |
| 5. Teacher is given rationale of why we use BSP | | |
| 6. Teacher views VPF graph | | |
| 7. Graph and data are explained to teacher | | |
| 8. Any questions are addressed | | |
| 9. Teacher told to give BSP to meet criterion line | | |

# Steps completed correctly: _____

# Steps possible: _____

Percent Integrity: _____

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