

THE EFFECTS OF COACHING AND ELECTRONIC PERFORMANCE
FEEDBACK ON TEACHERS' USE OF BEHAVIOR-SPECIFIC PRAISE AND
OPPORTUNITIES TO RESPOND

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THE EFFECTS OF COACHING AND ELECTRONIC PERFORMANCE FEEDBACK
ON TEACHERS' USE OF BEHAVIOR-SPECIFIC PRAISE AND
OPPORTUNITIES TO RESPOND

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DEDICATION

Reaching the highest of life goals is never an individual feat. There are so many people who have supported me through my education and I dedicate my work to you all.

First, thank you to the two people without whom none of this would be possible: my parents, John and Pat Downs. Since I was very small, learning was a passion of mine, mostly because you never ceased to encourage my curiosity. You provided me with endless opportunities to explore my interests and to discover who I am, no matter where that took me. I am the person I am today because of your influence and example. You showed me how to be a good student, spouse, parent, and person. Because of your unconditional love and support, I will forever be indebted to you.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
LIST OF TABLES.....	iv
LIST OF FIGURES.....	v
ABSTRACT.....	vi
CHAPTER	
1. LITERATURE REVIEW.....	1
2. METHOD.....	38
3. RESULTS.....	53
4. DISCUSSION.....	69
REFERENCES.....	83
APPENDIX	
A. VALUES CARD SORT.....	95
B. SAMPLE FROM CCU OBSERVATION RUBRIC.....	100
C. CCU TEACHER INTERVIEW.....	103
D. SAMPLE PERFORMANCE FEEDBACK EMAIL.....	106
E. SAMPLE STRATEGY TOOL.....	107
F. SAMPLE TEACHER SELF-MONITORING FORM.....	108
G. TEACHER INTERVIEW FIDELITY CHECKLIST.....	109
H. SOCIAL VALIDITY AND TEACHER FEEDBACK QUESTIONNAIRE.....	112
VITA.....	114

LIST OF TABLES

Table	Page
1. Categories and Strategies Used in the CCU.....	29
2. Teacher Participants.....	40
3. Student Participants.....	41
4. Operational Definitions of Teacher and Student Behaviors.....	42
5. Teacher Behavior: Mean Rates Per Minute (Baseline; Intervention; Self-Monitoring).....	54

LIST OF FIGURES

Figure	Page
1. Theory of Change.....	22
2. Rate Per Minute of Teacher Behaviors for Group and Individual Across Phases.....	56
3. Rate Per Minute of Teacher Behaviors for Target Student Across Phases.....	57
4. Rate Per Minute of OTR Per Teacher Across Phases.....	57
5. Rate Per Minute of Disruptive Behavior Per Student Across Phases.....	62
6. Rate Per Minute of Teacher Rates of Target BSP and Target Rates of Disruption.....	63

ABSTRACT

A single-subject multiple baseline design across four teacher-student dyads was used to investigate possible functional relationships between the independent variable of coaching and electronic performance feedback and dependent variables of teacher behaviors (BSP, general praise, OTR, reprimand) and student disruptive behavior. Subjects were four elementary special education teachers and four students with disabilities whose teachers reported as exhibiting high rates of externalizing behaviors. All selected dyads were observed in 20-minute sessions during instruction in the special education setting. Results indicated coaching and electronic performance feedback led to moderate gains in teachers' use of BSP. Visual analysis indicated changes in teacher behavior had little to no effect on student disruptive behavior. Additionally, teachers showed little maintenance once daily electronic performance feedback was withdrawn. Implications for future research are discussed.

Chapter I

Literature Review

The Context of the Problem

According to U.S. Department of Education, National Center for Education Statistics (2015), the percentage of students aged 3-21 who are served under the Individuals with Disabilities Act (IDEA) category of Emotional and Behavioral Disorder (EBD) has remained relatively stable from 1976 – 2012, hovering around 1% of the total enrollment. In spite of the static nature of special education identification of, and services for, students with EBD, it appears discipline in schools, involving removing students from the classroom due to challenging behaviors, has been steadily on the rise. According to the U.S. Department of Education, during the 2011-2012 school year, of the 49 million students enrolled in public schools, 3.45 million students were suspended out-of-school and 130,000 students were expelled (CRDC, 2014). The same data in 2006 showed 49 million students enrolled, with 3.3 million out-of-school suspensions, and 102,080 expulsions. Data continues to show that students with disabilities are twice as likely to receive out-of-school suspension as their non-disabled peers (CRDC, 2014). The number of referrals for all school-age students to law enforcement in 2011-2012 reached almost 250,000 students, up from only 5,869 in 2009-2010, and school-related arrests totaled over 64,000, up from 1,836 in 2009-2010. Students with disabilities comprise 25% of the school-related arrests, even though they make up only 12% of the overall school population (CRDC, 2014). For the first time since data collection began, Civil Rights Data Collection includes preschool suspension data, which further illustrates that exclusionary discipline in response to challenging student behavior appears to be on the

rise across all grade levels (CRDC, 2014). Students with EBD may be the group most negatively affected by these discipline policies.

Students with EBD exhibit learning problems and behavioral deficits (Kauffman, 2005) and face negative academic, disciplinary, behavioral, and post-secondary outcomes, more so than students with other disabilities. Students with EBD are more likely to earn lower grades and this trend worsens as they move into higher grades. The National Adolescent and Child Treatment Study (NACTS) showed that three-fourths of students with EBD were below grade level in reading and 97% were below grade level in math (Greenbaum & Dedrick, 1996). All of these issues lead to an increase in retention rates for students with EBD from 22% in elementary grades to 38% in high school (Bradley, Doolittle, & Bartolotta, 2008). Even though behavior is related to their disability, data from the National Longitudinal Transition Study 2 (NLTS2; Wagner, Newman, Cameto, Levine, & Garza, 2006) and Special Education Elementary Longitudinal Study (SEELS; Wagner, Kutash, Duchnowski, & Epstein, 2005) demonstrated 36.4% of elementary students with EBD and 42.3% of middle school students with EBD were reported by their teachers as being subject to the same disciplinary policies as their non-disabled peers. This percentage increased to 53.5% for high school students with EBD (Wagner, Newman, Cameto, Levine, & Garza, 2006). Suspension and expulsion rates for students with EBD is 64%, almost three times that of students in any other disability category (Blackorby et al, 2003).

Students with EBD are excluded from general education settings more than any other disability group (Bradley, Doolittle, & Bartolotta, 2008). This pattern of exclusion limits students' exposure to the curriculum needed to meet graduation requirements and

to achieve satisfactory post-school outcomes. Data from the NLTS2 indicate only 56% students with EBD complete high school, the lowest percentage of all disability categories, with the exception of youth with multiple disabilities or mental retardation (Wagner et al., 2006). Additionally, post-school outcomes for students with EBD have been historically dismal. Only about one in five students with EBD pursue any form of postsecondary education after high school, which is the lowest for any disability category (Wagner et al., 2005). Data from the NLTS2 further revealed that only 30% of out-of-school youths who previously received services under the EBD label were employed (Wagner et al., 2005). While these outcomes seem dismal, career outcomes for the teachers of students with EBD are also a matter for consideration.

Related to the increase in student challenging behavior, teacher attrition has been of significant concern for the last two decades (Billingsley, 1993; Brownell, Smith, McNellis, & Lenk, 1994; Brownell, Yeager, Rennells, & Riley, 1997; Gonzalez, Brown, and Slate, 2008). Nearly one in four teachers leave teaching employment during their first four years of teaching (Boe, Cook, & Sunderland, 2005). This is an especially critical issue in special education, where there has been a documented teacher shortage for decades (McLeskey, Tyler, & Flippin, 2004). Evidence suggests that one of the primary factors for teachers' leaving the profession is difficulties in dealing with student problem behavior (Gonzalez, Brown, & Slate, 2008). According to the U.S. Department of Education (2015), the current high-need fields in schools that serve low-income students includes special education, with many states reporting shortages in the field of teachers working with students with EBD. Attrition rates for teachers of students with emotional/behavioral disorders (EBD) have been found to be significantly higher than for

other special education teachers (Henderson, Klein, Gonzalez, & Bradley, 2005). Poor classroom management leads to more student misbehaviors, which interfere with teaching and learning, and produces increased teacher stress (Friedman, 2006). Ineffective classroom management by special education teachers may be due, in part, to a lack of pre-service training and in-service support in classroom and behavior management.

Statement of the Problem

Effective classroom organization and behavioral management skills are essential for any teacher, particularly for teachers of students with disabilities and behavioral challenges (Gunter & Denny, 1996). Although schools play a critical role in fostering social development of students, they are faced with a paucity of resources and training with which to accomplish the task (Durlak et al., 2011). Managing behavior is a well-established concern for new teachers (Stough, 2006; Wagner, Friend, Bursuck, Kutash, Duchnowski, Sumi, & Epstein, 2006). A review of the literature reveals that teachers historically have ranked classroom management as one of their major concerns (Evertson & Weinstein, 2006; Ritter & Hancock, 2007; Melnick & Meister, 2008; Henson 2001; Sugai & Horner, 2002; Laut, 1999). Despite the fact results of teacher surveys repeatedly point to student behavior as being one of the important topics in which additional training is needed, teachers are inadequately prepared to handle these behavior challenges (Wagner et al., 2006). Special education teachers, whose students are reported to exhibit more behavior problems than general education students, express they have not received adequate or extensive pre-service training in applied behavior analysis, classroom management, and data collection and assessment (Westling, 2010).

Teachers of students with EBD should be experts in their schools when it comes to guiding intervention programs for students who exhibit challenging behaviors. Yet, it has been noted, that teachers of students with EBD have significantly fewer years of teaching experience, are less likely to be fully certified, and are more likely to have entered teaching through alternative certification routes than other special and general education teachers (Billingsley, Fall, & Williams Jr., 2006). Billingsley and colleagues (2006) surveyed 859 teachers of students with emotional and behavioral disorders to provide a profile of their characteristics and preparedness to teach. Nearly one-third of the respondents stated their preparation program did not match their experiences in the first year teaching. Very few special education teacher preparation programs contain an entire course on behavior management. The majority of programs intersperse this topic throughout other courses or have courses on individual behavioral interventions (Oliver & Reschly, 2010). Behavior reduction strategies, encouragement for appropriate behavior and strategies such as creating a structured environment, active supervision and student engagement, and developing effective classroom routines are the components most often taught as part of behavior management; therefore, pre-service special education teachers are at risk for receiving very little preparation in these essential proactive strategies.

Unfortunately, professional learning in classroom and behavior management is also not embedded into special education teaching positions. Special education teachers face a host of unique stressors, such as role ambiguity, students posing complex academic and behavioral challenges, large case loads, insufficient resources, lack of administrative support, inadequate professional development, few opportunities to collaborate, and excessive procedural demands (Kilgore, Griffin, Otis-Wilborn, & Winn, 2003).

According to the SEELS (Wagner et al., 2005), only one-fourth to one-third of teachers of students with EBD received at least eight hours of in-service training on working with students with disabilities. Even fewer teachers received training specific to the needs of students with EBD; 17% of elementary, 21.3% of middle school, and 6% of high school teachers (Bradley, Doolittle, & Bartolotta, 2008). Due to the specificity and uniqueness of their positions, teachers of students with EBD may be left to function independently from the rest of the teachers in their building. They may be the only teacher in the building working with students with severe challenging behaviors and, therefore, have no one available with which to discuss the issues they are facing (Cancio, Albrecht, & Holden Johns, 2013) and to collaborate to develop novel methods for solving problems.

Knowing the data regarding the poor outcomes for students with EBD and the difficult context in which special educators of students with EBD work, there is a pressing need to further examine ways to provide special educators of students with EBD with the supports they require to meet the distinctive demands of the position and to increase student outcomes. There is a well-documented evidence base for critical, preventative teacher variables within the classroom that increase the likelihood of success for students who exhibit challenging behaviors (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). These practices fall into three main categories: (1) classroom organization (e.g., physical structure and behavioral expectations), (2) teaching strategies (e.g., active supervision, active student engagement, opportunities to respond), and (3) strategies to increase appropriate behavior (e.g., behavior specific praise and pre-corrective statements; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008; Simonsen & Myers, 2014). Unfortunately, these strategies are implemented at very low rates by teachers or

are not implemented with fidelity, thereby compromising the integrity of the interventions (Klingner, Ahwee, Pilonieta, & Menendez, 2003). Implementation research demonstrates that positive outcomes can only be expected from EBP if they are implemented with fidelity (Aos & Lieb, 2004; Bernfeld, 2006).

One of the most critical issues in special education is the significant and persistent gap between research demonstrating effectiveness of practices and the actual instruction that occurs in classrooms (Carnine, 1997; Cook & Cook, 2013). Those practices revealed to have positive impacts on student performance are not regularly implemented, but practices with little to no evidence of effectiveness, or that actually demonstrate negative effects, are routinely used (Burns & Ysseldyke, 2008). For example, special education teachers regularly report using reactionary behavioral strategies (e.g., reprimands) instead of proactive, antecedent strategies (e.g., praise), even though proactive strategies have been shown more effective in changing student behavior and creating positive classroom climates (Cook & Cook, 2013). It is essential for the field of special education to investigate ways to increase effective implementation of EBPs for classroom and behavior management.

Review of Related Literature

The following section includes a review of literature relevant to the study. A review of the literature resulted in the identification of key elements in the areas of (1) classroom contexts for students who demonstrate externalizing problem behaviors, (2) evidence-based antecedent intervention strategies, (3) support for implementation of EBP, and (4) school-based coaching and consultation.

Classroom Contexts for Students with EBD

Student-teacher interactions. Both students with EBD and their teachers can experience the classroom as an aversive environment (Gunter & Coutinho, 1997; Wehby, Symons, & Canale, 1998). Students identified with EBD spend less time attending and complying to group directions, have higher rates of aggression and out-of-seat and disruptive behaviors, and have an overall higher rate of negative interactions with teachers (Sutherland et al., 2008; Sutherland & Oswald, 2005; Walker, Colvin, & Ramsey, 1995). The high rates and extreme variability of problem behaviors can lead to a pattern of negative interactions between teachers and students (Gunter, Jack, Depaepe, Reed, & Harrison, 1994; Gunter & Coutinho, 1997). Teachers find it easier and much less aversive to ignore students who exhibit challenging behavior than to engage with them and risk an escalation of problem behavior. These problematic relationships between students with EBD and their teachers can shape teachers' instructional behaviors, often leading to low rates of positive teacher attention, such as academic interactions, praise, and opportunities for students to respond, (Van Acker, Grant, & Henry, 1996; Wehby, Symons, & Shores, 1995) for students with EBD. It could be that students with EBD, who already demonstrate learning and behavioral challenges, may have their issues exacerbated by receiving differential rates of desired teacher instructional variables, causing them to fall further and further behind (Sutherland & Oswald, 2005).

Data indicate that a cycle of negative reinforcement is common in teacher-student instructional interactions in classrooms for students with EBD (Sutherland, Wehby, and Yoder (2002). A 1994 study found that negative interactions between teachers and students with disruptive behaviors occurred 22% of the time spent in the classroom. Praise and positive interactions occurred only 3% of the time (Gunter et al., 1994). The

authors hypothesized that students' engagement in disruptive acts served the function of escape from aversive events in the classroom environment. This fits with an applied behavioral analysis framework, which posits that behavior is functionally related to the environment (Baer, Wolf, & Risley, 1968). For example, data from a 1996 study by Van Acker and Grant on the reciprocal relationship between student and teacher behavior in children identified at risk for antisocial behavior indicated teacher praise appeared to be a random event. Reprimands, on the other hand, were predictable for students; therefore, a high-risk student who wishes to receive teacher attention may resort to problem behavior because he or she is able to predict the outcome, a reprimand (i.e., teacher attention). These students may not choose appropriate behavior because experience has taught them they may receive no teacher attention at all unless they misbehave. If teachers are employing strategies that have little positive behavioral effect, or may even exacerbate behavior issues, a careful approach to improve strategies in classroom contexts must be taken.

Individual teachers have a large amount of control over how they manage their classrooms. Often they are given few guidelines for classroom management and are provided little support or feedback on their choices of management strategies. When teachers are provided appropriate support to use preventative strategies to manage their classrooms, the result can be increases in student outcomes. Ialongo, Poduska, Werthamer, and Kellam (2001) investigated the distal impact of two universal first-grade preventative interventions on conduct problems in early adolescence. The intervention consisted of two groups: (1) a classroom intervention focused on enhancing the teacher's behavior management practices and (2) an intervention involving enhancing parent-

teacher communication. Relative to controls, children assigned to the classroom management intervention were significantly less likely to be identified as having a conduct disorder, to be suspended from school, and to receive, or been judged in need of, mental health services (Ialongo et al., 2001). These are important findings for students who exhibit challenging behavior and for schools who serve them because it demonstrates the influence of teacher behaviors on student outcomes.

When teachers create positive learning environments, they create settings where potential challenges are planned for, expectations and consequences are established, positive behavior is the focus of attention for supports, and redirection, rather than reprimand, is used to change student behavior (Banks, 2014). Positive learning environments can occur when teachers pay attention to the environmental stimuli that contribute to student behavior. Prevention of problem behavior, through antecedent strategies, is integral to an effective, comprehensive classroom management plan (Banks, 2014; Simonsen et al., 2008).

Evidence-Based Classroom Management Strategies

Framework for determining evidence based practices. Prior to recommending any practice as “evidence-based”, a framework is needed for determining what that term means. For the purposes of this study, Cook and Cook’s (2013) definition of EBPs, “practices that are supported by multiple, high-quality studies that utilize research designs from which causality can be inferred and that demonstrate meaningful effects on student outcomes” (p. 73), will be used. Although a comprehensive analysis of each of the included studies was not conducted, the general themes of EBP, as advocated by the Council for Exceptional Children (CEC; Cook, Buysse, Klingner, Landrum, McWilliam,

Tankersley, & Test, 2014), were applied to each study prior to inclusion. Further, it should not be assumed that just because a practice is deemed to be an EBP that it should be used in every situation. A practice must be studied in the context in which it will be implemented and with the students with whom it will be used; therefore, studies for review were prioritized to include those in which students with EBD were subjects. Studies that used other disability categories and students at-risk, especially those exhibiting externalizing problem behaviors, were also included in the review.

With those criteria in mind, the majority of EBPs in classroom management are grounded in applied behavioral analysis. A central tenet of applied behavioral analysis is that behavior is functionally related to the environment (Baer, Wolf, & Risley, 1968.) As variables in the environment are altered, the likelihood of a behavior occurring or not occurring is increased or decreased. Antecedent management strategies attempt to prevent problem behavior by manipulating factors in the environment, which may contribute to the behavior.

A number of critical classroom antecedent variables have been repeatedly documented to have influence on student outcomes. Research has shown early intervention and treatment for students at-risk for EBD is critical for the prevention of more serious behaviors (Kauffman, 2005); therefore, the importance of effective teacher skills in proactive management is clear. The following summarizes proactive classroom practices in which teachers can engage to reduce student externalizing behavior problems. Providing teachers with the necessary supports they need to effectively implement these strategies would benefit both current and future teachers and students.

As is demonstrated in several studies, each of these variables can be effectively and efficiently assessed within the classroom.

Classroom organization. When classroom organization is weak, student outcomes deteriorate. Structure is defined as the amount of teacher directed activity, the extent to which routines are explicitly defined, and the physical arrangement of the classroom (Simonsen et al., 2008). The setting factor of classroom structure is functionally related to problem behavior (Stichter, Lewis, Johnson, & Trussel, 2004). Generally, classrooms with more structure have been shown to promote more appropriate academic and social behaviors. A study by Huston-Stein, Friedrich-Cofer, and Susman (1977) demonstrated that preschool children in highly structured classes displayed less aggression and more self-regulatory behavior and attentiveness during teacher-directed activities and were more likely to engage in cleaning up after free play. Teacher provided structure is also associated with reduced anxiety of the classroom group and higher amounts of work involvement (Morrison, 1979). Students with EBD stand to benefit most from highly structured classrooms because they often display greater levels of anxiety, aggression, and attentiveness than their peers (Kauffman, 2005).

Physical structure. Changes to the physical environment of the classroom also have a positive impact on student engagement. Even something as simple as changes in seating arrangement have contributed to lowering the overall noise level in the classroom and creating efficiency in transitions (Hood-Smith & Leffingwell, 1983). Guardino and Fullerton (2010) investigated the effect of environmental changes in one, fourth grade classroom on student academic engagement and disruptive behavior. Prior to the intervention, the students exhibited high levels of disruptive behavior, such as calling out

answers and profanities, throwing objects, pushing and hitting. The students demonstrated little regard for teacher directions. After interviewing the teacher to determine areas in the classroom where the most disruptive behaviors occur and collecting two weeks of baseline data on student behaviors, environmental modifications that might have the most impact on behavior were selected. Modifications such as changing seating arrangement, creating group space, adding organizational materials, and creating clear pathways in areas of high congestion led to increased academic engagement, from less than 3% of the intervals to around 45% (Guardino & Fullerton, 2010). Disruptive behavior also decreased immediately following implementation of the intervention, from a baseline of 90% of the intervals to 10% of the intervals. As the intervention phase progressed, student behavior became more inconsistent.

Manipulating the physical structure of the classroom is one of the most effortless methods to increase the likelihood of prosocial behaviors and smooth classroom operation (Simonsen et al., 2008). Special education teachers can be taught to view classroom arrangement as a tool for behavior management in more ways than separating talkative students. Instruction can be provided regarding how to best organize the space to allow for efficient, targeted movement of students during the day in order to encourage appropriate behavior and minimize distractions (Lawry, Danko, & Strain, 2000). Special education teachers also need to instruct students on how and when they are expected to use the physical spaces in the classroom. When students who demonstrate externalized problem behaviors have a clear understanding of the use of classroom space, they may be more likely to use it appropriately. If not, it creates an opportunity to teach expectations in a concrete manner to reduce the prospect of problem behavior occurring in the future.

Establishing and teaching positively stated expectations. Mayer (1995) identified a lack of clarity of both rules and policies relative to appropriate behavioral expectations to be a major school factor affecting antisocial behavior. Classrooms with unclear expectations become a setting for problem behaviors, and potentially causing teachers to have more punitive interactions with students and, in turn, creating even more likelihood of problem behaviors (Mayer, 1995). Teachers must establish a small number of positively stated expectations that are broad enough to include all desired behaviors. These expectations are then posted and systematically and explicitly taught to students throughout the year (Simonsen et al, 2008). When paired with performance feedback, classroom expectations are associated with decreases in off-task and disruptive behavior (Johnson, Stoner, & Green, 1996; McNamara, Evans, & Hill, 1986; Rosenberg, 1986) and are effective in creating positive classroom environments (Emmer & Stough, 2001).

Shores, Gunter, Denny, and Jack (1993) stated that the following criteria be applied when developing rules:

- Establish only four or five rules.
- State the rules in terms of desirable behavior.
- Define the rules as observable behaviors.
- Provide definitions of both positive and negative consequences for following the rules.
- Allow students to participate in rule development.
- Post the rules where they are readily visible to all students.
- Review the rules and both positive and negative consequences regularly.

When a teacher has a good set of classroom rules, he or she is anticipating problems and, with the help of the students, uses the rules to define appropriate replacement behaviors and promote positive interactions within the classroom (Hardman & Smith, 1999). Each classroom routine (e.g., work stations, independent work, lunch) should have specific expectations to assist in transitions (Park & Lynch, 2014). The teacher must develop a system through which rules and routines are modeled, taught, and reinforced in consistent, positive, and structured ways (Shores, Gunter, Denny, & Jack, 1993). Teaching of rules and routines to students should include multiple examples, practice across multiple settings, and involvement of a variety of people (Lewis & Sugai, 1999). Special education teachers may have an understanding about the formation of rules, but not grasp the importance of the teaching, modeling, and consistent reinforcement necessary for rules to be effective, especially concerning students with EBD, who may benefit most from this consistency.

Instructional strategies. The ability of teachers to provide quality instruction to students with EBD is a factor that contributes to the overall quality of teacher-student interactions (Wehby, Symons, & Canale, 1998). Although studies have shown that classrooms for students with EBD often have little positive reinforcement for prosocial behavior and high rates of reactions to disruptive behavior (Shores et al., 1993; Van Acker et al., 1996; Wehby, Symons, & Shores, 1995) proactive instructional behavior management strategies, such as active supervision, active student engagement, and providing opportunities to respond, have been shown to reduce problem behavior and increase student engagement (Simonsen et al., 2008; Witt, VanDerHyeden, & Gilbertson, 2004).

Active supervision. Colvin and colleagues (1997) defined active supervision as “specific and overt behaviors (scanning, escorting, interacting) displayed by supervisors designed to prevent problem behavior and to promote rule-following behavior” (p. 346). Active supervision is a critical component to the success of classroom expectations (Simonsen et al., 2008). Decreases in minor behavioral incidents in the classroom (De Pry & Sugai, 2002) and in problem behavior in non-classroom transitions (Colvin, Sugai, Good, & Lee, 1997) have been noted with the introduction of active supervision. Active supervision allows opportunities for teachers to engage in positive interactions with students (Gunter et al., 1994) through noticing desired academic and social behavior. It is critical for new special education teachers to have a method for promoting positive interactions with students with EBD, as the majority of interactions between these students and their teachers are negative (Gunter et al., 1994).

Opportunities to respond. Opportunity to respond (OTR) is a teacher behavior that provides curriculum-related prompts to a student or group of students to solicit a response (Scott, Alter, & Hirn, 2011; Simonsen et al., 2008). Stichter et al. (2006) suggested an optimal rate of 3.50 OTRs per minute during active direct instruction for positive student outcomes based on their review of prior research. Providing students with frequent OTR is important because research suggests that increased rates of student responding are correlated to on-task behavior and engagement during instruction (Carnine, 1976, Sutherland, Alder, & Gunter, 2003). Additionally, increased OTR results in an increased number of correct responses (Carnine 1976; Sutherland, et al., 2003) and allows teachers more time to focus on academic content rather than dealing with inappropriate behavior (Haydon, Conroy, Scott, Sindelar, Barber, & Orlando, 2010).

MacSuga-Gage and Gage (2015) conducted a study to identify the effects of increased OTR on student engagement, disruptions, and academic achievement. Five teachers and 30 students from a single elementary school participated in the study. After baseline OTR data was collected, teachers were given a one-hour professional development session on (a) how to increase OTR, (b) how to self-monitor and (c) how to enter data. Results supported previous findings of a significant relationship between OTRs and student academic engagement and disruptive behavior. As OTR increased, academic engagement increased and disruptive behaviors decreased. The results support the importance of using antecedent-based instructional practices as classroom management strategies (Kern & Clemens, 2007).

Although there are many strategies teachers may select to increase OTR, research shows that choral responding and a mixture of choral and individual responding are more effective in terms of reducing disruptive and off-task behaviors (Haydon et al., 2010, MacSuga & Simonsen, 2015; Sutherland et al., 2003). For students with EBD, choral responding may create a feeling a safety to respond without being singled out as wrong in front of peers, making it more likely they will participate in class activities. When students respond more often, special educators are then able to assess students' level of understanding and modify instruction accordingly, a feature that is often missed in the instruction of students with EBD who rarely demonstrate active participation.

Strategies to Increase Appropriate Behavior.

Although many strategies exist which recognize and reinforce appropriate social behavior, perhaps two of the simplest strategies to learn and implement effectively are behavior specific praise and precorrective statements. Each of these interventions take

little time to implement in the classroom and have proven to be effective with students with EBD or who demonstrate externalizing problem behavior (Simonsen et al., 2008; Smith, Lewis, & Stormont, 2011). These two strategies were chosen for inclusion due to the potential for teachers to quickly learn and implement them in their classrooms.

Behavior specific praise. Brophy (1981) determined that teacher praise was most effective when the teacher specified to the student the behavior being reinforced. As early as 1981, a functional relationship between teacher praise and the disruptive behavior of students was demonstrated (Brophy, 1981) and data supports the effectiveness of the increased rate of BSP on the on-task behavior of students with EBD and those who exhibit externalizing behaviors (Sutherland et al., 2002). Studies have repeatedly shown teachers who use more praise in general with their students experience less incidents of off-task and disruptive behaviors (Shores, Jack, Gunter, Ellis, DeBriere, & Wehby, 1993). Used proactively, BSP can stop many problem behaviors before they begin and it is effective with the most challenging students (Stormont & Reinke, 2009). BSP reduces the need for reprimands and increases positive interactions with students (Reinke, Lewis-Palmer, & Merrell, 2008), which are a dire need for students with EBD. Although there is no agreed upon optimal rate of praise use, recommended ratios for delivery of praise have ranged from three to four for every reprimand (Alberto & Troutman, 2003) to six per 15-minute observation (Sutherland et al., 2000). Studies have shown rates of praise in classrooms for students with EBD to occur at rates of one or less per hour (Shores et al., 1993; Wehby et al., 1995).

Precorrective statements. Precorrective statements are proactive, specific descriptions of behavioral expectations typically given at the very beginning of activities,

during a change in expectations, or when transitioning to a new activity (De Pry & Sugai, 2002). The research support for precorrective statements, especially when paired with active supervision and BSP, for students of all ages and abilities is extensive (Colvin, Sugai, Good, & Lee, 1997; De Pry & Sugai, 2002, Lewis, Colvin & Sugai, 2000). Young students with high rates of externalizing behavior have found success in large group settings when supported using BSP and precorrective statements (Smith, Lewis, & Stormont, 2011). Special educators who are given the knowledge and skills to frequently and effectively use precorrective statements will have less need to use reactive management strategies, saving time and energy for teaching.

The results of the above-mentioned studies support the importance of using antecedent-based instructional practices as classroom management strategies (Kern & Clemens, 2007). Existing literature repeatedly describes low fidelity of implementation of interventions, even when teachers report satisfaction with the training provided (Noell, Witt, Gilbertson, Ranier, & Freeland, 1997; Riley-Tillman, Chafouleas, Eckert, & Kelleher, 2005; Witt, Noell, LaFleur, & Mortenson, 1997). Despite this knowledge base of effective classroom and behavior management practices, implementing these practices in classrooms without sufficient supports in place can be difficult.

Support for Implementation of EBP

Just as teachers cannot assume that EBPs will work for all students in all situations, researchers cannot expect that creating a list of EBPs will translate into changed practice (Cook & Cook, 2013). In order to facilitate the implementation of the above-mentioned critical, EBPs in classroom and behavior management, teachers must be provided with supports, such as professional development. While most school districts

allocate a portion of their expenditures each year to provide professional learning to teachers, it could be said that the majority of activities in which teachers participate are not truly high-quality professional development (Desimone, 2009). Discrete activities such as workshops, local and national conferences, special institutes and centers, which are often presented as one-time learning opportunities coined by Stokes and Baer (1977) as “train and hope” approaches. These types of approaches have shown little effectiveness of implementation in classrooms (Joyce & Showers, 2002). Many approaches to professional development lack systems-level mechanisms to sustain teachers’ efforts. Without these mechanisms, there is also little incentive for teacher change or guidance for teachers (Myers, Simonsen, & Sugai, 2011). In order to determine a framework for the creation and implementation of high-quality professional development, theories of adult behavior change and contexts in which learning and change occur must be examined.

Framework. Implementation science has been defined as “the scientific study of methods to promote systemic uptake of research findings and other evidence-based practices into routine practice” (p.1; Eccles & Mittman, 2006). It focuses on understanding the processes and factors related to successful integration of EBPs in a specific setting (Forman et al., 2013). The study of implementation is grounded in systems theory, social learning theory, and behaviorism. Systems theory describes relationships and assumes that everything is interrelated and interdependent (Bronfenbrenner, 1976). Systems theory asserts the influences of multiple social systems on implementers, such as teachers, and stakeholders, such as students. For example, a teacher may be part of a grade-level team, content area team, school, and school district,

all of which are influenced by the local community and state and federal departments of education. Also of importance are feedback mechanisms and modifications made in a system over time to ensure success (Forman et al., 2013).

Social learning theory (Bandura, 1977) also focuses on the idea that learning and behavior change are influenced by many factors outside of the individual. It asserts that people learn by observing and interacting with other people, accentuating the social nature of the implementation process. Behaviorism (Skinner, 1969) emphasizes the influence of the environment and reinforcement in the behavior changes process. All three of these theories provide roots for the study of implementation.

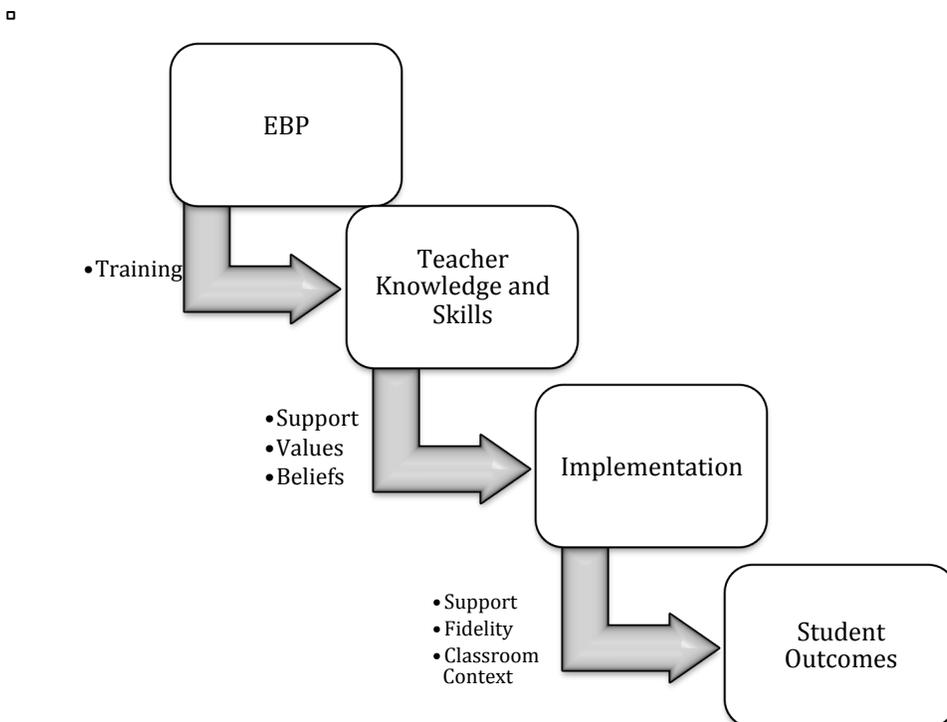
Based on Forman et al.'s (2009, 2013) implementation logic, an overview of how this framework applies to the line of exploration of coaching and EBPs in classroom and behavior management is illustrated in Figure 1. EBPs are determined through study and are disseminated to teachers through professional development and training activities. These activities have the potential to affect teacher characteristics, such as knowledge and skills. Implementation of the EBP is dependent upon the teachers' values and beliefs, as well as the amount of support they are provided. Success of the implementation rests on fidelity of the implementation, context of the classroom, including student characteristics, and support provided to the teacher. If all of these important, interdependent factors work together, positive outcomes for students will result.

Theories of Adult Learning and Behavior Change. Most theories of adult behavior change contain similar factors: (1) knowledge (the possession and declaration of knowledge), (2) skills (behavioral demonstration of a strategy), and (3) attitudes (beliefs or ways of thinking that influence behavior; Bashook, 2005). Desimone (2009) contends

recent research reflects a consensus of about five critical characteristics of professional development that show promise for increasing teacher knowledge and skills, improving their practice, and increasing student achievement: (a) content focus, (b) active learning, (c) coherence, (d) duration, and (e) collective participation. More specifically, Guskey (2002) describes a sequence in which teachers gain knowledge about a strategy, use the strategy to gain the skill, and modify their beliefs based on their experience with the strategy, including results. Further, research on evidence-based practices for adult learning has shown that learning should be interactive, skills need to be practiced, knowledge acquisition and application should occur in similar contexts, learners should apply knowledge to existing professional problems, and learners should be periodically reviewed and given performance feedback (Blank, Peters, Pickvance, Wilford, & Macdonald, 2008, Guskey, 2002; Stuart, Tondora, & Hoge, 2004).

Figure 1

Theory of Change



Coles and colleagues (2015) examined the effect of a consultation package that simultaneously addressed teacher knowledge, skills, and beliefs on both the integrity of implementation of classroom management strategies and on outcomes for students with ADHD (Coles, Owens, Serrano, Slavec, & Evans, 2015). Two teacher participants received a 3-hour in-service training about ADHD, behavior modification principles, and universal classroom management strategies. The intervention consisted of (a) a classroom management interview to discuss the teacher's approach to classroom management, (b) a target behavior interview to identify teacher behaviors for the daily report card (DRC) intervention, (c) baseline tracking procedures, and (d) a DRC development meeting to review baseline data and set goal criteria for selected behaviors. Teachers were then observed weekly and participated in bi-weekly consultation sessions, which included knowledge, skills, and beliefs. The first teacher's assessed knowledge of classroom behavioral practices increased from a baseline of 36% to 71% after the intervention. In addition, she made gains in her skill level in use of praise. Her rate of praise was consistently triple or higher than her baseline rate and this rate continued to be high after the intervention was terminated. In contrast, the second teacher did not appear to have problems with knowledge about classroom behavior management, but she did exhibit very low rates of acknowledging and appropriately responding to rule violations. Although consultation and performance feedback increased her acknowledgement of rule violations, it did not influence appropriate responses. When discussions about beliefs related to providing consequences were added to consultation sessions, along with reframing of beliefs that were barriers, a steady increase in the first teacher's appropriate responses was noted.

These cases illustrate that declarative knowledge gained through initial professional development may not be sufficient to bring about change in teacher behavior. Joyce and Showers (2002) purported that information or theory-only training increased knowledge by an effect size of about 0.50. When the informational training is combined with demonstrations, practice, and feedback during practice, and a coaching component, the effect size rose significantly to 1.42. It is estimated that approximately 95% of participants will attain transferability of knowledge and skills when this multi-component model of teacher training is employed (Joyce & Showers, 2002). The evidence suggests that support through coaching and consultation may bridge the gap between knowledge and skills.

School-Based Consultation and Coaching

Providing special educators with the required supports and skills to be effective classroom managers can be challenging for schools. As schools discover that single-session professional development is not an effective change agent for teacher behaviors, increasing emphasis has been put on coaching as a means of supporting teachers (Knight, 2009). “Coaching” has been defined as a process wherein a teacher receives initial preparation, which is then followed by ongoing, individualized support from an expert mentor (Kretlow and Bartholomew, 2010). In theory, coaching facilitates teachers’ implementation of EBP by providing an outside perspective, which can help the teacher fine tune intervention strategies within the classroom context. Joyce and Showers (2002) purported coaching provides supports embedded in teachers’ classrooms and teaching practices, making the professional learning more relevant, which is especially important for teachers to learn behavior management skills.

Stormont and colleagues (2015) completed a literature review to explore published research from 1999-2011 that specifically targeted coaching teachers on the use of social behavioral interventions to improve children's social behavior. Twenty-nine studies met the author's criteria and were included in the review. Of those studies, 86% of them (25) had positive findings related to interventions that used coaching. The remaining 14% of the studies had neutral findings (Carter & Van Norman, 2010; Domitrovich, Gest, Jones, Gill, & DeRousie, 2010; Hemmeter, Snyder, Kinder, & Artman, 2011) and no studies resulted in negative findings. Only two of the studies included a special education teacher as the consultee. Technology, in the form of email, was used in only two of the studies and it was only used to provide feedback (Stormont, Reinke, Newcomer, Marchese, & Lewis, 2015). Another finding of this review is the lack of detail in extant coaching studies regarding components used for coaching. Other than provision of feedback, which was a criteria for inclusion in the review, very little information was available about other coaching strategies, how much time was spent on different activities, and how often coaching occurred. Although modeling, practice, team teaching, role-play, and goal setting were included in chosen studies, no data on specifics for these activities was collected.

Fullerton, Conroy, and Correa (2009) implemented a single-subject, multiple-baseline design to examine the effectiveness of training using behavioral consultation designed to increase early childhood teachers' use of specific praise statements to address problem behavior demonstrated by young children at-risk for EBD. Four early childhood teachers in university-based centers and four students served as participants for the study. Data was collected on teachers' use of specific and nonspecific praise and students'

engagement and compliance. After establishment of a stable baseline, each teacher received an individualized training in the use of specific praise, followed by checks for teacher understanding. The following day, the intervention phase began and the teacher was instructed to post specific praise visual reminder cards in areas that were easy to view during the targeted activities. Following each session, the investigator provided feedback to the teacher via written note or email to briefly review the teacher's use of praise statements during that session. Generalization probes were conducted during baseline and intervention phases to determine if the teachers' use of specific praise generalized to another similar activity in the classroom. All four teachers increased their rates of specific praise statements after the training with no additional coaching sessions. Rates of praise also generalized to another setting. Although positive results were documented, it is impossible to determine if coaching components had any influence on teacher behavior, because all teachers' rates of praise increased immediately after training. Care must be taken in coaching studies to isolate the coaching variable to lessen threats to internal validity.

Dufrene, Lestremau, and Zoder-Martell (2014) investigated the effects of direct behavioral consultation (DBC) using bug-in-ear technology on teacher's praise and student disruptive behavior. Teacher participants were two elementary teachers in an alternative school for students who exhibited longstanding, disruptive, and dangerous behavior in their regular school. The multiple baseline study included six planned phases: baseline, indirect training, DBC, maintenance, DBC plus performance feedback, and two follow-ups. They found direct training during ongoing classroom activities resulted in sustained gains in praise rate. Further, the study demonstrated that as teachers increased

rates of BSP, students' disruptive behavior decreased. The authors hypothesized that teachers' sustained rates of BSP may be due to those behaviors contacting natural sources of negative reinforcement; that is, decreases in students' disruptive behavior negatively reinforced teachers' use of BSP.

Kam, Greenberg, and Kusché (2004) investigated the long-term effectiveness of the PATHS (Promoting Alternative THinking Strategies) curriculum on the emotional development, self-regulation, and social problem-solving skills of school age children with special needs. Eighteen special education teachers were randomly assigned to either treatment or control groups. The treatment group received professional development sessions in the PATHS curriculum, which included a self-control unit, feelings unit, and problem-solving unit, and ongoing consultation sessions, which included modeling, coaching, and providing ongoing performance feedback. Teachers in the control group received no training or consultation. The study's findings indicated the PATHS curriculum to be effective when implemented in special education classrooms. There were significant positive impacts in teacher reports of externalizing and internalizing behaviors and substantial reductions in self-reported depression in children. Unfortunately, the authors do not give any specific detail regarding the content of the consultation sessions; therefore, there is no way to determine the effect coaching had on the curriculum implementation.

In order to truly know which components of coaching and consultation have the greatest or most efficient effect on teacher behavior, more inquiry is needed. Existing research has studied performance feedback more than any other component of coaching and has found nearly universal positive effects. Given that behavior change is difficult

and that teachers who demonstrate poor classroom management skills need attention and support, a comprehensive intervention, which includes all the components of effective coaching, consultation, and adult behavior change followed by ongoing feedback may lead to the best possible student and teacher outcomes.

The Classroom Check-up (CCU: Reinke, Lewis-Palmer, & Merrell, 2008) is based on a model by Dishion and Kavanagh (2003) called the Family Check-Up (FCU), which was designed around the linkage between assessment, intervention, and motivation, and was derived from empirically driven theory (Stormshak & Dishion, 2002). The model is grounded in the behavior change process and focuses on the motivation to change and building knowledge and skills to successfully do so. The CCU includes a menu of intervention choices that is based on the following critical features in classroom management: (1) classroom structure; (2) teacher-student relationships; (3) instructional management; (4) responding to appropriate behavior; and (5) responding to inappropriate behavior (Reinke, Herman, & Sprick, 2011). Included within these various categories are each of the EBP suggested through literature review: physical classroom layout, classroom expectations, precorrective statements, active supervision, OTR, and behavior specific praise. For a complete list of categories and strategies used in the CCU, see Table 1.

The CCU is a class-wide consultation model that addresses the need for classroom-level support while simultaneously minimizing treatment integrity problems often associated with the implementation of school-based consultation. The CCU is based in the theory of motivational interviewing (Miller & Rollnick, 2002) and includes

personalized feedback to teachers on classroom behaviors, encouraging personal responsibility for decision-making, development of a menu of evidence-based

Table 1

Categories and Strategies Used in the CCU

Category	Strategies
Classroom Structure	<ul style="list-style-type: none"> • Physical layout • Classroom expectations, rules, and behavioral routines • Precorrections • Active supervision
Teacher-Student Relationships	<ul style="list-style-type: none"> • Noncontingent interactions
Instructional Management	<ul style="list-style-type: none"> • OTR
Responding to Appropriate Behavior	<ul style="list-style-type: none"> • Contingent behavior-specific praise • Group contingencies and token economies • Behavioral contracts
Responding to Inappropriate Behavior	<ul style="list-style-type: none"> • Planned ignoring • Explicit reprimands • Differential reinforcement • Response Cost and time out

intervention choices, and supporting teacher self-efficacy by identifying existing teacher strengths (Reinke, Lewis-Palmer, & Merrell, 2008).

The CCU has five components: (1) classroom assessment via observation, interview, and checklist completion, (2) performance feedback, (3) menu of options for intervening and choice of interventions, (4) teacher implementation of chosen intervention, and (5) teacher self-monitoring of treatment integrity. During step one, the goal was to assess the classroom environment and each teacher’s skills and attitudes

about classroom and behavior management. A trained consultant accomplished this through teacher interviews and structured classroom observations. In step two, feedback regarding all collected data was provided to the teacher by the consultant. Data was presented visually and is color-coded on a green to red scale, with green being highest positive ratings and red being lowest. For step three, the consultant provided the teacher with a menu of evidence-based interventions and assisted the teacher to choose an appropriate intervention based on classroom data. Step four involved the teacher implementing the chosen intervention with support from the consultant. Finally, step five was the teacher self-monitoring treatment integrity of the intervention using a provided checklist. After the self-monitoring phase, daily visual performance feedback was provided to each teacher and data continued to be collected. The performance feedback was provided in the same format as the data collected in step one, visually and color-coded.

Although the CCU model is very new and has not been empirically validated, preliminary evidence suggests the CCU may be effective for improving teacher implementation of effective classroom management strategies, such as behavior-specific praise (Reinke, Lewis-Palmer, & Merrell, 2008) and the PATHS to PAX (Weist, Stiegler, Stephan, Cox, & Vaughn, 2010) school-based universal intervention (Reinke, Herman, Darney, Pitchford, Becker, Domitrovich, & Ialongo, 2012). The PAX (Embry 2002), a variation of the Good Behavior Game (Domitrovich, Gest, Jones, Gill, & DeRousie,, 2010), is a classroom-based group contingency token economy strategy. Students are organized into teams that are reinforced for their collective success in inhibiting aggressive, disruptive, and off-task behavior. Additional investigation of this model,

including the types of feedback given, is necessary to determine the most efficient and effective manner in which it could be delivered to maximize student and teacher outcomes. Further, it is important to determine the least amount of coaching that produces the desired changes in teacher behavior.

Performance feedback. Of the many differing strategies used to support teachers, performance feedback has shown consistent efficacy in modifying teacher behavior (Fallon, Collier-Meek, Maggin, Sanetti, & Johnson, 2015). A recent review of the literature, following technical guidelines for single-case designs from the What Works Clearinghouse, showed performance feedback to meet criteria as an EBP (Fallon et al., 2015). The literature reveals that many varied teacher behaviors, such as increased use of praise, effective use of time, and responding to behavioral incidents, can be positively influenced by effective performance feedback (Scheeler, Ruhl, & McAfee, 2004). Van Houten (1980) organized attributes of feedback into three domains: (a) the nature of the feedback, (b) the temporal dimensions of the feedback, and (c) who delivers the feedback. Nature of the feedback includes content (what is delivered) and the means or medium in which it is delivered. Feedback content can be positive or negative, general or specific, and corrective or non-corrective. Literature suggests, in order for feedback to be most effective, it should be specific and corrective, providing teachers with the type and extent of errors and specific ways to correct them (Scheeler, Ruhl, & McAfee, 2004). The nature of feedback also includes the medium of delivery, such as face-to-face, telephone, video conferencing, or simple visual representation. Studies have shown efficacy of face-to-face and/or visual performance feedback in modifying teacher behaviors and increasing the use of newly learned skills (De Pry & Sugai, 2002; Reinke,

Lewis-Palmer, & Merrell, 2008; Sutherland, Wehby & Copeland, 2000). There has been very little examination of the use of online technologies to provide feedback in to teachers in rural areas and those teachers, such as those who work with students with EBD, who teach in areas of high need and teacher shortage (Stormont, et al., 2015).

In a study by Sutherland, Wehby, and Copeland (2000), the authors examined the effect of an observation-feedback intervention on the rate of a special education teacher's BSP of students with EBD and the effect of increased rates of praise on the on-task behavior of the students. The teacher was observed three times per week during direct social skills instruction. Frequency data was collected on behavior specific praise, general praise, and percentage of on-task intervals for students. After each session, the researcher provided verbal performance feedback on the observed rate of behavior specific praise. Teacher rates of BSP increased during the intervention phase, as did the percentage of on-task intervals for students. Since providing verbal performance feedback may be more difficult to provide, mostly due to scheduling issues, than visual performance feedback, it is important to know if each method can yield the same results.

The temporal dimensions of feedback, frequency and timing, are also important aspects feedback delivery to teachers. The optimal frequency of delivery of performance feedback to teachers has rarely been investigated (Scheeler, Ruhl, & McAfee, 2004). This may be due, in part, to the difficulty in controlling for teacher capacity for learning and applying new skills or teachers' developmental levels (Scheeler, Ruhl, & McAfee, 2004). Timing of feedback is either immediate or delayed. Immediate feedback prevents teachers from repeatedly practicing errors; thereby decreasing the amount of time it will take for the teacher to become fluent in using the skill effectively (Scheeler, Ruhl, &

McAfee, 2004). Behavioral principles also indicate that immediate positive reinforcement of desired skills will result in increased use of those skills. Following the principals of applied behavioral analysis, delaying this reinforcement may inadvertently reinforce the error (Skinner, 1969).

Scheeler, McAfee, Ruhl, and Lee (2006) examined the effects of immediate corrective feedback with bug-in-ear technology versus delayed corrective feedback on 5 pre-service teachers' enrolled in a university field experience completion of three-term contingency trials. Participants wore a bug-in-ear receiver while engaging in three-term contingency lessons with students. The researcher provided immediate, corrective feedback to the teacher regarding types of student errors and types of correction to use, when to reinforce a correct response, and when to repeat questions. Results indicated that immediate, corrective feedback increased the specific, targeted teaching behavior more effectively than deferred corrective feedback for all five teachers. In the case of this study, feedback was considered immediate if provided within one to three seconds after a teacher error. While this may be effective, some teachers may view the use of bug-in-ear technology as intrusive and may disrupt their teaching. If immediate feedback is deemed intrusive or disrupts the learning process, perhaps feedback that is delivered that same day is almost as effective and is less disruptive (Scheeler, Ruhl, & McAfee, 2004).

The final dimension of feedback is the role of the person delivering the feedback. Content experts outside of the school district, school district administrators, or peer coaches generally deliver feedback. Though the literature base is narrow regarding the role that is most effective in delivering feedback (Scheeler, Ruhl, & McAfee, 2004), there are obvious advantages and disadvantages. If in-district staff members, such as

administrators, learning specialists, or grade level peers, are used to provide feedback, there is more internal control over the nature, timing, and frequency of the feedback, since the district can determine the scheduling. Finding personnel who have the ability to coach effectively, however, may be an obstacle in many school districts. Also, providing release time for peers to observe and meet with teachers in need of coaching may pose issues. While coaches from outside the district may ensure adequate content knowledge and coaching skills, districts may lack the financial resources to enlist the assistance of these individuals.

In a 2008 study, Reinke, Lewis-Palmer, and Merrell investigated the effects of a class-wide consultation model, the CCU, on elementary general education teachers' classroom management strategies. Dependent variables for which data were collected were the teacher behaviors of general praise, BSP, and reprimand and student behavior of classroom disruption. Results from this study indicated that rates of praise did not consistently increase following the CCU/self-monitoring phase alone, but were shown to increase during the CCU plus visual performance feedback phase.

Reinke, Lewis-Palmer, and Martin (2007) examined the effect of visual performance feedback on teacher use of BSP. Teachers received training in the use of BSP through three 30-minute consultation meetings, in which they received instruction and opportunities for practice. Daily visual performance feedback was provided to each teacher on a staggered schedule after consultation sessions began. Continuous data collection occurred during each phase of the multiple baseline study and showed that increases in use of BSP did not occur after the consultation sessions for the three teacher participants; rather, increased use began once the intervention of visual performance

feedback was introduced. This finding indicates that performance feedback, even without consultation contact, may increase intervention integrity. Performance feedback may be effective in helping teachers implement EBP through reinforcement, increasing the match between perceived behavior and observed behavior, and building fluency in the use of the behavior (Reinke et al., 2007). This is important because it may lead to more efficient use of teacher and consultant time by cutting down on the amount of time necessary to train and consult with teachers.

Purpose and Research Questions

Outcomes for students with EBD and those who present frequent behavioral challenges in the classroom are historically poor. Couple high rates of school removal as the primary discipline strategy for student who present chronic behavior challenges and very high rates of special education teacher attrition, a proactive, consistent, a systemic approach to classroom behavior management is critical. Providing teachers with training and feedback to maintain and strengthen effective classroom environments is necessary for successful implementation of EBPs. Past research shows changes in teacher use of evidence-based instructional and management strategies lead to improvements in student behavior (Carnine, 1976; Colvin et al., 1997; De Pry & Sugai, 2002; MacSuga-Gage & Gage, 2015; Stormont et al., 2015; Sutherland, Wehby, & Copeland., 2000; Sutherland, Wehby, & Yoder, 2002; Sutherland, Alder, & Gunter, 2003); however, little is known if a similar positive impact will occur for students in special education who exhibit externalizing behaviors. Although the literature suggests coaching and performance feedback positively impact teachers, missing from the evidence-base is the issue of the lack of personnel in many areas to support special education teachers in need of coaching

(Israel, Carnahan, Snyder, & Williamson, 2012). Coaching literature suggests key components include direct observation of teachers in classrooms, collaborative meetings between the coach and teacher to conduct self-reflection, goal setting and review, modeling, skill instruction, performance feedback and ongoing planning (Reinke et al., 2011). School districts must not only contend with the challenge of providing effective coaching and performance feedback, but also the issue of accessibility of resources with which to deliver them. This enhances the importance of efficiency of delivering training and feedback to get the best payoff in terms of effects.

The purpose of this study was to replicate the initial Classroom Check-Up (Reinke, Lewis-Palmer, & Merrell, 2008) study to determine the intervention's effectiveness to change teacher behavior related to classroom management. The proposed study extends upon extant research to investigate efficacy of electronically delivered performance feedback delivered after a brief (less than 2 hour) training session on BSP or OTR. Further, the Classroom Check-Up has not been used specifically in special education settings that include students who exhibit externalizing problem behaviors. Extant literature on the CCU and other coaching/consultation models show that changes in teacher behavior does improve student behavior (De Pry & Sugai, 2002; Reinke, Lewis-Palmer, & Merrell, 2008; Sutherland, Wehby & Copeland, 2000; Stormont et al., 2015); however, there is no evidence that it will have a similar impact on students in special education who exhibit high rates of externalizing behaviors. Another modification to the original study is the alternate use of teacher self-monitoring of the intervention to determine maintenance of behavior change, rather than to develop fidelity of

implementation of interventions. Specifically, this study aims to answer two research questions:

Research Question 1: Does coaching using classroom assessment and brief training, with follow-up electronic visual and written performance feedback, increase special education teachers' use of behavior-specific praise and opportunities to respond?

Sub-aim: When teachers increase use of behavior-specific praise and opportunities to respond, is there a reduction in problem behavior of students with who exhibit high levels of externalizing problem behavior during instruction?

Research Question 2: Following coaching and withdrawal of performance feedback, can special education teachers continue to implement behavior-specific praise and opportunities to respond at rates above baseline through the use of self-monitoring?

Sub-aim: If teachers maintain implementation, does student behavior remain at improved levels?

Chapter II

Method

In order to determine possible functional relationships between brief coaching with electronic performance feedback, teacher use of EBP in classroom management, and student behavior, a multiple-baseline across teacher student dyads design was employed. The study was conducted in four phases: (a) baseline, (b) planning/training, (c) intervention, and (d) self-monitoring. Prior to study implementation, training of data collectors was completed. Research methods for this study are described in this chapter and include the following sections: (a) participants and settings, (b) measures of independent variables, (c) measures of dependent variables, (d) measures of social validity, (e) procedures, and (f) data analysis plan.

Participants and Settings

Teacher Participants. Five certificated elementary special education teachers were recruited from a local suburban school district to participate in the study. Inclusion criteria to participate in the study included the following. First, teachers had to teach at least one class daily in the special education setting that included one student with an Individual Education Program (IEP) who demonstrated high rates of low intensity externalizing behavior. Second, all teacher participants were experienced, with years of experience varying from 7-22 years, which should minimize the effects of novice teachers on intervention effectiveness. Third, pre-intervention rates of targeted variables were collected. At minimum, participants had to display rates of praise lower than 0.3 per minute, which is the rate recommended by Sutherland et al. (2000) and/or rates of

OTR less than three per minute, which is the rate recommended by MacSuga-Gage and Simonsen (2015) and Stichter et al. (2006).

The researcher contacted the district Special Education Director via email to explain the study and solicit interest and to identify an initial pool of possible participants. The Special Education Director, in collaboration with district board certified behavior analysts (BCBA) and other district personnel with knowledge about teachers and students, suggested teachers who might benefit from assistance in classroom management and/or have students who might meet the study's inclusion criteria. The Special Education Director contacted building principals of the suggested teachers to gain their support conducting the study in their buildings. The district's BCBA contacted the suggested teachers via email or in person and, if teachers showed interest, provided information to explain the study and provided forms for consent to participate. Once consent was secured, the researcher followed-up with each teacher via email to further explain the study and answer any questions. The researcher and trained data collectors then conducted classroom observations to collect teacher behavior data for BSP, general praise, OTR, and reprimands to determine if the teacher met inclusion criteria, which all five did. Due to a brief hospitalization of the fifth teacher's target student and complications with the observation schedule and the state assessment schedule, the fifth teacher had to be dropped from the study. Table 2 summarizes the characteristics of each of the final four teacher participants included in the study.

Table 2.

Teacher Participants

Teacher	Gender	Ethnicity	Experience (yrs.)
Teacher 1	Female	Caucasian	7
Teacher 2	Female	Caucasian	11
Teacher 3	Female	Caucasian	16
Teacher 4	Female	Caucasian	22

Student Participants. Following consent and enrollment of the five teacher participants, the teachers were asked to nominate one student who displayed high rates of low intensity externalizing behavior (e.g., verbal noncompliance, noise-making, arguing with and/or taunting peers). Classroom teachers sent home consent forms to the nominated students. Following parent consent, teachers completed the Behavior Assessment Scale for Children, 2nd Edition (BASC-2; Reynolds, 2004) for each consented student. Students were included if they had a T-score of 60 or higher on the externalizing portion of teacher rating scale on the BASC-2. Scores of 60 or higher on the BASC-2 externalizing subscale were chosen as inclusion criteria because those scores are considered at-risk (60-69) or clinically significant (>70). One of the students, Student Three, had an existing BASC-2 administered within the past 12 months, therefore those scores were used. For the other three students, the researcher provided a BASC teacher rating scale to the teacher participant for completion and all three students met inclusion criteria. The fifth student was hospitalized for a week during the study, which affected the observation schedule and was subsequently dropped from the study. See Table 3 for a full description of each of the four student participants.

Settings. All observations were conducted in elementary special education classrooms. Each group had a different number of students in each, as shown in Table 3. There were never more than four students in the target student’s instructional group, but were often students in the room doing other activities. There were often paraprofessionals in the classrooms of Teacher One, Two, and Four, but those individuals did not interact with the target student’s instructional group during lessons. Instructional content for each group was as follows: Teacher One: math, Teachers Two, Three, and Four: reading.

Table 3

Student Participants

Student	Grade Level	Gender	Ethnicity	BASC-2 Score	Number of Peers
Student 1	4	Male	African	88	3
Student 2	4	Male	American	95	2
Student 3	1	Male	African	67	2
Student 4	4	Male	American	60	1

Measures of Dependent Variables

The dependent variables for this investigation included teacher and student behaviors. Frequency data for all teacher behaviors and student classroom disruption were collected using a 20-minute direct observation during teacher led instructional time. Observations were completed four days per week at the same time and during the same classroom topic. All behaviors were recorded using the Student and Classroom Observation System (SCOA) application (EZ Education Tools, 2012). SCOA is a computer-based observation system that allows for simultaneous collection of discrete

events and durational measures in real-time. Operational definitions, examples, and non-examples of each teacher and student behavior are provided in Table 4 and further described in the following section.

Table 4

Operational Definitions of Teacher and Student Behaviors

Variable	Definition	Examples	Non-examples
Opportunity to Respond (individual non-target or target student)	Instructional questions, statements, or gestures made by the teacher that elicit an academic response from an individual non-target student or a target student.	<ul style="list-style-type: none"> • “Sam, what is 2x3?” • Nonverbal: Teacher points to a student with hand raised. 	<ul style="list-style-type: none"> • “Everyone take out a pencil.”
Opportunity to Respond (whole group)	Instructional questions, statements, or gestures made by the teacher that elicit an academic response from the whole class or group	<ul style="list-style-type: none"> • “Raise your hand if you think Sam is correct.” • “Write your answer on your boards and hold them up.” 	<ul style="list-style-type: none"> • “Everyone listen to Amy give the answer.”
Behavior Specific Praise	Teacher provides specific feedback to the student or group of students regarding the behavior that is being approved	<ul style="list-style-type: none"> • “Everyone is doing a great job of raising hands to speak.” • “Amy, thank you for pushing in your chair.” 	<ul style="list-style-type: none"> • “Good job, class.” • “Nice work today.”
General Praise	Teacher provides no specific feedback about the behavior being approved	<ul style="list-style-type: none"> • “Good job, class.” • “Nice work today.” 	<ul style="list-style-type: none"> • Everyone is doing a great job of raising hands to speak.”

Reprimand	Teacher provides a correction or reprimand statement that is intended to correct a specific academic or social behavior.	<ul style="list-style-type: none"> • “I am talking, eyes should be on me.” • Nonverbal: Teacher looks at students who are talking and puts finger to lips. 	<ul style="list-style-type: none"> • “Try again”
Disruptive Behavior	Any verbalizations or actions by the target student that disrupted or interfered, or potentially could have disrupted or interfered, with the instructional classroom activities of the teacher and/or one or more peers	<ul style="list-style-type: none"> • Talking out: Student asks question unrelated to the task; student makes noises to get teacher’s attention. • Noncompliance: refusal to follow directions • Negative verbal/ physical interactions: Using obscene language, physical aggression 	<ul style="list-style-type: none"> • Student appropriately talking to another student about the task. • Student leaves the room with permission from the teacher • Student touches arm of a peer to get his or her attention

Teacher Behaviors - Opportunity to Respond. Opportunity to respond (OTR) was operationally defined as instructional questions, statements, or gestures made by the teacher that elicit an academic response from students (Reinke, Lewis-Palmer, & Merrell, 2008; Simonsen et al., 2008). Statements or directives that were strictly behavioral in nature (e.g., “What are the expectations for independent work?”) were not recorded as an OTR. Frequency of OTRs were collected, including individual students, the target student, and whole group opportunities, and converted to rate per minute. Data collectors coded individual OTRs based on the student to which the OTR was directed, either to a specified target student participant or other individual student. Whole group OTRs were

more general in nature and were intended to elicit a response from all students and/or any student who offered a response.

Praise. Teacher praise was coded as either behavior-specific or general. Behavior specific praise was operationally defined as the teacher providing specific feedback to the student or group of students regarding the behavior that is being acknowledged (Brophy, 1981; Reinke et al., 2008; Sutherland et al., 2000). Praise was coded as general if the teacher provided no specific feedback about the behavior being acknowledged. Praise was coded as being delivered toward an individual student (anyone other than the target), target student, or to the whole group.

Reprimand. A reprimand was defined as the teacher providing a correction or reprimand statement that is concise and is given to correct a specific social behavior (Gable, Hester, Rock, & Hughes, 2009; Reinke et al., 2008). Reprimands were coded as being delivered toward an individual student, target student, or to the whole group.

Student Behaviors - Disruptive behavior. Disruptive behavior was coded for each target student, and a non-target peer, counting verbalizations or actions that disrupt or interfere, or potentially could have disrupted or interfered, with the instructional classroom activities of the teacher (e.g., talking out during instruction, questions or comments unrelated to the topic) and/or one or more peers (e.g., hitting a peer, fighting, making noises or facial expressions that distract peers; Reinke et al., 2008; Scott, Alter, & Hern, 2011). For each observation, data collectors chose one non-target peer to collect disruption data to provide a local normative comparison. Because there were never more than 3 students in a classroom group, including the target student, during any

observations, data was often collected on the same peer for the majority of observation sessions.

Training for Data Collectors

Five undergraduate/graduate students were hired and trained to collect teacher and student behavior data. Data collectors were kept blind to the purpose of the study and the research questions during training sessions and active data collection. The researcher trained data collectors in one session of approximately an hour and a half in length. During this session, operational definitions of teacher and student behaviors were provided and trainees received instruction in the use of SCOA. Data collectors practiced collecting data using videos in the initial training session and practiced in the classrooms chosen for the study at least four times. Interobserver agreement (IOA) was calculated and reached at least 80% agreement over three consecutive practice sessions prior to actual study data collection.

Interobserver Agreement

Interobserver agreement (IOA) data collection sessions were distributed across phases and classrooms. Weekly contact, either in person prior to an observation or via email, between the researcher and active data collectors occurred to decrease observer drift. During this contact, data collectors and the researcher reviewed behavioral definitions and discussed observation issues. The researcher calculated IOA daily after observation sessions. If IOA fell below 80% on any variable over two sessions for any data collector, additional one-on-one training was given until IOA was reestablished at 80%. Only one data collector required this additional one-on-one training, which occurred in a 30-minute session prior to an observation. Two trained data collectors

independently collected student and teacher behavior data during 30.9% of the observations

Measures of Social Validity

A questionnaire consisting of items on a 4-point scale was used to assess teacher acceptability and satisfaction with regard to the design and implementation of interventions developed through the Classroom Check-Up (CCU; Reinke et al., 2008) consulting model and coaching with electronic performance feedback. Items assessed feasibility, effectiveness, and social validity. Teachers responded anonymously to the questionnaire through Qualtrics Survey Software.

Intervention Procedures

The main independent variable in this study was the use of brief, individualized coaching with the use of electronically delivered performance feedback. The intervention procedures were guided by materials from the Classroom Check-Up (CCU; Reinke et al., 2008), including scoring rubrics and teacher interview procedures. The study was conducted in four phases: (1) Baseline/assessment, (2) planning/training, (3) performance feedback, and (4) self-monitoring.

Baseline/Assessment Phase. Initially, teacher behavior (praise/reprimands/opportunities to respond) and student behavior (classroom disruption) data were collected to establish a stable baseline. Trained data collectors observed teacher participant lessons daily. Following the guidance of Horner et al. (2005), once a relatively stable pattern without substantive trend in teacher use of praise, reprimand and OTR was observed over at least three consecutive data points, the planning/training phase began.

Also during the baseline/assessment phase, the researcher completed a CCU Observation Rubric for each teacher, based upon baseline observations conducted by the researcher (see Appendix B). The CCU Observation Rubric was used to independently rate each of the observed CCU classroom management domains, using provided guidelines. This document was used to assist the researcher in noting many aspects of the teacher's classroom management, including physical classroom structure, rules and routines, and use of noncontingent attention. Ratings ranged on a color-coded scale from green (area of strength) to red (needs attention) and followed explicit guidelines set forth for each domain. The purpose of using the CCU observation rubric was to assess all possible components of the CCU for each teacher's classroom and use the information to discuss with the teacher during the planning/training phase.

Planning/Training Phase. For this study, several components of the CCU were used prior to implementation of the teacher training to provide a structure for the development of rapport between the researcher and each teacher participant. There are five main components of the CCU; this study utilized the first three components in the planning/training phase. In step 1, the goal was to assess the classroom environment and each teacher's skills and attitudes about classroom and behavior management. First, the researcher conducted a teacher interview (Appendix B) to discover areas of teacher-identified strengths and weaknesses in classroom management. The rationale for conducting this interview was for the researcher to develop rapport with the teacher and asked probing questions to determine the teacher's skill levels and attitudes about classroom and behavior management. From this information, the researcher was able to determine the level of support a teacher may need to implement the classroom

management intervention. Rapport and initial information was obtained through a values card sort (see Appendix A). During this activity, the teacher sorted cards printed with various items that may be of value, such as “doing the right thing”, “being happy”, “being healthy”, and “making a difference in the world”. The teacher was instructed to sort the cards into the three categories of very important, important, or not important. The teacher then took the pile they sorted as “very important” and chose the three value cards deemed most important to them. The researcher initiated a brief conversation to summarize and/or clarify the values identified by each teacher .

In step 2, the researcher provided feedback on assessment findings, including strengths and weaknesses. On average, coaching sessions lasted for one hour and thirty minutes. After the teacher interview, the researcher shared ratings from the completed the CCU Observation Rubric and provided performance feedback regarding teacher use of BSP, general praise, reprimand, and OTR, as well as student disruption data. Data were provided to the teacher in visual format, using separately graphed data for each individual variable, color-coded CCU feedback forms (charts) to visualize areas of strength and weakness, and verbal summaries provided by the researcher, including specific examples from classroom observations. The teacher and researcher discussed any questions the teacher had regarding the data and the researcher pointed out strengths and weaknesses demonstrated by the data through sharing the chosen guidelines for the use of praise (Sutherland et al., 2000) and OTR (MacSuga-Gage & Simonsen, 2015; Stichter et al., 2006) and the CCU guidelines. Using the data and discussion, each teacher chose one domain area for which they wished to formulate an intervention. Each of the four teachers had multiple areas for which the data indicated improvement was needed. For

example, rate of praise, rate of OTR, and classroom rules and routines, were areas of need for all teachers. None of the four teachers had any posted rules or behavioral expectations, but none demonstrated any interest in creating these, nor did they express a need for them in their classrooms. All teachers selected the use of BSP on which to focus their intervention, possibly because they thought this would be the easiest of all the strategies to implement without much additional planning or change to their classrooms.

During step 3, the teacher was provided with options for strategies to increase their use of BSP. First, the researcher provided a definition of BSP and the empirical rationale for using it. The researcher and teacher talked about the difference between BSP and general praise and brainstormed examples of how the teacher could turn general praise into BSP. The researcher provided initial support to teachers to help them tailor the intervention to the needs of their classrooms and plan for initial implementation. For example, teacher two identified three behaviors she would like to see more of in her classroom and, together with the researcher, determined sample BSP statements that could be used to reinforce those preferred student behaviors. Teacher two set a goal for her use of BSP and the researcher provided a reminder sheet with the sample BSP statements and the identified goal. Teacher three, however, wanted to focus her use of BSP to encompass their school-wide expectations to be “safe, respectful, and responsible.” The researcher and teacher created a reminder sheet, which gave suggestions for phrasing of BSP for each expectation. Also included on the reminder sheet was a chart on which the teacher could collect her own data on her use of BSP (See Appendix E for a sample strategy tool).

Three of the teachers' planning/training sessions occurred during a day when the teachers did not see students and the fourth teacher's session occurred after school; therefore, baseline data collection ended immediately prior to the planning/training session and the next data point occurred immediately following the planning/training session. This meant that the teachers were sent the performance feedback prior to all observations to control for the possible influence of training. All planning/training sessions were audio recorded to check for fidelity of implementation of teacher training. Both the researcher and a trained data collector completed a procedural integrity checklist while reviewing each recorded planning/training session to determine integrity. At the end of each planning/training session, the researcher explained to teachers that they would receive a daily email containing data and feedback after the next several observations in their classrooms. Teachers were also instructed to send any questions they had regarding the feedback to the researcher prior to the next observed lesson. None of the teachers expressed any questions regarding the performance feedback.

Electronic Performance Feedback Phase. Upon completion of the planning/training phase, a phase line was drawn and data collectors continued daily data collection. The researcher used this data to create feedback to provide to teachers. Each teacher received visual and written performance feedback on the specific component selected for the intervention. For example, if a teacher chose to increase use of BSP, feedback was provided on this component only, even though data continued to be collected on all dependent variables. The researcher provided teachers with visual performance feedback, via a graph of collected data on teacher use of BSP and general praise, brief written performance feedback, and a color-coded chart showing the CCU

rating of the selected strategy. The graphs and color-coded chart were exactly the same as the ones used in the planning/training phase to ensure teachers would understand how to read and understand the data. The written feedback also summarized the data in very simplistic terms (e.g., “BSP went up from 4 to 8 instances”) and praised increases in the use of BSP and/or general praise. Each email ended with encouragement to keep using the individual teacher’s strategy (see Appendix D for a sample feedback email).

Both visual and written feedback was emailed to the teacher on the same day as the observation took place. Immediacy of feedback has been shown to be an important factor in the efficacy of the feedback (Scheeler, Ruhl, & McAfee, 2004). Due to the nature of the teaching environment, feedback delivered via email immediately after the observation would likely not be accessed until later in the day or may be forgotten altogether; therefore, feedback was delivered via email on the same day as the observation, allowing the teacher to view the data prior to the next teaching session. Teachers were prompted to ask any questions they had via email to the researcher. All email correspondence between the researcher and the teacher was maintained electronically.

Self-monitoring Phase. The final phase consisted of the teacher self-monitoring daily implementation of their chosen intervention using an individualized self-monitoring form (see Appendix F). Once there was an identifiable change in level and trend in the teacher’s use of BSP in at least three data points during the performance feedback phase, each teacher began the self-monitoring phase. Each self-monitoring checklist included individualized components based on each teacher’s chosen intervention and was explained to teachers via email from the researcher following the final provision of

performance feedback. Each day, teachers used an electronic checklist to mark the components of the intervention they completed and/or goals they had met that day. Teachers emailed this checklist to the researcher daily and the researcher confirmed receipt of the checklist and thanked teachers for their time in completing the checklist. Teacher two neglected to send the checklist to the researcher after the first data point. No performance feedback or coaching was provided during this time, but teachers continued to be observed for data collection and the researcher compared the teachers' checklist responses to the data collected. The purpose of this phase was to determine if teachers maintained high rates of implementation after performance feedback was removed.

Research Design

A single-subject, multiple baseline across participant dyad design was employed to determine possible functional relationships between the independent variable (coaching and performance feedback) and dependent variables (teacher behavior and student behavior). A multiple baseline design was chosen to assess the effect of coaching with feedback on the outcome variables to help avoid the possibility of teacher maintenance of new skills, as may occur more frequently in a reversal design. Single subject designs are appropriate for education research in that they emphasize the individual as the unit of analysis, allow for practical applications of interventions, and through replication, expand external validity of socially important educational outcomes (Horner et al., 2005). Each of the classrooms began data collection and received interventions at intervals staggered across time and phases. This design helped ensure that the results are functionally related to coaching with performance feedback rather than as a product of an event outside of the study.

Chapter III

Results

Direct observation data were plotted for visual analysis across four teacher-student dyads for three phases: baseline, intervention, and self-monitoring. Using a multiple baseline design, visual analysis and related descriptive data comparison were examined to answer each research question. Variables were broken into the following categories: BSP, general praise, reprimand, and OTR for group, individual student, and target student and student disruption for peer and target student. Rates were calculated by dividing the total occurrences by the 20-minute observation period. Rates for individual student variables were then divided by the number of students in each group, excluding the target student. Adding the total rates for all observations and dividing by the total number of minutes in all observations was used to calculate overall rates for each variable by phase. Means for each variable (BSP, general praise, reprimand, OTR, disruption) were calculated for each phase by adding total occurrences during the phase and dividing by the total number of observations in the phase. Means for individual student variables (BSP, general praise, reprimand) were then divided by the number of students in each class, to create means that could be compared with the target student means (see Table 4). The target behavior chosen by all four teachers in the assessment and training phase was increased use of BSP; therefore, BSP was the primary dependent variable on which functional relationships were determined. To assist with visual analyses given the large number of variables, data were grouped and plotted across three separate graphs. Overall, one functional relationship was noted, there was a modest level change for BSP and general

praise over baseline for three of the four teachers. The following is a summary, according to research question, of the results of each phase.

Table 5

Teacher Behavior: Mean Rates Per Minute (Baseline; Intervention; Self-Monitoring)

	BSPG	BSPI	BSPT	GPG	GPI	GPT	REPG	REPI	REPT	OTRG	OTRI	OTRT
Teacher 1	0	.003	.01	.03	.01	.04	0	.02	.01	.56	.14	.28
	.02	.04	.05	.07	.12	.16	.02	.02	.15	.36	.22	.42
	.01	.02	.07	.06	.06	.15	.02	.05	.17	.30	.12	.08
Teacher 2	0	.03	.04	.007	.03	.02	0	.03	.17	.10	.19	.35
	0	.16	.21	0	.12	.06	.01	.07	.10	.13	.23	.48
	.05	.10	.15	.01	.10	.05	.01	.04	.08	.20	.30	.35
Teacher 3	.02	.18	.21	.13	.19	.30	.006	0	.05	1.10	.41	1.08
	.09	.18	.28	.13	.18	.36	0	.01	.01	1.15	.17	.45
	.11	.42	.31	.36	.39	.38	0	.02	0	2.41	.16	.21
Teacher 4	.03	.04	.23	.01	.03	.06	.008	.06	.14	.21	.23	.50
	.20	.10	.19	0	.02	0	0	.35	.06	.16	.30	.43

Note 1. BSP = behavior-specific praise; GP = general praise; REP = reprimand; OTR = opportunity to respond; G = group; I = individual; T = target

Note 2. Self-monitoring was not conducted with Teacher 4.

Research Question One

Does coaching using classroom assessment and brief training, with follow-up electronic visual and written performance feedback, increase special education teachers' use of behavior-specific praise and opportunities to respond?

Teacher One. During baseline, Teacher One displayed low levels of BSP, general praise, and OTR for group, individual, and target (see Figures 2 and 3). Teacher One used two BSP statements and 12 general praise statements during the entire baseline phase. Teacher One used an equal amount of praise and reprimands for individual students, but more reprimand than praise for the target student. Data demonstrated a flat trend with little variability during baseline, so the decision to begin intervention was made.

After the coaching intervention, visual analysis shows there were slight level increases in individual BSP, (mean .003 to .04) individual general praise, (mean .01 to .12), and target general praise, (mean .04 to .16; Table 5). The trend was generally flat with a slightly increasing trend at the end of the phase. Visual analysis also indicated higher rates of general praise than BSP during intervention. Use of reprimands with individual students remained steady during the intervention period (mean =.22). Level for the rate of reprimand for Teacher One increased slightly for target (mean .01 to .15) with a decreasing trend. Reprimands for group also demonstrated a slight increase (mean 0 to .02) during the intervention phase.

Figure 2

Rate Per Minute of Teacher Behaviors (BSP, General Praise, Reprimand) for Group and Individual Across Phases

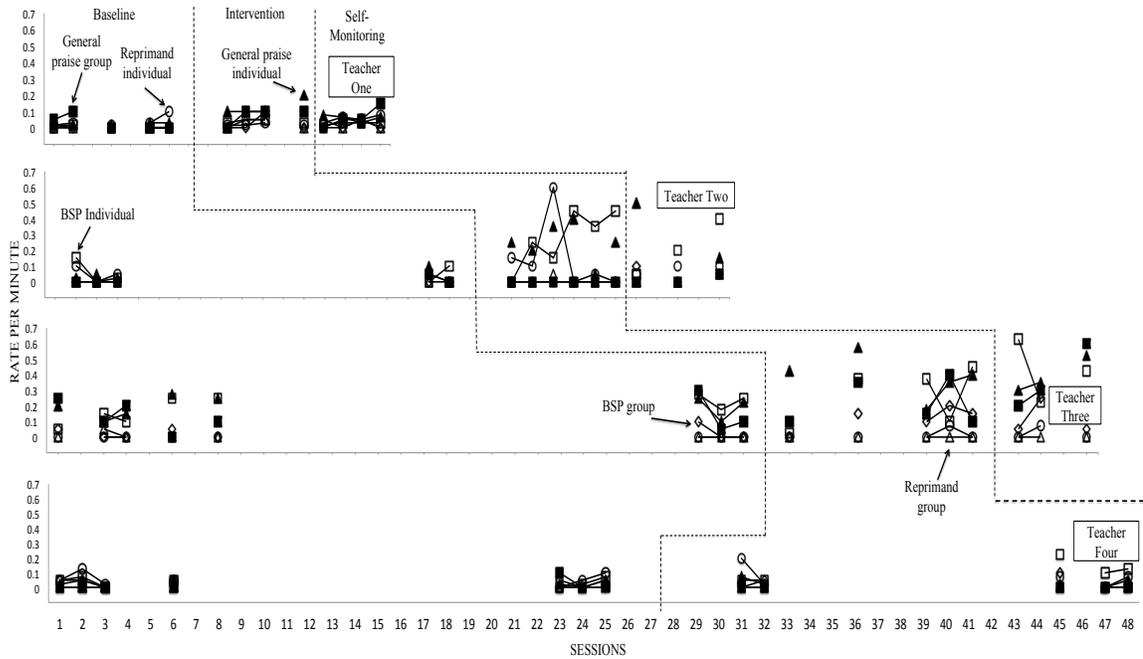


Figure 3

Rate Per Minute of Teacher Use of BSP, General Praise, and Reprimands for Target Student

Student

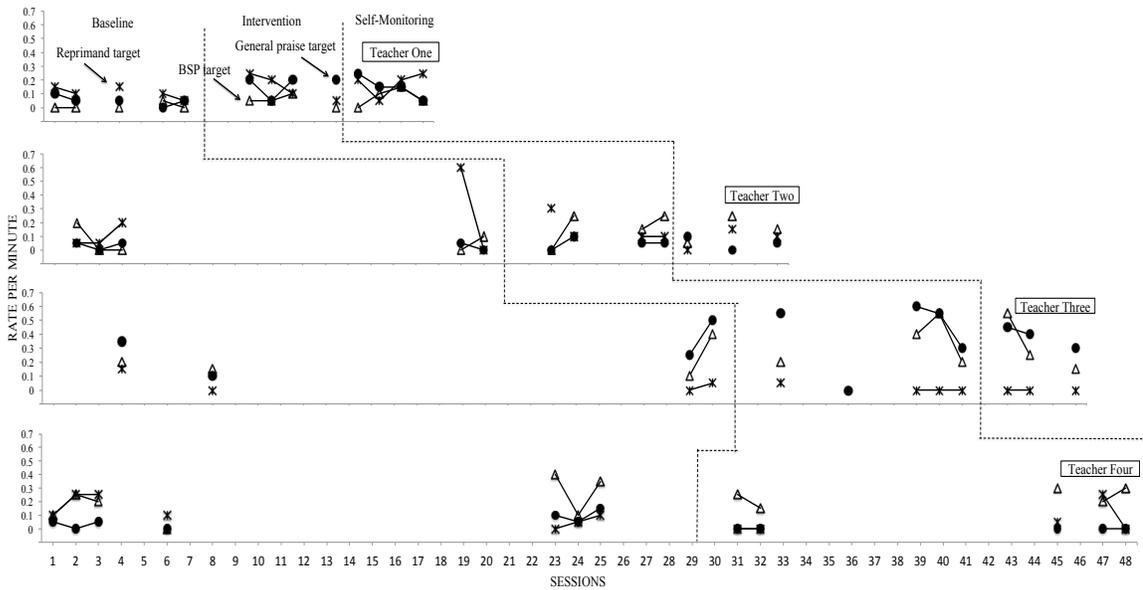
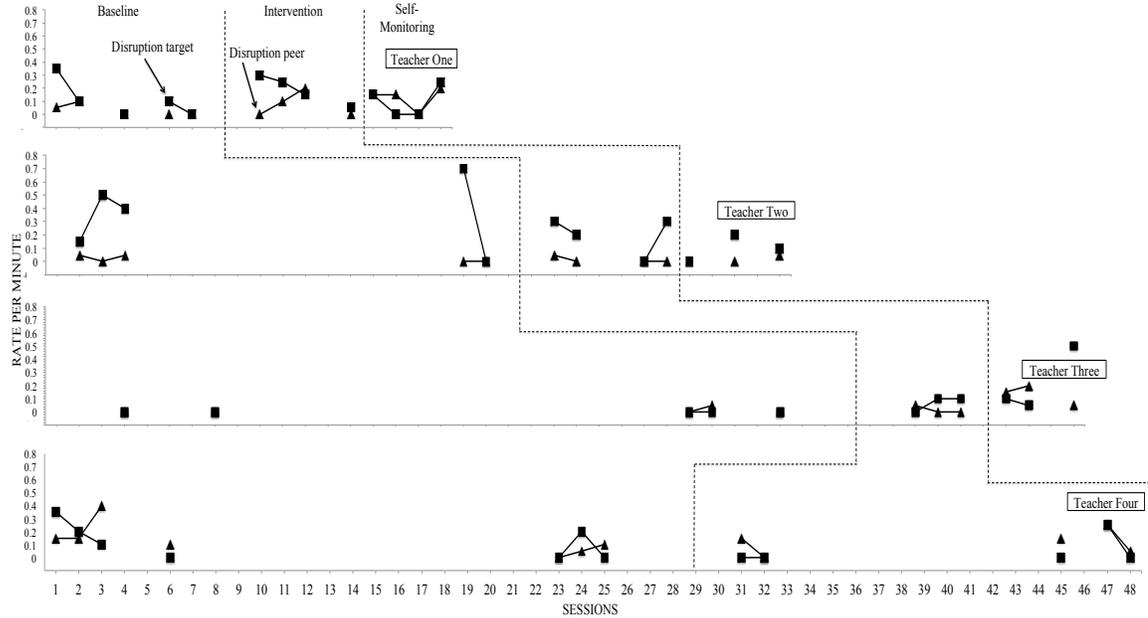


Figure 4

Rate Per Minute of OTR Per Teacher Across Phases



OTR data was collected for teachers even though this was not chosen for direct intervention by any of them (Figure 4). Visual analysis showed that, during baseline, Teacher One had low rates of OTR for individual and target students, offering less than one OTR per minute, and rates of group OTR were slightly higher. Teacher One had mean rates for OTR of .56 for group, .14 for individual, and .28 for target. Visual analysis showed data levels remained stable from baseline to intervention phase, with minor increasing trends in all three OTR variables toward the end of the intervention phase. Slightly more target OTRs were offered than group or individual student OTRs. During intervention, Teacher One had mean rates for OTR of .36 for group, .22 for individual, and .42 for target.

Teacher Two. During baseline, Teacher Two displayed low levels of BSP, general praise, and OTR for group, individual, and target. Teacher Two used 15 BSP statement

and 10 general praise statements during the entire baseline phase. Additionally, Teacher Two used more reprimands than praise with the target student during baseline and more praise than reprimand with individual students. Data demonstrated a flat trend with little variability during baseline, so the decision to begin intervention was made (see figures 2 and 3).

During intervention, visual analysis indicated clear level changes in individual BSP and general praise. Teacher Two demonstrated an overall increase in individual general praise (mean .03 to .12), but the data were generally variable. There was an increasing trend in individual BSP (mean = .16) throughout the intervention phase. Although visual analysis indicates an increase in rate for target BSP, the data are somewhat variable and the increase is very slight (mean .01 to .05) and rates remained lower than those for individual BSP. After an initial spike in reprimands at the beginning of the phase, Teacher Two's use of reprimands with the target student had a decreasing trend throughout, while reprimands for individual students was quite variable, including one outlier data point.

During baseline, visual analysis indicated Teacher Two had the overall lowest rates of OTR, with .10 for group, .19 for individual, and .35 for target. Teacher Two's highest rates varied between individual and target OTR with very low and stable rates of group OTR. Visual analysis revealed no clear level changes in any of the variables. Individual OTR developed a decreasing trend toward the end of the phase, while target OTR remained stable, creating nearly identical overall means of .47 and .48, respectively.

Teacher Three. During baseline, visual analysis revealed stable trends in all BSP, general praise, and reprimand. Praise was somewhat varied between BSP and general,

and between group, individual, and target. Teacher Three demonstrated the highest rates of praise of all four teachers, using a total of 81 BSP statements and 108 general praise statements during baseline. Further, Teacher Three used more praise than reprimand with group, individual students, and the target student. The target student was absent for four of the eight baseline observations.

During intervention, visual analysis indicated a clear and immediate level change in individual general praise for the first two data points, dropped off sharply in data point three, and ended in an increasing trend. There was a clear level change with individual BSP. Target BSP and general praise demonstrated variability and no noticeable trends. Teacher Three demonstrated increases in mean rates of group general praise (mean .02 to .09), target BSP (mean .21 to .28), and target general praise (mean .30 to .36). Teacher Three's rate of reprimand never exceeded .25 per minute for individual, target or group, indicating a flat trend throughout.

During baseline, visual analysis indicated varying rates of group and target OTR, with a low and relatively flat trend in individual OTR. Teacher Three gave the most OTRs of all four teachers with mean rates of 1.10 for group, .41 for individual, and 1.08 for target. During intervention, rates were somewhat variable for Teacher Three, with group OTR offered more than other types. There appeared to be a level change in Group OTR, with a decreasing trend toward the end of the phase. Target OTR was offered at a rate greater than individual OTR, with overall mean rates of .45 and .35, respectively.

Teacher Four. During baseline, visual analysis showed low and stable rates of group and individual BSP, all general praise, and group and individual reprimands. BSP and reprimand for the target student were more variable. Teacher Four used slightly

higher rates of praise than Teachers One and Two, using 43 BSP statements and 18 general praise statements during baseline. Teacher Four generally used more praise than reprimand with all students, but there was an increasing trend in individual reprimands toward the end of the phase.

During intervention, there were no clear level changes in any praise or reprimand variables. Teacher Four had very minimal gains in the rates of praise across the intervention phase. Visual analysis indicates a very slight increase in individual BSP (.04 to .10), while group BSP and group and target general praise rates remained stable. Rates of praise with the target student decreased slightly for both BSP (mean .23 to .19) and general praise (.06 to 0). Use of reprimand with the target student also decreased (mean .14 to .06).

During baseline, visual analysis showed low and stable rates of OTR for group, individual, and target. Teacher Four had variable OTR data with mean rates of OTR of .21 for group, .23 for individual, and .50 for target and no observable trends. As with all four teachers, more OTR were offered to target students than to other individual students.

Research Question One, Sub-Aim

When teachers increase use of behavior-specific praise and opportunities to respond, is there a reduction in problem behavior of students with who exhibit high levels of externalizing problem behavior during instruction?

Data on student disruption during each phase were graphed and visually analyzed for changes in level, trend, and variability as compared to baseline data. Data were also collected on one selected peer during each observation. If more than one peer was in the group with the target student, the data collector would select the peer on the day of the

observation to randomize as much as possible. If the target student was absent on the date of an observation, teacher behavior data were collected, but student disruption data were not.

Student One. Visual analysis showed student disruption to be low and relatively stable during the baseline phase (see Figures 5 and 6). Student One had a mean rate of .11 disruptions per minute compared to the peer rate of .03 per minute. During intervention, visual analysis indicated a level increase from the final four data points in baseline. The rate of disruptive behavior for Student One increased slightly, with an overall mean of .18 disruptions per minute, but had a decreasing trend throughout the phase. Student One's peer comparison rate was .07 during intervention and had an increasing trend until the final intervention data point.

Student Two. Visual analysis of Student Two's disruption data indicated more variability during baseline (see figures 5 and 6). The target student's rates were consistently above the peer comparison rates. Student Two had a mean rate of .29 disruptions per minute compared to the peer rate of .02 per minute. During intervention, rates for target Student Two remained higher than the peer comparison. The target student was absent for two of the five intervention sessions. Student Two had a rate of disruption of .10, which decreased from the baseline rate of .29, and the peer comparison rate was 0, which decreased from the baseline rate of .02.

Figure 5

Rate Per Minute of Student Disruptions Across Phases

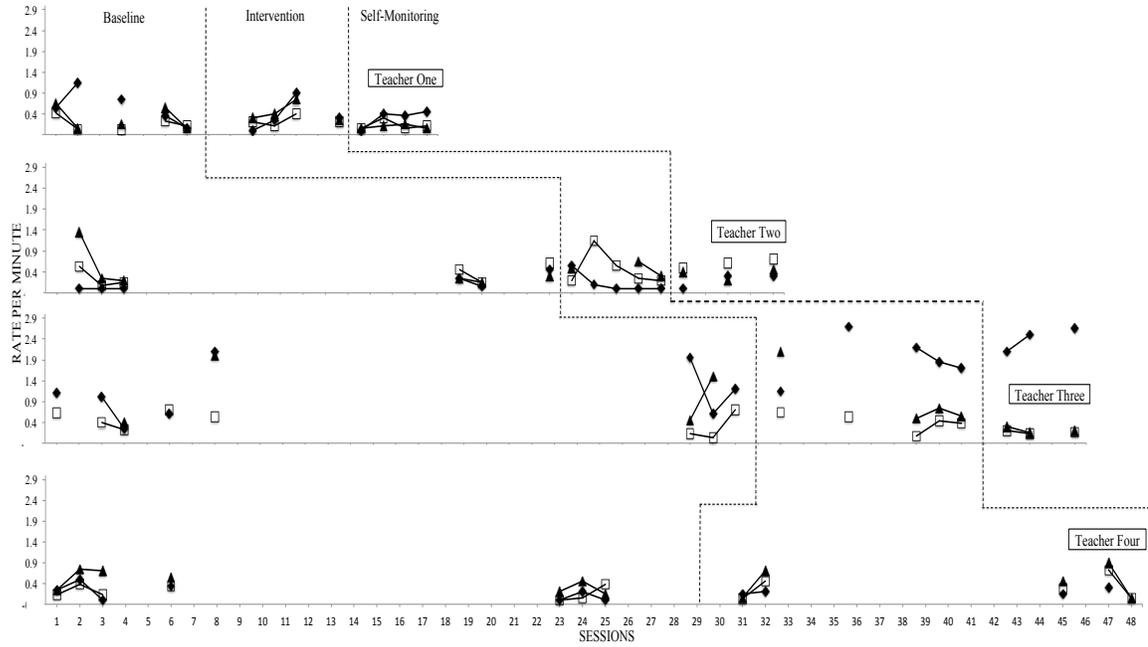
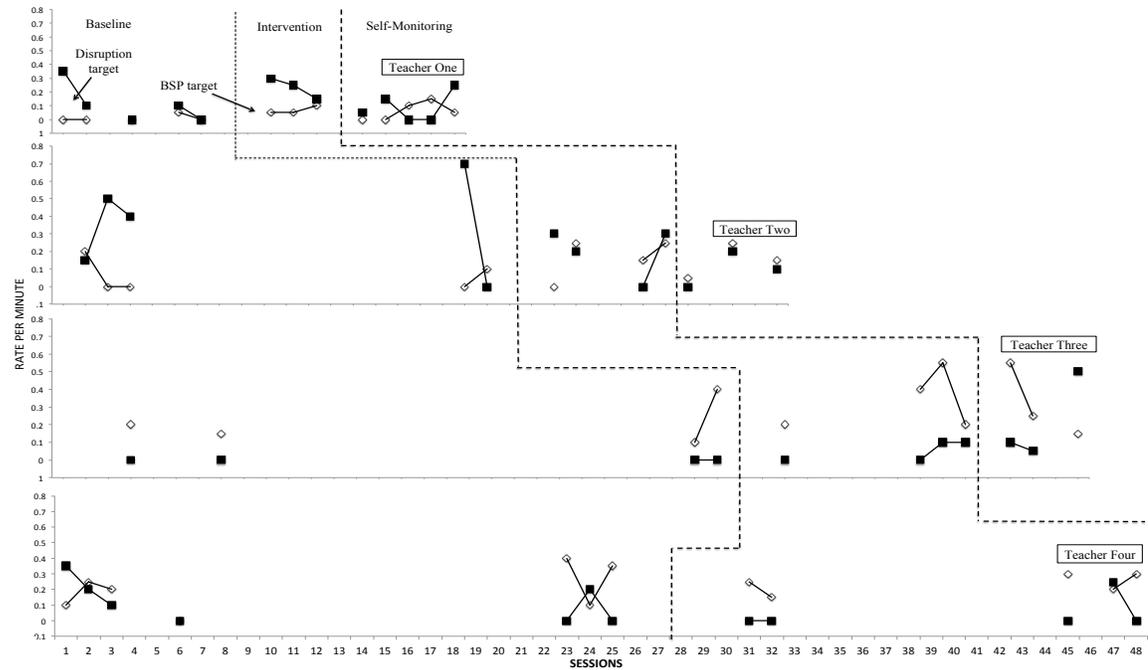


Figure 6

Rate Per Minute of Teacher Rates of Target BSP and Target Rates of Disruption



Student Three. Visual analysis showed a completely flat trend during baseline, with no instances of disruption from the target student and one instance from a peer, for a mean rate of 0 disruptions per minute compared to a peer's rate of .01 per minute (see figures 5 and 6). During intervention, there were no visually identifiable level changes. Rate of disruption for Student Three increased very slightly, from 0 to .05 disruptions per minute compared to the peer's rate of .01 disruptions per minute, which remained unchanged from baseline.

Student Four. Visual analysis of Student Four's disruption data revealed somewhat variable and fairly low rates (see figures 5 and 6). Peer comparison rates demonstrated an increasing trend in the final three baseline data points. Student Four had a mean rate of .14 disruptions per minute compared to a peer's rate of .15 per minute. During intervention, there were no clear level changes, but data became less variable. The target student had consistently lower rates of disruption than the peer. Student Four lowered the rate of disruption from .14 disruptions per minute to 0, compared to the peer's rate of .09.

Research Question Two

Following coaching and withdrawal of performance feedback, can special education teachers continue to implement behavior-specific praise and opportunities to respond at increased rates through the use of self-monitoring?

Data on teacher use of BSP, general praise, reprimand, and OTR during each phase were graphed and visually analyzed for changes in level, trend, and variability as compared to baseline data. Due to time constraints associated with state testing, Teacher Four did not participate in the self-monitoring phase. Overall, when performance

feedback was removed and self-monitoring was implemented two of the three teachers were not able to maintain rates of praise and one teacher increased rates.

Teacher One. Visual analysis showed no observable level changes. Teacher One's rates of group and individual, BSP and general praise had a somewhat flat trend throughout self-monitoring (see figure 2). Target BSP had a slight increasing trend and target general praise showed a decreasing trend (see figure 3). Use of reprimands for both individual and target demonstrated an increasing trend. During self-monitoring, Teacher One's rates of OTR remained relatively unchanged in level and trend from previous phases, with mean rates of .30 for group, .12 for individual student, and .08 for target student (see figure 4). Target student OTR decreased from intervention (mean .42 to .08).

Teacher Two. Visual analysis indicated a level change in individual BSP, with an increasing trend (see figure 2). Overall means for Teacher Two showed some maintenance of individual BSP (mean .16 to .10) and target BSP (mean .21 to .15) during self-monitoring (see table 2). Levels determined through visual analysis for OTR for Teacher Two were relatively similar to those in the intervention phase, with a slight increasing trend in individual and group OTR (see figure 4). Overall means for OTR during self-monitoring were .20 for group, .30 for individual, and .35 for target (see table 2).

Teacher Three. According to visual analysis, Teacher Three had the highest level of maintenance in rates of praise during self-monitoring (see figure 2). There were no clear level changes, however individual BSP and group general praise showed increasing trends. Target BSP and general praise both showed decreasing trends (see figure 3).

Teacher Three's rates of individual BSP (mean .18 to .42) and general praise (mean .18 to .39), as well as group general praise (mean .13 to .36) were higher than baseline rates. Overall means for group and target BSP and target general praise remained steady (see table 2). Teacher Three demonstrated a clear increase in level for the first two data points in self-monitoring and an increasing trend in group OTR (see figure 4). Individual and target OTR had relatively flat trends, with no discernible changes in levels. Overall means for OTR during self-monitoring were 2.41 for group, .33 for individual, and .21 for target (see table 2).

Research Question Two, Sub-Aim

If teachers maintain implementation, does student behavior remain at improved levels?

Student One. Visual analysis revealed somewhat increased variability in disruption during maintenance compared to the intervention phase (see figures 5 and 6). Rate of disruptive behavior for Student One decreased slightly, from an overall mean of .18 disruptions per minute during intervention to .10 during self-monitoring. Student One's peer comparison rate increased slightly from .07 in intervention to .12 during self-monitoring.

Student Two. Visual analysis showed no level changes for target or peer, but a decreasing trend in target disruption (see figures 5 and 6). Student Two had a rate of disruption of .10, which remained unchanged from intervention, and the peer comparison rate was .01.

Student Three. Much like Student One, visual analysis revealed somewhat increased variability in disruption compared to the intervention phase (see figures 5 and 6). The final target student data point was higher than any other rate for that student in

any phase, making it a distinct outlier. Rate of disruption for Student Three increased, from .05 to .21 disruptions per minute compared to the peer's rate of .13 disruptions per minute, which was increased from .09 during intervention.

Inter-observer Agreement

Inter-observer agreement (IOA) data were collected across 30.9% of all sessions. Seven% of baseline sessions, 57% of intervention sessions, and 40% of self-monitoring sessions were included in IOA. The average IOA for all teacher and student variables was 84.80%. Average IOA for total BSP was 84.02%, and ranged from 33% to 100%. Average IOA for total general praise was 85.43%, and ranged from 33% to 100%. Average IOA for total OTR was 86.32%, and ranged from 15.79% to 100%. Average IOA for total reprimand was 85.54%, and ranged from 0% to 100%. Average IOA for total student disruption was 82.71%, and ranged from 30% to 100%. The lowest percentages in the IOA ranges were due to one of two things: (1) there were very few instances of the behavior during a session, resulting in more of a decrease in the percentage when agreement was not reached or, (2) data collector training issues that were resolved immediately following the collection error. For example, the lowest IOA for OTR was 15.79% due to a data collector diverting from the operational definition of OTR and including data on teacher redirection.

Intervention Fidelity

All teacher interviews and planning/training sessions were audio recorded to determine fidelity of implementation of teacher training. Both the researcher and a trained data collector completed a procedural integrity checklist while reviewing each recorded planning/training session to determine integrity (see Appendix G). The

researcher and a second data collector also reviewed all performance feedback emails to ensure consistency. Procedural integrity for training sessions and emails was determined by the two independent data collectors to be 100%.

Social Validity

Social validity information was collected one time at the end of the study. The answers to the questionnaire were made anonymous using Qualtrics Survey Software (see Appendix H). The questionnaire targeted information related to the social implications of the study. Specifically, the questionnaire assessed the teachers' beliefs in the importance, effectiveness, and intrusiveness and appropriateness of coaching and classroom management as an intervention. Teachers rated each question on a Likert scale from one to four. Results of the social validity survey are separated by category and discussed below.

Importance. Two of the teachers believed the goals of coaching and intervention in classroom management to be fairly important (3) and the other two believed them to be very important (4). The results were the same regarding importance of receiving feedback on your teaching.

Effectiveness. When asked to rate the effectiveness of the intervention, one teacher rated it as very effective (4), one said fairly effective (3), and two said somewhat effective (2). When asked to rate the perceived effectiveness of their targeted classroom management skills (e.g. use of praise) before the study, one teacher rated herself as fairly effective (3), two said somewhat effective (2), and one said not effective (1). When asked to do the same for their effectiveness after the study, one said very effective (4) and three said fairly effective (3). Three of the four teachers found the initial, face-to-face feedback

on classroom data and the consultant information provided to be very helpful (4) and one found both fairly helpful (3). When asked to rate the effectiveness of the visual feedback in helping to meet classroom management implementation goals, two found it very effective (4) and two found it fairly effective (3). All four teachers thought the format of the visual feedback (graphs) and written feedback via email and the frequency in which feedback was received was sufficient to meet their needs.

Intrusiveness and Appropriateness. In regards to intrusiveness of the intervention, including observations and coaching, all four teachers reported that it was not intrusive at all to their schedule. One teacher rated the amount of time, resources, and effort required to implement the intervention as very reasonable (4) and the other three rated it as mostly reasonable (3).

Confidence and Overall Reaction. When asked to rate their confidence to effectively implement the classroom management strategies developed from coaching, all four teachers stated they were fairly confident (3). Three of the four were fairly confident (3) that the classroom management strategies developed from coaching would benefit their students, while the fourth teacher was somewhat confident (2). The overall reaction to the intervention for two of the teachers was very positive (4) and fairly positive (3) for the other two.

Chapter IV

Discussion

Effective use of evidence-based classroom management strategies is essential for any teacher, but is even more critical for teachers of students with disabilities who exhibit high rates of externalizing behaviors (Gunter & Denny, 1996). Teachers of students with EBD have higher attrition rates than other areas of special education (Henderson et al., 2005) and shortages of EBD teachers are reported nationwide (U.S. Department of Education, 2015). Since classroom management is historically listed as a major concern for teachers (Evertson & Weinstein, 2006; Ritter & Hancock, 2007; Melnick & Meister, 2008; Henson 2001; Sugai & Horner, 2002; Laut, 1999), evidence suggests that additional training and support is necessary to increase success for both special education teachers and their unique students (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). School-based coaching with performance feedback (De Pry & Sugai, 2002; Fallon et al., 2015; Reinke, Lewis-Palmer, & Merrell, 2008; Scheeler, Ruhl, & McAfee, 2004; Sutherland, Wehby & Copeland, 2000) has emerged as a promising method for supporting teachers to implement effective classroom management and decrease the documented research to practice gap (Carnine, 1997; Cook & Cook, 2013).

The majority of the current research on school-based coaching and performance feedback has focused on general education teachers as subjects and rarely includes special education teachers and students with disabilities who exhibit high rates of externalizing behaviors (Stormont et al., 2015). Given that students who exhibit more challenging behavior often have more negative interactions with teachers (Gunter, Jack, Depaepe, Reed, & Harrison, 1994; Gunter & Coutinho, 1997; Walker, Colvin, &

Ramsey, 1995), it is important to examine the effects of the change in teacher use of positive classroom management strategies on this population of students. Further, because special education teachers have historically been provided little support through professional development or collaboration with other special education colleagues (Cancio, Albrecht, & Holden Johns, 2013; Griffin, Winn Otis-Wilborn & Kilgore, 2003), there is a pressing need to examine ways to provide special educators the assistance they need.

The purpose of this study was to extend upon the initial Classroom Check-Up (Reinke, Lewis-Palmer, & Merrell, 2008) study to determine the effectiveness of key components of the intervention to increase special education teacher use of specific classroom management strategies and, in turn, reduce rates of problem behavior displayed by students with disabilities. This study builds upon the current knowledge-base and extends it in several important ways including investigating the efficacy of electronically delivered performance feedback provided after a brief (less than 2 hour) training session on strategies to increase the use of BSP or OTR. Further, a sub-aim of the study was to determine if changes in teacher rates of BSP and OTR would correlate to reductions of problem behavior among students who exhibit high-frequency externalizing behaviors. The final aim of the study was to determine if teachers could continue to implement BSP and OTR at increased rates through the use of self-monitoring and, if so, would student behavior remain at improved levels. This section examines implications of the findings for each research question and identifies limitations of the study. Directions for future research are also discussed.

Research Question One

Does coaching using classroom assessment and brief training, with follow-up electronic visual and written performance feedback, increase special education teachers' use of behavior-specific praise and opportunities to respond?

Baseline praise frequencies and types were consistent with those found by Shores et al. (1993) and Wehby et al. (1995) in classrooms for students with EBD. In contrast to Wehby et al. (1995), few reprimands were given in the study classrooms. This low level of reprimands could have been influenced by relatively low levels of disruptive behavior and the low teacher to student ratio in each classroom. In the current study, modest gains in the use of praise, behavior-specific and general, were demonstrated by three of the four teacher participants when training and performance feedback were implemented, which supports previous literature which suggests these are effective methods for changing teacher behavior (De Pry & Sugai, 2002; Reinke, Lewis-Palmer, & Merrell, 2008; Sutherland, Wehby & Copeland, 2000; Stormont et al., 2015). Visual analysis showed rates of praise were at higher levels during intervention than during baseline for Teachers One, Two, and Three. Modest increases were also seen through comparison of overall mean rates of praise. Previous research using coaching and performance feedback has demonstrated similar modest improvements over a comparable intervention time period (e.g., Myers, Simonsen, & Sugai, 2011; Pisacreta, 2011; Reinke, Lewis-Palmer, & Merrell, 2008). Also similar to previous studies, teachers responded differentially to the intervention (Myers, Simonsen, & Sugai, 2011; Noell et al., 1997).

All four teachers chose to target increased rates of BSP as the strategy for which they wanted improvement. Although previous research has demonstrated that teachers can increase rates of specific praise statements after a single, targeted training with no

additional coaching sessions (Fullerton, Conroy, & Correa, 2009), perhaps the use of predetermined BSP statements, instruction provided regarding the difference between BSP and general praise, and goals setting in the current study were not enough to change teacher behavior. As determined by earlier research, it is likely that the same level of professional development may not be appropriate for all teachers and supports should be offered along a continuum to increase likelihood of implementation (Dufrene, Lestremau, and Zoder-Martell (2014); Myers, Simonsen, & Sugai, 2011). Further, discussions about beliefs may have been necessary to truly affect teacher behavior (Coles et al., 2015).

Dufrene, Lestremau, and Zoder-Martell (2014) and others (Van Acker, Grant, & Henry, 1996; Wehby, Symons, & Shores, 1995) have posited that teacher behavior change might occur due to negative reinforcement. Teachers may wish to see immediate improvements in student behavior to increase and maintain their use of new practices, such as increased use of BSP or OTR. Because students in the current study demonstrated variability in disruptive behavior regardless of teacher use of praise, as is often seen in students with EBD (Gunter, Jack, Depaepe, Reed, & Harrison, 1994; Gunter & Coutinho, 1997) teachers were not negatively reinforced by a reduction in problem behavior, leading to little changes in teacher behavior (Dufrene, Lestremau, & Zoder-Martell, 2014; Skinner, 1969).

Teacher Rates of OTR were low and relatively variable throughout baseline and intervention for three of the four teachers. As OTR was not targeted for improvement by any of the teachers, no changes were anticipated. Visual analysis indicated teachers who offered higher rates of praise also offered similarly higher rates of OTR. Sutherland et al. (2002) came to the same conclusion when examining the relationship between teacher

praise and rates of OTR for students with EBD, finding a significant correlation between praise and OTR. Because both of these teaching behaviors have been found to have positive effects on students' academic and behavioral outcomes, this relationship has implications for students who exhibit high rates of externalizing behaviors.

Research Question One, Sub-Aim

When teachers increase use of behavior-specific praise and opportunities to respond, is there a reduction in problem behavior of students who exhibit high levels of externalizing problem behavior during instruction?

A central principle of applied behavior analysis is that behavior is functionally related to the teaching environment (Baer et al., 1968). As variables in the environment are altered, likelihood of occurrence of behavior either increases or decreases. Previous studies have demonstrated a functional relationship between teacher praise and the disruptive behavior of students (Sutherland, Wehby, & Copeland, 2000). Provision of BSP has been shown to reduce problem behavior and increase student achievement (Shores et al., 1993; Simonsen et al., 2008) with even the most challenging students (Stormont & Reinke, 2009). Students in the current study were chosen based on teacher recommendation and scores of 60 or greater on the externalizing scale of the BASC-2. Although students purportedly exhibited high rates of externalizing behaviors, relatively low rates of acting out behavior were observed across the study. Due to these very low rates of behavior, few conclusions can be drawn regarding the minimal changes in teacher behavior on student disruption.

When choosing interventions for students with problem behavior, the function of the students' behavior must be considered. Students may exhibit externalizing behaviors

in response to a variety of stimuli, such as social interactions, difficult tasks, less preferred tasks, and teacher classroom management strategies (Shores et al., 1999). The current study did not take into account the functions of students' disruptive behaviors; rather, a universal intervention, use of BSP, was applied in each classroom. Knowing that children react differently to environmental stimuli (Baer, Wolf, & Risley, 1968; Skinner, 1969; Shores et al., 1999), it is possible that BSP alone was not sufficient to make marked improvements in students' behavior.

Hemmeter et al. (2010) conducted a similar study on professional development and emailed performance feedback on the use of praise by preschool teachers. Results of that study were similar to the current study in that teachers made modest increases in the use of descriptive praise, but there was little effect on students' engagement and challenging behavior. In their study, student engagement rates were generally high during baseline and remained relatively stable throughout intervention. The current study was similar because student disruptive behavior was generally low during baseline and remained low during intervention, leaving little room for improvement.

Low rates of OTR characterized all four classrooms in the current study, supporting previous reports by Van Acker et al. (1996) and Wehby et al. (1995). An interesting contradiction between this study and previous work is that, on average, teachers offered more OTR to target students, whose disruptive behavior was initially rated as higher occurring, than to peers. Generally, research has shown that teachers offer fewer OTR and have fewer interactions with students who demonstrate more disruptive behavior (Gunter & Coutinho, 1997; Sutherland & Oswald, 2005; Van Acker, Grant, & Henry, 1996; Wehby, Symons, & Canale, 1998; Wehby, Symons, & Shores, 1995). Even

though rates of OTR were still far below the recommended rate of 3.5 per minute during active instruction (Stichter et al., 2006), perhaps these slightly higher rates of OTR for target students contributed to lower rates of disruptive behaviors, as illustrated by Carnine, (1976), MacSuga,-Gage and Simonsen (2015) and Sutherland, Alder, and Gunter (2003).

Research Question Two

Following coaching and withdrawal of performance feedback, can special education teachers continue to implement behavior-specific praise and opportunities to respond at increased rates through the use of self-monitoring?

Sutherland et al. (2000) demonstrated that when feedback on rates of praise was withdrawn, teachers' rates of BSP decreased. The final phase of the study was intended to investigate teacher self-monitoring to measure the degree to which improvements in teacher and student behavior maintained without the use of performance feedback. Teacher Four was not able to participate in the self-monitoring phase because of time constraints of the study. Teacher One consistently completed and shared the self-monitoring tool. Teacher Two completed the tool for each observation session, but was late sharing the tool twice. Teacher Three never shared the tool with the researcher. Interestingly, of the three teachers, Teacher Three demonstrated the greatest maintenance of praise regardless minimal participation in self-monitoring, showing increases in group general praise and individual BSP and general praise. This appears to indicate participation in self-monitoring had no measurable effect on teacher behavior during this phase.

Research Question Two, Sub-Aim

If teachers maintain implementation, does student behavior remain at improved levels?

In order for this question to be answered, teacher participants must have shown maintained levels of implementation of praise. The only teacher who showed clear increases during intervention and maintained implementation during self-monitoring was Teacher Three. In spite of these gains, Student Three's disruptive behavior increased during self-monitoring.

Limitations

Although results of this study show promise, several limitations should be considered. First, the teacher participants were all voluntary participants from the same school district, the study occurred during small group instruction only, and the ethnic and racial diversity of the sample was very limited. Because of the sensitive nature of the study, teachers with serious weaknesses in classroom management and/or highly disruptive classrooms may have been hesitant to volunteer for the following reasons: (1) they were already overwhelmed with their teaching responsibilities, making volunteering a low priority, (2) they may have been concerned that they would receive negative feedback from someone outside of the school district, and (3) they may have been concerned that data and information would be shared with their administration, despite precautions to protect confidentiality. Replications of experimental conditions across participants and settings will be necessary to increase external validity.

An additional limitation was gaps in data collection and the limited number of data points during certain phases possibly increasing threats to internal validity. Specifically, there were large gaps in the data during intervention phases for Teachers Three and Four due to state achievement testing in each of those buildings. Teacher Four

received the intervention prior to Teacher Three, but then had an unexpected testing schedule change which interrupted intervention data collection. The initial teacher interview, training, and selection of intervention to implement were held and 10 days passed before any data collection on the intervention could be collected. Even then, two days of data were collected and another 16 days passed with no data collection. Due to the short duration of the intervention and the significant gaps between training and intervention data collection and feedback, Teacher Four may not have had the opportunity to modify beliefs based on experience with using the strategy (Guskey, 2002). Intervention was then started with Teacher Three to ensure three replications of the intervention. Once state achievement testing ended, data collection commenced for Teacher Four. It should be noted that data collection for Teachers Three and Four occurred during the final month of school, a time of year that is known for higher rates of student behavior difficulties and a decrease in classroom structure in classrooms and school-wide. Sporadic teacher and student absences, changes in teacher and student schedules due to state achievement testing, and the timing of the intervention may have affected student and teacher behavior or interfered with the impact of effective management strategies. While these may limit effectiveness of this particular intervention, these disruptions in the study sessions are a product of conducting research in applied settings, and may lend themselves to generalizable statements of effectiveness of coaching on teacher behavior.

Third, there was inconsistent reporting of self-monitoring across subjects. Teacher Three never shared, even with prompting, self-monitoring sheets with the researcher, so it is unknown if the teacher was self-monitoring use of the strategy during that phase at all.

Also, Teacher Two was generally several days late in sharing her self-monitoring data and Teacher Four was not able to participate in the self-monitoring phase because of time constraints of the study. Due to these issues, it is difficult to ascertain if accurate self-monitoring occurred for any of the teachers.

A fourth limitation of the study may be the low levels of disruptive behavior from the selected target students. Students were specifically chosen based on teacher reported high levels of externalizing behavior. As noted, high rates of problem behavior did not occur during baseline therefore, no clear conclusion could be made about the intervention's effectiveness regarding impact on student behavior. Participating teachers indicated during the study for each target student that the majority of their behaviors occurred in general education. Future research should examine the effects of coaching and classroom management on rates of behavior of this student demographic in general education settings.

Fifth, the researcher was the only person responsible for implementation of the coaching/training and delivery of daily, emailed performance feedback. Although procedures were implemented to ensure consultation and performance feedback were delivered with fidelity, researcher characteristics could have influenced teacher performance. Personal attributes, years and types of experiences, and communication style of the researcher may have affected interactions with teachers and, perhaps, teachers' implementation performance.

A final limitation of the study relates to provision of electronic performance feedback and review by participating teachers. Although feedback was delivered via email on the same day of each observation during the intervention phase, there were no

checks to ensure the teachers received, reviewed, and understood the data prior to the next observation. Teachers were prompted to ask questions if they needed clarification regarding the feedback, but no questions were ever asked by any of the teachers. The researcher explained this procedure to the participants during the assessment/training phase. The intent of the study was to utilize the least amount of time and contact necessary between the teacher and the coach. The researcher did not receive any error messages indicating emails had not reached the intended recipients, but it is possible that teachers may not have reviewed the data prior to the next observation and, therefore, could not use it to change future practice. Research in the future should include a plan to ensure teachers receive and review the electronic performance feedback during the intervention phase.

Directions for Future Research

The findings of this study have the potential to contribute to and expand upon current research in the field of school-based coaching and consultation. Specifically, results from this study extend the literature base on the efficacy of coaching and performance feedback to include electronic delivery of feedback, increase teacher use of BSP, and include both special education teachers and students with special needs who exhibit high rates of externalizing behaviors. The results of this study provide promising support for the use of brief training and coaching, followed by electronic performance feedback with teachers to increase their use of targeted, effective classroom management strategies. In addition, the multi-element intervention should be further studied to identify key elements as well as fidelity checks to insure teachers reviewed and were able to use the performance feedback to improve practice.

The overall findings of the current study were inconclusive. The four included teachers responded differentially to the intervention and, thus, generalization of the study results beyond the study sample, without further replication, is inappropriate. Future research should include small-scale replications to determine if the strategy approximates past research findings.

This study employed a self-monitoring strategy with special education teachers to determine if the strategy assisted teachers to maintain usage level of their chosen EBP. Although self-monitoring was explained to each teacher and offered in a consistent manner to each of the three teachers who participated in that phase, only one of those teachers consistently used the self-monitoring tool. Future studies should examine if there is a difference between the targeted rates of EBP between teachers who do self-monitor and those who do not. Additionally, studies should be conducted to determine if teachers are more likely to self-monitor if they are not required to share their results with the researcher. Amount of time necessary to instruct teachers in self-monitoring techniques and those techniques that teachers favor most are additional variables for consideration.

Previous literature demonstrates that students who exhibit high rates of externalizing behavior are a significant challenge for teachers (Friedman, 2006; Gonzalez, Brown, and Slate, 2008). Despite specifically choosing student participants whom teachers reported as having high rates of externalizing behavior, rates exhibited by students in this study were generally low across all phases. Future research should examine the effects of this intervention on the behavior of students with the same behavioral demographics in general education settings. It is possible that larger class sizes and less differentiation in task demands may have a greater effect on student

behavior and, therefore, changes in teacher behavior may also have a greater effect on student behavior. More information is needed regarding the effects of increased use of EBP and changes in teacher behavior on the behavior of students in special education who exhibit externalizing behaviors, as the majority of extant literature highlights only issues in this area (Shores et al., 1993; Van Acker, Grant, & Henry, 1996; Wehby et al., 1995;).

The literature base is limited in regards to the most efficacious manner in delivering performance feedback (Scheeler, Ruhl, & McAfee, 2004). To investigate the effects of individual roles and characteristics of coaches on efficacy of teacher EBP implementation, studies should be conducted with varying individuals serving as coaches. Replications are needed that include administrators, school counselors, veteran teachers from the same building and different buildings, and district behavioral consultants serving as coaches. This would add to the research base on school-based coaching by helping to determine the best individuals to provide coaching and performance feedback. Additionally, studies could explore individual coach characteristics of those coaches who inspire high levels of positive change.

The provision of performance feedback has been shown to be essential in altering teacher use of evidence-based practices (Fallon, Collier-Meek, Maggin, Sanetti, & Johnson, 2015). Teachers in this study reported the frequency, content, and format of the electronic performance feedback met their needs, but only minimal positive results were obtained through the use of this type and delivery of performance feedback. Further research is needed to determine the optimal timing of feedback (Scheeler, Ruhl, & McAfee, 2004), the formats which teachers understand best, and supplemental support to

help them identify patterns to improve and match to technical assistance to promote improved outcomes.

Conclusion

The purpose of this study was to extend upon the initial Classroom Check-Up (Reinke, Lewis-Palmer, & Merrell, 2008) study to determine the effectiveness of a brief coaching with electronic performance feedback intervention to change special education teacher behavior related to classroom management and, in turn, effect externalizing behaviors exhibited by students with special needs. In addition, social validity, including feasibility and acceptability, was studied. The overall impact of the intervention was modest at best, but the present study did raise several questions on the efficacy of coaching and performance feedback to increase teacher's use of behavior specific praise. Additional replications of the study across participants and contexts are needed.

REFERENCES

- Aos, S., Lieb, R., Mayfield, J., Miller, M., & Pennucci, A. (2004). *Benefits and costs of prevention and early intervention programs for youth*: Washington State Institute for Public Policy Olympia, WA.
- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis1. *Journal of Applied Behavior Analysis*, *1*(1), 91-97.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, *84*(2), 191.
- Banks, T. (2014). Creating Positive Learning Environments: Antecedent Strategies for Managing the Classroom Environment & Student Behavior. *Creative Education*, *5*(7), 519-524. doi:10.4236/ce.2014.57061
- Bashook, P. G. (2005). Best practices for assessing competence and performance of the behavioral health workforce. *Administration and Policy in Mental Health and Mental Health Services Research*, *32*(5-6), 563-592.
- Bernfeld, G. A. (2006). The struggle for treatment integrity in a "dis-integrated" service delivery system.
- Billingsley, B. S. (1993). Teacher Retention and Attrition-in Special and General Education A Critical Review of the Literature. *The Journal of Special Education*, *27*(2), 137-174.
- Billingsley, B. S., Fall, A.-M., & Williams Jr, T. O. (2006). Who is Teaching Students With Emotional and Behavioral Disorders?: A Profile and Comparison to Other Special Educators. *Behavioral Disorders*, *31*(3), 252-264.
- Blackorby, J., Wagner, M., Cameto, R., Davies, E., Levine, P., Newman, L., . . . (With Chorost, M., Garza, N., Guzman, A.). (2003). *Engagement, academics, social development, and independence: The achievements of elementary and middle school students with disabilities*. Retrieved from Menlo Park:
- Blank, L., Peters, J., Pickvance, S., Wilford, J., & MacDonald, E. (2008). A systematic review of the factors which predict return to work for people suffering episodes of poor mental health. *Journal of occupational rehabilitation*, *18*(1), 27-34.
- Boe, E. E., Cook, L. H., & Sunderland, R. J. (2005). *Turnover of special education teachers: New research on the extent and impact of exit attrition, transfer to general education, and school transfer*. Paper presented at the annual OSEP Project Directors' Conference, Washington, DC.

- Bradley, R., Doolittle, J., & Bartolotta, R. (2008). Building on the data and adding to the discussion: The experiences and outcomes of students with emotional disturbance. *Journal of Behavioral Education, 17*(1), 4-23.
- Bronfenbrenner, U. (1976). The experimental ecology of education. *Educational researcher, 5*-15.
- Brophy, J. (1981). Teacher Praise: A Functional Analysis. *Review of Educational Research, 51*(1), 5-32.
- Brownell, M. T., Smith, S. W., McNellis, J., & Lenk, L. (1994). Career decisions in special education: Current and former teachers' personal views. *Exceptionality, 5*(2), 83-102.
- Brownell, M. T., Yeager, E., Rennells, M. S., & Riley, T. (1997). Teachers working together: What teacher educators and researchers should know. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children, 20*(4), 340-359.
- Burns, M. K., & Ysseldyke, J. E. (2008). Reported prevalence of evidence-based instructional practices in special education. *The Journal of Special Education.*
- Cancio, E. J., Albrecht, S. F., & Johns, B. H. (2013). Defining Administrative Support and Its Relationship to the Attrition of Teachers of Students with Emotional and Behavioral Disorders. *Education and Treatment of Children, 36*(4), 71-94. doi:10.1353/etc.2013.0035
- Carnine, D. (1997). Bridging the research-to-practice gap. *Exceptional Children, 63*(4), 513-521.
- Carnine, D. W. (1976). Effects of two teacher-presentation rates on off-task behavior, answering correctly, and participation. *Journal of Applied Behavior Analysis, 9*(2), 199.
- Carter, D. R., & Van Norman, R. K. (2010). Class-wide Positive Behavior Support in Preschool: Improving Teacher Implementation Through Consultation. *Early Childhood Education Journal, 38*(4), 279-288. doi:10.1007/s10643-010-0409-x
- Coles, E. K., Owens, J. S., Serrano, V. J., Slavec, J., & Evans, S. W. (2015). From consultation to student outcomes: The role of teacher knowledge, skills, and beliefs in increasing integrity in classroom management strategies. *School Mental Health, 7*(1), 34-48.
- Colvin, G., Sugai, G., Good Iii, R. H., & Lee, Y.-Y. (1997). Using active supervision and precorrection to improve transition behaviors in an elementary school. *School Psychology Quarterly, 12*(4), 344-363. doi:10.1037/h0088967

- Cook, B., Buysse, V., Klingner, J., Landrum, T., McWilliam, R., Tankersley, M., & Test, D. (2014). Council for Exceptional Children: Standards for evidence-based practices in special education. *Teaching Exceptional Children, 46*(6), 206.
- Cook, B. G., & Cook, S. C. (2013). Unraveling Evidence-Based Practices in Special Education. *The Journal of Special Education, 47*(2), 71-82.
doi:10.1177/0022466911420877
- CRDC, C. R. D. C. (2014). *Data Snapshot: School Discipline*. U.S. Department of Education Office for Civil Rights Retrieved from <http://www2.ed.gov/about/offices/list/ocr/docs/crdc-discipline-snapshot.pdf>.
- De Pry, R. L., & Sugai, G. (2002). The Effect of Active Supervision and Pre-correction on Minor Behavioral Incidents in a Sixth Grade General Education Classroom. *Journal of Behavioral Education, 11*(4), 255-267. doi:10.1023/A:1021162906622
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational researcher, 38*(3), 181-199.
- Dishion, T. J., Nelson, S. E., & Kavanagh, K. (2003). The family check-up with high-risk young adolescents: Preventing early-onset substance use by parent monitoring. *Behavior Therapy, 34*(4), 553-571.
- Domitrovich, C. E., Gest, S. D., Jones, D., Gill, S., & DeRousie, R. M. S. (2010). Implementation quality: Lessons learned in the context of the Head Start REDI trial. *Early Childhood Research Quarterly, 25*(3), 284-298.
doi:10.1016/j.ecresq.2010.04.001
- Dufrene, B. A., Lestremau, L., & Zoder-Martell, K. (2014). DIRECT BEHAVIORAL CONSULTATION: EFFECTS ON TEACHERS' PRAISE AND STUDENT DISRUPTIVE BEHAVIOR. *Psychology in the Schools, 51*(6), 567-580.
doi:10.1002/pits.21768
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions. *Child Development, 82*(1), 405-432. doi:10.1111/j.1467-8624.2010.01564.x
- Eccles, M. P., & Mittman, B. S. (2006). Welcome to implementation science. *Implementation Science, 1*(1), 1-1. doi:10.1186/1748-5908-1-1
- Embry, D. D. (2002). A scientific and research history of the PAX (Good Behavior) Game. *PAXIS Institute, Clinical Child and Family Psychology Review, 5*, 273-297.

- Emmer, E. T., & Stough, L. M. (2001). Classroom management: A critical part of educational psychology, with implications for teacher education. *Educational Psychologist, 36*(2), 103-112.
- Evertson, C. M., & Weinstein, C. S. (2006). Classroom management as a field of inquiry. *Handbook of classroom management: Research, practice, and contemporary issues, 3-16.*
- Fallon, L. M., Collier-Meek, M. A., Maggin, D. M., Sanetti, L. M., & Johnson, A. H. (2015). Is performance feedback for educators an evidence-based practice? A systematic review and evaluation based on single-case research. *Exceptional Children, 81*(2), 227-246.
- Forman, S., Olin, S. S., Hoagwood, K., Crowe, M., & Saka, N. (2009). Evidence-Based Interventions in Schools: Developers' Views of Implementation Barriers and Facilitators. *School Mental Health, 1*(1), 26-36. doi:10.1007/s12310-008-9002-5
- Forman, S. G., Shapiro, E. S., Coddling, R. S., Gonzales, J. E., Reddy, L. A., Rosenfield, S. A., . . . Stoiber, K. C. (2013). Implementation science and school psychology. *School Psychology Quarterly, 28*(2), 77.
- Friedman, I. A. (2006). Classroom management and teacher stress and burnout. *Handbook of classroom management: Research, practice, and contemporary issues, 925-944.*
- Fullerton, E. K., Conroy, M. A., & Correa, V. I. (2009). Early Childhood Teachers' Use of Specific Praise Statements With Young Children at Risk for Behavioral Disorders. *Behavioral Disorders, 34*(3), 118-135.
- Gonzalez, L., Brown, M. S., & Slate, J. R. (2008). Teachers who left the teaching profession: A qualitative understanding. *The qualitative report, 13*(1), 1-11.
- Greenbaum, P. E., & Dedrick, R. F. (1996). National Adolescent and Child Treatment Study (NACTS): Outcomes for children with serious. *Journal of Emotional & Behavioral Disorders, 4*(3), 130.
- Guardino, C. A., & Fullerton, E. (2010). Changing Behaviors by Changing the Classroom Environment. *Teaching Exceptional Children, 42*(6), 8-13.
- Gunter, P., Jack, S., Depaepe, P., Reed, T., & Harrison, J. (1994). Effects of Challenging Behaviors of Students With EBD on Teacher Instructional Behavior. *Preventing School Failure: Alternative Education for Children and Youth, 38*(3), 35-39. doi:10.1080/1045988X.1994.9944312

- Gunter, P. L., & Coutinho, M. J. (1997). Negative reinforcement in classrooms: What we're beginning to learn. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, 20(3), 249-264.
- Gunter, P. L., & Denny, R. K. (1996). Research Issues and Needs Regarding Teacher Use of Classroom Management Strategies. *Behavioral Disorders*, 22(1), 15-20.
- Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching: Theory and Practice*, 8(3), 381-391.
- Hardman, E., & Smith, S. W. (1999). Promoting positive interactions in the classroom. *Intervention in School and Clinic*, 34(3), 178-180.
- Haydon, T., Conroy, M. A., Scott, T. M., Sindelar, P. T., Barber, B. R., & Orlando, A.-M. (2010). A comparison of three types of opportunities to respond on student academic and social behaviors. *Journal of Emotional and Behavioral Disorders*, 18(1), 27-40.
- Hemmeter, M. L., Snyder, P., Kinder, K., & Artman, K. (2011). Impact of performance feedback delivered via electronic mail on preschool teachers' use of descriptive praise. *Early Childhood Research Quarterly*, 26(1), 96-109.
doi:10.1016/j.ecresq.2010.05.004
- Henderson, K., Klein, S., Gonzalez, P., & Bradley, R. (2005). Teachers of Children With Emotional Disturbance: A National Look at Preparation, Teaching Conditions, and Practices. *Behavioral Disorders*, 31(1), 6-17.
- Henson, R. K. (2001). *Teacher Self-Efficacy: Substantive Implications and Measurement Dilemmas*. Paper presented at the Annual Meeting of the Educational Research Exchange, College Station, TX.
- Hood-Smith, N. E., & Leffingwell, R. J. (1983). The Impact of Physical Space Alteration on Disruptive Classroom Behavior: A Case Study (Vol. 104, pp. 224). Mobile, AL: Project Innovation, Inc.
- Horner, R. H., Carr, E. G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children*, 71(2), 165-179.
- Huston-Stein, A., Friedrich-Cofer, L., & Susman, E. J. (1977). The Relation of Classroom Structure to Social Behavior, Imaginative Play, and Self-Regulation of Economically Disadvantaged Children. *Child Development*, 48(3), 908-916.
doi:10.1111/j.1467-8624.1977.tb01247.x

- Ialongo, N., Poduska, J., Werthamer, L., & Kellam, S. (2001). The Distal Impact of Two First-Grade Preventive Interventions on Conduct Problems and Disorder in Early Adolescence. *Journal of Emotional and Behavioral Disorders, 9*(3), 146-160. doi:10.1177/106342660100900301
- Israel, M., Carnahan, C. R., Snyder, K. K., & Williamson, P. (2012). Supporting new teachers of students with significant disabilities through virtual coaching: A proposed model. *Remedial and Special Education, 0741932512450517*.
- Johnson, T. C., Stoner, G., & Green, S. K. (1996). Demonstrating the Experimenting Society Model with Classwide Behavior Management Interventions. *School Psychology Review, 25*(2), 199-214.
- Joyce, B. R., & Showers, B. (2002). *Student achievement through staff development [electronic resource]* (Vol. 3rd). Alexandria, VA: Association for Supervision and Curriculum Development.
- Kam, C.-M., Greenberg, M. T., & Kusché, C. A. (2004). Sustained Effects of the PATHS Curriculum on the Social and Psychological Adjustment of Children in Special Education. *Journal of Emotional and Behavioral Disorders, 12*(2), 66-78. doi:10.1177/10634266040120020101
- Kauffman, J. M. (2005). How we prevent the prevention of emotional and behavioural difficulties in education. *Handbook of emotional and behavioural difficulties, 429-440*.
- Kazdin, A. E., & Klock, J. (1973). The effect of nonverbal teacher approval on student attentive behavior. *Journal of Applied Behavior Analysis, 6*(4), 643-654.
- Kern, L., & Clemens, N. H. (2007). Antecedent strategies to promote appropriate classroom behavior. *Psychology in the Schools, 44*(1), 65.
- Kilgore, K., Griffin, C., Otis-Wilborn, A., & Winn, J. (2003). The problems of beginning special education teachers: Exploring the contextual factors influencing their work. *Action in Teacher Education, 25*(1), 38-47.
- Klingner, J. K., Ahwee, S., Pilonieta, P., & Menendez, R. (2003). Barriers and facilitators in scaling up research-based practices. *Exceptional Children, 69*(4), 411-429.
- Knight, J. (2009). Coaching: The Key to Translating Research into Practice Lies in Continuous, Job-Embedded Learning with Ongoing Support. *Journal of Staff Development, 30*(1), 18-20.
- Kretlow, A. G., & Bartholomew, C. C. (2010). Using coaching to improve the fidelity of evidence-based practices: A review of studies. *Teacher Education and Special*

Education: The Journal of the Teacher Education Division of the Council for Exceptional Children.

- Laut, J. (1999). Classroom Management: Beliefs of Preservice Teachers and Classroom Teachers Concerning Classroom Management Styles.
- Lewis, T. J., Colvin, G., & Sugai, G. (2000). The Effects of Pre-Correction and Active Supervision on the Recess Behavior of Elementary Students. *Education & Treatment of Children, 23*(2), 109.
- Lewis, T. J., & Sugai, G. (1999). Effective behavior support: A systems approach to proactive schoolwide management. *Focus on Exceptional Children, 31*(6), 1-24.
- MacSuga-Gage, A. S., & Gage, N. A. (2015). Student-level effects of increased teacher-directed opportunities to respond. *Journal of Behavioral Education*. doi:10.1007/s10864-015-9223-2
- MacSuga-Gage, A. S., & Simonsen, B. (2015). Examining the Effects of Teacher-Directed Opportunities to Respond on Student Outcomes: A Systematic Review of the Literature. *Education & Treatment of Children, 38*(2), 211-239.
- Mayer, G. R. (1995). Preventing antisocial behavior in the schools. *Journal of Applied Behavior Analysis, 28*(4), 467-478. doi:10.1901/jaba.1995.28-467
- McLeskey, J., Tyler, N. C., & Saunders Flippin, S. (2004). The Supply of and Demand for Special Education Teachers: A Review of Research Regarding the Chronic Shortage of Special Education Teachers. *Journal of Special Education, 38*(1), 5-21.
- Melnick, S. A., & Meister, D. G. (2008). A Comparison of Beginning and Experienced Teachers' Concerns. *Educational Research Quarterly, 31*(3), 39-56.
- Miller, W., & Rollnick, S. (2002). Motivational interviewing: Preparing people for change Guilford. *New York*.
- Morrison, T. L. (1979). Classroom structure, work involvement, and social climate in elementary school classrooms. *Journal of educational psychology, 71*(4), 471-477. doi:10.1037/0022-0663.71.4.471
- Myers, D. M., Simonsen, B., & Sugai, G. (2011). Increasing teachers' use of praise with a response-to-intervention approach. *Education and Treatment of Children, 34*(1), 35-59.
- Noell, G. H., Witt, J. C., Gilbertson, D. N., Ranier, D. D., & Freeland, J. T. (1997). Increasing teacher intervention implementation in general education settings

- through consultation and performance feedback. *School Psychology Quarterly*, 12(1), 77.
- Oliver, R. M., & Reschly, D. J. (2010). Special Education Teacher Preparation in Classroom Management: Implications for Students With Emotional and Behavioral Disorders. *Behavioral Disorders*, 35(3), 188-199.
- Park, H.-S. L., & Lynch, S. A. (2014). Evidence-Based Practices for Addressing Classroom Behavior Problems. *Young Exceptional Children*, 17(3), 33-47. doi:10.1177/1096250613496957
- Pisacreta, J. (2011). Increasing Teachers' Use of a 1:1 Praise-to-Behavior Correction Ratio to Decrease Student Disruption in General Education Classrooms. *Behavioral Interventions*, 26(4), 243-260. doi:10.1002/bin.341
- Reinke, W. M., Herman, K. C., Darney, D., Pitchford, J., Becker, K., Domitrovich, C., & Ialongo, N. (2012). Using the classroom check-up model to support implementation of PATHS to PAX. *Advances in School Mental Health Promotion*, 5(3), 220-232.
- Reinke, W. M., Herman, K. C., & Sprick, R. (2011). *Motivational interviewing for effective classroom management: The classroom check-up*. Guilford Press.
- Reinke, W. M., Lewis-Palmer, T., & Merrell, K. (2008). The Classroom Check-Up: A Classwide Teacher Consultation Model for Increasing Praise and Decreasing Disruptive Behavior. *The School Psychology Review [H.W. Wilson - EDUC]*, 37(3), 315.
- Reynolds, C. R. (2004). *Behavior assessment system for children*: Wiley Online Library.
- Riley-Tillman, T. C., Chafouleas, S. M., Eckert, T. L., & Kelleher, C. (2005). Bridging the gap between research and practice: A framework for building research agendas in school psychology. *Psychology in the Schools*, 42(5), 459-473.
- Ritter, J. T., & Hancock, D. R. (2007). Exploring the relationship between certification sources, experience levels, and classroom management orientations of classroom teachers. *Teaching and Teacher Education*, 23(7), 1206-1216.
- Rosenberg, M. S. (1986). Maximizing the effectiveness of structured classroom management programs: Implementing rule-review procedures with disruptive and distractible students. *Behavioral Disorders*, 239-248.
- Scheeler, M. C., McAfee, J. K., Ruhl, K. L., & Lee, D. L. (2006). Effects of Corrective Feedback Delivered via Wireless Technology on Preservice Teacher Performance and Student Behavior. *Teacher Education and Special Education: The Journal of*

the Teacher Education Division of the Council for Exceptional Children, 29(1), 12-25. doi:10.1177/088840640602900103

- Scheeler, M. C., Ruhl, K. L., & McAfee, J. K. (2004). Providing performance feedback to teachers: A review. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, 27(4), 396-407.
- Scott, T. M., Alter, P. J., & Hirn, R. G. (2011). An Examination of Typical Classroom Context and Instruction for Students With and Without Behavioral Disorders. *Education and Treatment of Children*, 34(4), 619-641.
- Shores, R. E., Gunter, P. L., Denny, R. K., & Jack, S. L. (1993). Classroom influences on aggressive and disruptive behaviors of students with emotional and behavioral disorders. *Focus on Exceptional Children*, 26(2), 1-10.
- Shores, R. E., Jack, S. L., Gunter, P. L., Ellis, D. N., DeBriere, T. J., & Wehby, J. H. (1993). Classroom Interactions of Children with Behavior Disorders. *Journal of Emotional and Behavioral Disorders*, 1(1), 27-39.
- Simonsen, B., Fairbanks, S., Briesch, A., Myers, D., & Sugai, G. (2008). Evidence-based Practices in Classroom Management: Considerations for Research to Practice. *Education & Treatment of Children*, 31(3), 351-380.
- Simonsen, B., & Myers, D. (2014). *Classwide Positive Behavior Interventions and Supports: A Guide to Proactive Classroom Management*. Guilford Publications.
- Skinner, B. (1969). Contingency of reinforcement. *A theoretical analysis*. Appleton-Century-Crofts, New York.
- Smith, S. C., Lewis, T. J., & Stormont, M. (2011). The Effectiveness of Two Universal Behavioral Supports for Children With Externalizing Behavior in Head Start Classrooms. *Journal of Positive Behavior Interventions*, 13(3), 133-143. doi:10.1177/1098300710379053
- Stichter, J. P., Lewis, T. J., Johnson, N., & Trussell, R. (2004). Toward a Structural Assessment: Analyzing the Merits of an Assessment Tool for a Student with E/BD. *Assessment for Effective Intervention*, 30(1), 25-40. doi:10.1177/073724770403000103
- Stichter, J. P., Lewis, T. J., Richter, M., Johnson, N. W., & Bradley, L. (2006). Assessing antecedent variables: The effects of instructional variables on student outcomes through in-service and peer coaching professional development models. *Education and Treatment of Children*, 665-692.

- Stokes, T. F., & Baer, D. M. (1977). An implicit technology of generalization. *Journal of Applied Behavior Analysis, 10*(2), 349.
- Stormont, M., & Reinke, W. (2009). The Importance of Precorrective Statements and Behavior-Specific Praise and Strategies to Increase Their Use. *Beyond Behavior, 18*(3), 26-32.
- Stormont, M., Reinke, W. M., Newcomer, L., Marchese, D., & Lewis, C. (2015). Coaching Teachers' Use of Social Behavior Interventions to Improve Children's Outcomes: A Review of the Literature. *Journal of Positive Behavior Interventions, 17*(2), 69-82.
- Stormshak, E. A., & Dishion, T. J. (2002). An ecological approach to child and family clinical and counseling psychology. *Clinical Child and Family Psychology Review, 5*(3), 197-215.
- Stough, L. M. (2006). The place of classroom management and standards in teacher education. *Handbook of classroom management: Research, practice, and contemporary issues, 909-923.*
- Stuart, G. W., Tondora, J., & Hoge, M. A. (2004). Evidence-based teaching practice: Implications for behavioral health. *Administration and Policy in Mental Health and Mental Health Services Research, 32*(2), 107-130.
- Sugai, G., & Horner, R. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child & Family Behavior Therapy, 24*(1-2), 23-50.
- Sutherland, K. S., Alder, N., & Gunter, P. L. (2003). The Effect of Varying Rates of Opportunities to Respond to Academic Requests on the Classroom Behavior of Students with EBD. *Journal of Emotional and Behavioral Disorders, 11*(4), 239-248. doi:10.1177/10634266030110040501
- Sutherland, K. S., & Oswald, D. P. (2005). The relationship between teacher and student behavior in classrooms for students with emotional and behavioral disorders: Transactional processes. *Journal of Child and Family Studies, 14*(1), 1-14.
- Sutherland, K. S., Wehby, J. H., & Copeland, S. R. (2000). Effect of Varying Rates of Behavior-Specific Praise on the On-Task Behavior of Students with EBD. *Journal of Emotional and Behavioral Disorders, 8*(1), 2-8.
- Sutherland, K. S., Wehby, J. H., & Yoder, P. J. (2002). Examination of the Relationship Between Teacher Praise and Opportunities for Students with EBD to Respond to Academic Requests. *Journal of Emotional and Behavioral Disorders, 10*(1), 5-13. doi:10.1177/10634266021000102

- U.S. Department of Education, N. C. f. E. S. (2015). *Digest of Education Statistics, 2013* (2015-011). Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=64>
- Van Acker, R., & Grant, S. H. (1996). Teacher and student behavior as a function of risk for aggression. *Education & Treatment of Children (ETC)*, 19(3), 316.
- Van Houten, R. (1980). *Learning through feedback: A systematic approach for improving academic performance*: Human Sciences Press.
- Wagner, M., Friend, M., Bursuck, W. D., Kutash, K., Duchnowski, A. J., Sumi, W. C., & Epstein, M. H. (2006). Educating Students with Emotional Disturbances: A National Perspective on School Programs and Services. *Journal of Emotional and Behavioral Disorders*, 14(1), 12-30.
- Wagner, M., Kutash, K., Duchnowski, A. J., & Epstein, M. H. (2005). The Special Education Elementary Longitudinal Study and the National Longitudinal Transition Study Study Designs and Implications for Children and Youth With Emotional Disturbance. *Journal of Emotional and Behavioral Disorders*, 13(1), 25-41.
- Wagner, M., Newman, L., Cameto, R., Levine, P., & Garza, N. (2006). *An Overview of Findings from Wave 2 of the National Longitudinal Transition Study-2 (NLTS2)*. Retrieved from Menio Park, CA:
- Walker, H., Colvin, G., & Ramsey, E. (1995). Antisocial behavior in school settings. *Pacific Grove, CA: Brooks/Cole*.
- Wehby, J. H., Symons, F. J., & Shores, R. E. (1995). A descriptive analysis of aggressive behavior in classrooms for children with emotional and behavioral disorders. *Behavioral Disorders*, 87-105.
- Wehby, J. H., Symons, Frank J. and Canale, Jennifer A. (1998). Teaching practices in classrooms for students with emotional and behavioral disorders: discrepancies between recommendations and observations. *Behavioral Disorders*, 24(1), 51-56.
- Weist, M. D., Stiegler, K., Stephan, S., Cox, J., & Vaughan, C. (2010). School mental health and prevention science in the Baltimore City schools. *Psychology in the Schools*, 47(1), 89-100.
- Westling, D. L. (2010). Teachers and Challenging Behavior: Knowledge, Views, and Practices. *Remedial and Special Education*, 31(1), 48-63.
doi:10.1177/0741932508327466
- Witt, J. C., Noell, G. H., LaFleur, L. H., & Mortenson, B. P. (1997). Teacher use of interventions in general education settings: Measurement and analysis of the independent variable. *Journal of Applied Behavior Analysis*, 30(4), 693-696.

Witt, J. C., VanDerHeyden, A. M., & Gilbertson, D. (2004). Troubleshooting behavioral interventions: A systematic process for finding and eliminating problems. *School Psychology Review*, 33(3), 363.

Appendix A

Values Card Sort

Values Card Sort

Values Card Sort Steps:

- (1) Use the value list below to generate a pack of individual cards. You can do this by printing each value on a separate index card or by printing each on a label and then putting each label on an index card. There is also an “Other” card that teachers can use if they find an important value missing.

Some people laminate the cards for repeated use.

- (2) During the *Getting to Know You Interview*, tell the teacher you will be using an exercise to help you learn more about what is most important to him or her in life. Give the teacher the cards and ask him or her to sort them into those three piles based on their values and their goals for their classroom. Have the teacher sort the cards into 3 side-by-side piles that are labeled Very Important, Important, and Less Important:

Pile 1= *Very Important*

Pile 2= *Important*

Pile 3= *Less important*

- (3) Once finished, pick up the *Very Important* pile and ask the teacher to re-sort, pulling out the top five cards in that stack. Do not be concerned if the teacher cannot further edit the Very Important stack, or ends up with more than five cards, or fewer.
- (4) Ask the teacher to pick out their three most important values from the *Very Important* pile.
- (5) Invite the teacher to discuss why the final three values are their most important values. Discuss at least the top 3 values in detail.

Goals of Top 3 Values Discussion:

- The goal is to facilitate a discussion in which the teacher’s values are affirmed, linked to current versus ideal classroom behaviors, and linked to current versus ideal classroom management practices.
- Use the cards to ask open-ended questions about why the teacher picked the card, what it means to them personally, how they know they have this value or goal (e.g., what do they see in their life that convinces them this is important), and how this relates to the target behavior (effective classroom management).

- Listen for examples of classroom practices that do not fit with their stated values and ideals. Reflect these examples by validating their struggles, affirming their commitment to their values, and evoking arguments for change.
- Facilitate a conversation that directly links the identified values to the teacher's ideals of self and life generally, and experiences and exceptions of school and teaching, specifically.
- This exercise will facilitate a discussion of values and goals between you and the teacher. It is intended to develop a discrepancy between a deeply held belief and a current behavior so that motivational interviewing can move forward (see Coaching Skills section).

Field Notes:

Please do not be overly concerned or meticulous about procedural details. The content of the cards selected by the teacher does not really matter either, and can be expected to change from time to time in any case. We do not recommend bypassing the cards in favor of using the values and goals as a list. There is something about the sorting itself that is very powerful in this exercise.

The Values Card Sort is conducted during the *Getting to Know You Interview* of the Classroom Check-Up. The activity description was adapted from Frey et al.'s (2013) *Enhancements for the First Step to Success*, and based on the work of Theresa B. Moyers and Steve Martino (2006). The original card sort activity was developed by W.R. Miller, J. C'de Baca, D.B. Matthews, & P. L. Wilbourne (2001).

Teacher Value Card Sort Cards

Accepting Differences in People	Being a Good Teacher
Working Hard	Taking Time for Myself
Being Organized	Being Happy
Not Giving Up	Being Healthy
Being Honest	Being Responsible
Being Liked By Everyone	Being a Leader
Being Respected By Others	Doing the Right Thing

Being a Life-Long Learner	Being a Role Model
Having Fun	Having a Safe Classroom
Feeling Good About Myself	Being a Good Colleague
Other:	Communicating Effectively
Being Aware of Personal Biases	Being Self Reflective
Relating to Students	Understanding Others
Being a Good Listener	Being Fair

Taking Care of My Family	Helping Others
Staying in Control	Making a Difference in the World
Being Real/Genuine	Being Patient
Being Kind	Being Flexible
Important	Very Important
Less Important	

Appendix B

Sample from CCU Classroom Assessment Observation Rubric

Sample CCU Observation Rubric

**CCU
Gathering Data**

Classroom	
Date	
Lesson Topic	
Start Time:	
Stop Time:	

Observe the classroom for 20 minutes tallying the number of times you hear teacher praise, teacher use of reprimands, teacher providing an OTR (i.e., academic question), and number of disruptive student behaviors. Take notes as you observe.

	Interval I (1-10 minutes)	Interval 2 (11-20 minutes)
Praise SPECIFIC		
Praise GENERAL		
Reprimand/ Correction		
Opportunity to Respond (OTR)		
Disruptive Behavior		
Notes:		
Assessing Student Engagement		
Give attention to how engaged the students are during the observation. Make a ball part estimate by looking up and determining approximately what percentage of students are were engaged on average during the first 10 minutes of the observation. Provide the same estimate for the next 10 minutes. Average the two estimate for your estimate of student engagement.		
	1-10 minutes	11-20 minutes
In general, what percentage of students were engaged during instruction?		

5	4	3	2	1	0
Traffic patterns are clearly defined, allowing movement without disrupting others.	Traffic patterns are defined, but some obstacles are present that prevent access to certain materials or areas of room.		Traffic patterns do not provide best route to needed materials or equipment.	No clear traffic patterns.	
No clutter.	Minimal clutter present.	Some clutter, but the room is not crowded.	Room is cluttered and crowded.	Excessive clutter and crowding.	
The teacher has access to all areas of room.	Teacher is able to access most areas of the room.	Teacher can get to students by navigating the room with some difficulty due to obstacles that prevent smooth movement.	Teacher cannot actively supervise students due to difficulties with accessing several areas as needed.	Teacher is unable to access all areas of the room.	
Students can be seen at all times.			From certain angles some students may be hard to view.	Students are hidden and cannot be seen in some areas.	
Classroom materials are labeled, organized and easily accessible to all students.	Most classroom materials are labeled, organized and easily accessible.	Some materials are organized and labeled, and readily accessible to students.	Some materials are organized with some labeling, but not readily accessible to students.	Labeling of materials is utilized, but only minimally.	No clear organization to materials.
Notes:					

5	4	3	2	1	0
5 or fewer classroom rules.					
All rules are specific, observable, and positively stated.	Most of the rules are specific, observable, and positively stated.	Some rules are not stated positively, but are specific and observable.	Some rules are not stated positively, and are not specific, or observable.	Rules only provide expectations of what not to do.	No clear classroom rules exist.
Rule are prominently posted in an area of the classroom for all to see.					
Grades K-1 only: K-1 classrooms use visuals alongside written rules to support comprehension of younger students.		Grades K-1 only: Visual display (pictures) of what each rule implies is missing.			
Behavioral expectations corresponding to rules exist and are consistently applied.		Behavioral expectations corresponding to rules exist but are applied inconsistently.	Behavioral expectations to some rules but not all appear to exist but are inconsistently applied.	Behavioral expectations corresponding to rules are unpredictably applied.	Students do not appear to be aware of rules or behavioral expectations.
Notes:					

Appendix C

CCU Teacher Interview Form

Classroom Check-Up Teacher Interview

Preparation dialogue with teacher. “I wanted to meet with you briefly today to ask you a few questions. These questions will allow me to get to know you better and give me an idea of your classroom management style. We will also talk a little bit about any past experiences you have had in receiving feedback and support to improve your teaching. Before we start, do you have any questions?”

I. Teacher Experience

1. What was it that made you want to become a teacher?
2. How long have you been a teacher? Have you always taught this grade level?
3. What do you think is the best thing about being a teacher?
4. What do you find to be the most challenging thing about being a teacher?

**Provide a brief summary of the discussion so far. You can also build rapport by connecting personally and normalizing the challenges faced by the teacher.*

II. Card Sort Activity

“Now I would like to do an activity together. It is fun and will let me get to know you better. I have a set of cards (show the teacher the cards). Each card has a value or quality listed on the front. I would like you to go through the cards and sort them into three piles. You will make a pile of cards that represent values or qualities that are most important to you, somewhat important, and less important. When you are done we will talk about the cards you have selected as most important.”

***Conduct the Values Card Sort Activity**

Write down the top 3 most important values to the teacher:

1. _____
2. _____
3. _____

**Provide a brief summary of the values discussion.*

III. Classroom Management Style

“Now I am going to ask you a few questions about how you manage student behavior in your classroom.”

1. How would you describe your current classroom management style?

What do you consider to be areas of strength with regard to your management style?

What are some challenges that you face?
2. (Rules) Do you have classroom rules? If so, what are those rules?
3. How do you go about teaching students your classroom rules? How often do you teach them?
4. (Routines) Do you have clear expectations for classroom routines (e.g., morning routines, lining up, end of day)? (If yes) Can you briefly describe the expectations and how you teach your students?
5. (Attention Signal) Do you use any signals in your classroom to gain the attention of students? (If yes) Can you describe the signals, when you use them, and how you teach the students?
6. Do you use reward systems in your classroom? If so, what do those systems look like?
7. (Relationship Building) What are some things that you do in your classroom to build positive relationships with your students?
8. How do you manage misbehavior in your classroom?
9. When working with a student with difficult behavior, what strategies have you found to be most effective for you? What strategies have you found to be ineffective?

*Provide a brief summary of the discussion in this section. You can also connect to the teacher by giving examples of shared experiences (if brief and appropriate) and by normalizing difficulties.

IV. Discussion of Ideal Classroom

1. If you were to picture your ideal classroom, what would that look like?
2. What do you hope the students in your classroom remember about you?

*Provide a brief summary that connects to earlier stated values if relevant.

V. Past Experiences

“I have just a few more questions about your experiences you have had in the past with coaching, mentoring, or with someone giving you feedback and working with you to improve your teaching.”

1. What has been your past experience with coaching or mentoring?

What did you find helpful?

What, if anything, did you find not helpful?

*Describe the next steps using the CCU Model.

“Let me briefly describe what we will be doing together. We are going to work together to identify some areas of improvement with regard to classroom management. The first thing I would like to do is come to your classroom and observe. During the observation I will be gathering information that will help us to figure out what specific strategies you might want to try out in your classroom. When I visit I will be looking at how the classroom is arranged, how you use praise and reprimands, and how students are behaving with regard to the number and types of disruptions and their level of engagement. ***Any of the information I gather will only be shared with you and not used to evaluate you in any way.*** After I gather this information we will meet to review it together. We will look to see if there are any areas that you want to improve or identify a new strategy you might want to try in your classroom. I will also come back to visit to see how things are going. Do you have any questions or concerns?”

Appendix D

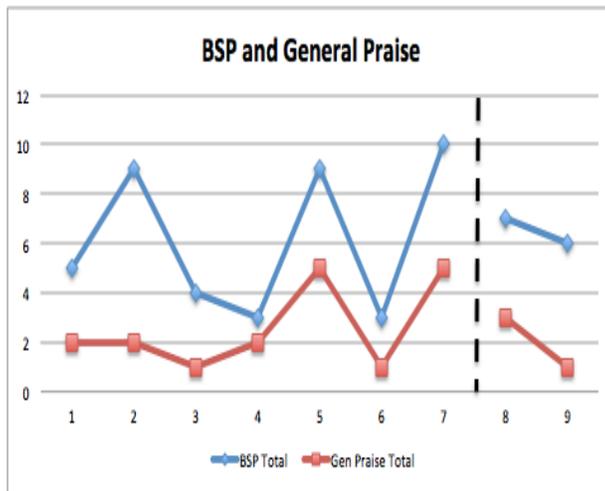
Sample Performance Feedback Email

Kim,

Below you will see the feedback form and data from today's observation. The top chart shows total behavior specific praise (BSP) in blue and total general praise (GP) in red. Sessions 1-7 are baseline and session 8 is today's data.

BSP went down from 7 to 6. General praise went down from 3 instances to 1. I think today was different because of the activity you were doing. There were missed opportunities, however, to provide praise during the basketball activity and during the math/shopping. Keep using your reminder sheet and finding times you can use BSP to acknowledge appropriate behavior or to replace reprimands.

Keep working at it!
 Jennifer M. McKenzie
 Doctoral Candidate
 Department of Special Education
 University of Missouri - Columbia
jm8rd@mail.missouri.edu
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Use of Praise	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of Reprimands	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positive to Negative Ratio	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix E

Sample Strategy Tool

Behaviors to “Catch”	BSP Statement
Safe	“Thank you for being safe by keeping all your chair legs on the floor.”
Respectful	“Thank you for _____. That was very respectful.” Or “That shows respect to_____.” “I see your eyes are on me while I’m teaching.”
Problem-solver	“I noticed you asked to borrow a pencil when you didn’t have one. Nice problem-solving!”
Other:	

You can also set a goal for yourself and keep some simple data (like tally marks), if you want.

During the 20-minute reading time, I will give at least _____ behavior specific praise statements per student, for a total of _____ BSP statements in 20 minutes.

Behaviors to “Catch”	DATE	DATE	DATE	DATE	DATE
Safe					
Respectful					
Problem-solver					
Other:					

Appendix F

Sample Teacher Self-Monitoring Form

Teacher Self-Monitoring Form:

1. Write in the date for each day this week. 2. Write in the strategies to be used. 3. Check off those strategies that you use each day and/or goals that you meet. 4. Provide comments about any challenges or successes encountered. 5. SEND VIA DAILY EMAIL TO JEN MCKENZIE					
Strategy:	Date: 4/14	Date: 4/18	Date: 4/19	Date: 4/20	Date:
1. Use BSP to recognize appropriate behavior when others are misbehaving	<input type="checkbox"/>				
2. Use BSP to recognize: <ul style="list-style-type: none"> • quiet, on-task talking • independent/high quality work • encouraging words/ignoring peers 	<input type="checkbox"/>				
3. Other:	<input type="checkbox"/>				
Comments:					

Reinke, Wendy M, & Herman, Keith C. (2011). *Motivational interviewing for effective classroom management: The classroom check-up*. Guilford Press

Appendix G

Teacher Interview Fidelity Checklist

Teacher Interview Fidelity Checklist

Put a check next to each item that you hear while listening to the audio recording of each teacher interview.

Preparation Dialogue with Teacher (sounds similar to below)

_____ “I wanted to take just a bit of your time to ask you a few questions that will allow me to get to know you better and provide me with an idea about your classroom management style. Additionally, I plan to ask you some questions about your past consultation experiences, if any, provide you with an opportunity to share any classroom difficulties in which you would like support.”

_____ “I will be audio recording our conversations to ensure consistency between teachers. Any information I gather will be shared only with you and will not be used to evaluate you in any way. Do you have any questions?”

I. Teacher Experience

_____ What do you think it was that made you want to become a teacher?

_____ How long have you been a teacher? How long have you taught this grade level?

_____ What is the best thing about being a teacher?

_____ What do you think is the most challenging thing about being a teacher?

_____ *Before moving forward, you might provide a brief summary of the conversation thus far. Connect personally with the teacher by giving examples of shared experiences (if appropriate) and normalizing difficulties.*

II. Values Card Sort _____

III. Classroom Management Style

“The next few questions will be about how you manage behavior in your classroom.”

_____ How would you describe your current classroom management style?

_____ What do you consider to be areas of strength with regard to your management style?

_____ What are some challenges that you face?

_____ Do you have a set of classroom rules? If so, what are those rules?

_____ How do you go about teaching students your classroom rules?
How often do you teach them?

_____ Do you have clear expectations for classroom routines? (If yes)
Can you briefly describe the expectations and how you teach your students?

_____ Do you use any signals in your classroom to gain the attention of students? (If yes) Can you describe the signals, when you use them, and how you teach them to the students?

_____ What are some things that you do in your classroom to build positive relationships with your students?

_____ How do you manage misbehavior in your classroom?

_____ When working with a student with difficult behavior, what strategies have you found to be most effective for you? What strategies have you found to be ineffective?

_____ *This may be a good place to provide a brief summary of the discussion. Connecting personally and normalizing challenges can be helpful in developing rapport.*

IV. The Ideal Classroom

“We have been discussing many aspects of your classroom. In this next section, I would like you to picture your ideal classroom.”

_____ What would this classroom look like?

_____ What do you hope the students from your classroom remember about you as their teacher?

_____ *Briefly summarize before moving to the next section*

V. Past Consultation/Coaching Experiences and Description of CCU Model

_____ What has been your past experience with coaching and/or consultation?

_____ What did you find helpful/not helpful?

_____ *Describe the CCU Model:*

*“Let me briefly describe what we will be doing together. We are going to work together to identify some areas of improvement with regard to classroom management. The first thing I would like to do is come to your classroom and observe. During the observation I will be gathering information that will help us to figure out what specific strategies you might want to try out in your classroom. When I visit I will be looking at how the classroom is arranged, how you use praise and reprimands, and how students are behaving with regard to the number and types of disruptions and their level of engagement. **Any of the information I gather will only be shared with you and not used to evaluate you in any way.** After I gather this information we will meet to review it together. We will look to see if there are any areas that you want to improve or identify a new strategy you might want to try in your classroom. Trained data collectors will then make regular visits to collect data and I will then provide you with feedback via email. If things aren't going as well as planned, we can brainstorm other ideas via email. Do you have any questions or concerns?”*

Appendix H

Social Validity and Teacher Feedback Questionnaire

Social Validity and Teacher Feedback Survey

These questions will be entered into Qualtrics and responses will be given in the form of a Likert scale.

1. How important do you believe the goals of the coaching and intervention in classroom management to be?
2. In your opinion, how effective was the intervention?
3. In your opinion, how intrusive was the intervention?
4. Was the amount of time, resources, and effort required of you to implement this intervention reasonable?
5. How confident are you that you will be able to continue to effectively implement classroom management strategies developed from consultation?
6. How confident are you that classroom management strategies developed from consultation will benefit your students?
7. Overall, what is your general reaction to this intervention?
8. Please indicate the degree to which you agree or disagree with each statement below:
 - a. If I try really hard, I can get through to even the most difficult and unmotivated student.
 - b. When it comes right down to it, a teacher can't do much because most of a student's motivation and performance depends on his/her home environment.
9. How important do you think receiving feedback on your teaching?
10. How effective were/are your targeted classroom management skills (e.g., praise, opportunities to respond, teaching and reinforcing classroom routines)
 - a. *Before* the study?
 - b. *After* the study?
11. How helpful did you find the initial, face-to-face feedback on the data collected for your classroom?

12. How helpful did you find the consultation information provided by Jen?
13. How effective did you feel the visual feedback (daily graphs) was in helping you meet your classroom management strategy implementation goals?
14. Was the format of the feedback (visual/graphs) you received helpful / appropriate for your needs?
15. Was the format of the feedback (via email) you received appropriate for your needs?
16. Was the frequency in which you received feedback appropriate?
17. What did you like *least* about the study?
18. What did you like *best* about the study?

VITA

Jennifer McKenzie received her bachelor's degree in elementary and special education at Culver-Stockton College in Canton, Missouri in 1998 and her master's in secondary administration from William Woods University in Fulton, Missouri in 2006. She has held teaching positions in special education at a variety of grade levels and schools and served as a special education director for four years prior to beginning her Ph.D.. During her tenure as a special education compliance consultant with the Heart of Missouri Regional Professional Development Center, she discovered a passion for teacher training, especially in regard to student behavior challenges and classroom management. Her research interests center primarily on these areas, with a focus on teacher preparation and inservice training on evidence-based classroom management practices and Applied Behavior Analysis. She is currently seeking her Board Certified Behavior Analyst certificate.

Jennifer is married and has two children and two dogs. In her spare time, she loves camping, hiking, and fishing with her family. She currently resides in the small town of Centralia, Missouri, where she can tend a small garden and get to know all of the neighbors.