

# Training General Educators to Increase Behavior-Specific Praise: Effects on Students with EBD

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*ABSTRACT: Students identified with or at risk for Emotional/Behavioral Disabilities (EBD) are being included in the general education classroom with teachers who have little training or exposure to characteristics of and interventions for students with EBD. In this study, we used a simple professional development intervention to train teachers to better use behavior-specific praise (BSP) in their classroom. A modified multiple baseline design was conducted across four teachers and seven students. Three students were identified with EBD and four were considered at risk for EBD. The goal of the study was to increase the rate of BSP delivered to all students in the classroom and determine the effects of increased BSP on students with or at risk for EBD. Results of the study show that, following the teacher training, teachers increased BSP and target students increased their task engagement. In addition to increases in BSP, the use of corrective statements decreased following the training.*

■ Teachers report that issues related to challenging student behavior are the most stressful part of their professional lives (Jazaar, Lambert, & O'Donnell, 2007; Lambert, McCarthy, O'Donnell, & Wang, 2009; Scott, Park, Sawain-Bradway, & Landers, 2007). Furthermore, teachers often request assistance related to behavior management (Coalition for Psychology in Schools and Education, 2006; Gallup, 1998) due to many teachers feeling unprepared to manage misbehavior effectively (Clunies-Ross, Little, & Kienhuis, 2008). This feeling of unpreparedness can be compounded with the inclusion of students with emotional or behavioral disabilities (EBD). These students, by diagnosis, are confirmed to have behavioral challenges, which may impact teacher confidence in managing these students.

Although students with or at risk for EBD may exhibit challenging behavior, there are effective interventions that can support their engagement and success in the classroom. Incorporating these interventions into the teaching process may increase engagement and

appropriate behavior (Conroy, Sutherland, Snyder, Al-Hendawi, & Vo, 2009; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). One such strategy is the use of contingent teacher attention (Sutherland, Alder, & Gunter, 2003).

Teacher attention, in the form of behavior-specific praise (BSP), is one type of attention that has shown to be effective in previous studies to increase on-task behavior, task completion, and correct academic responses (Kirby & Shields, 1972; Sutherland & Wehby, 2001; Sutherland, Wehby, & Copeland, 2000), and compliance (Brophy, 1981). Behavior-specific praise can be defined as providing students with praise statements that explicitly describe the behavior being praised (see *Tables 1* and *2* for examples). Research on BSP has spanned decades with results suggesting that this type of teacher attention can positively affect student behavior (Brophy, 1981; Kirby & Shields, 1972; Sutherland & Wehby, 2001). More recently, research foci have shifted from demonstrating BSP effectiveness to training teachers to use BSP more frequently.

**TABLE 1**  
**Operational Definition of Teacher Statements**

Type of Statement	Definition	Examples
Behavior-Specific Praise	Audible statement that conveys explicit reference to a desirable behavior.	"Thank you for walking over here so quietly." "You are doing a good job of writing your letters." "I like how you are sitting crisscross applesauce."
Generic Praise	Audible statement that conveys general reference to a desirable behavior.	"Good job." "Way to go." "Fantastic Work."
Behavior-Specific Correction	Audible statement that conveys explicit reference to an undesirable behavior.	"Please quit talking." "Go back to your desk and walk over here." "Raise your hand, don't blurt out the answer."
Generic Correction	Audible statement that conveys general reference to undesirable behavior.	"Stop." "I am not going to tell you again."
Target Student Praise	Audible statement that uses a target student's name that conveys desirable behavior.	"Thanks for putting your book up Paul."
Target Student Correction	Audible statement that uses a target student's name that conveys undesirable behavior.	"Jill, turn around and sit down."

### Professional Development Packages to Support the Use of BSP

There have been a variety of studies examining professional development packages to support teachers' use of BSP. Typically, the package included some form of training followed by coaching and performance feedback (Chalk & Bizo, 2004; Reinke, Lewis-Palmer, & Martin, 2007; Sutherland et al., 2000). For example, Duchaine, Jolivette, and Fredrick (2011) examined the use of teacher coaching and written performance feedback on high school teachers' use of BSP and the effect on on-task behavior. Teachers were provided with a 45-minute training that used a PowerPoint defining BSP, offered benefits and examples of BSP, and a discussion of coaching. After each observation, teachers were given written performance feedback. Researchers also provided a 5-minute teacher coaching conference prior to every third observation session. Results suggested that all teachers met their goal of increasing BSP from baseline to posttraining and maintained these rates. Student on-task behavior did not change

from baseline to intervention, which the authors suggested may be due to a lack of sensitivity of data collection methods. The authors recommend using a more accurate measure of student on-task behavior.

Fullerton, Conroy, and Correa (2009) examined the effectiveness of a training designed to increase early childhood teachers' use of BSP to *specific* children identified at risk for EBD and measured target students' engagement and compliance. Each teacher received a 1.5-hour individual training session reviewing a researcher-designed training booklet on BSP that included information on operational definitions, explanation of how to use BSP, examples of BSP, and two verbal checks of the teacher's understanding of BSP. Teachers also viewed videotapes recorded during baseline, and identified situations where they might have used BSP. Teachers were provided with laminated cards containing self-selected BSP that were posted in conspicuous locations. Feedback on the use of BSP was provided using written notes or emails following each session during the intervention phase. All teachers increased their rate of BSP, which

**TABLE 2**  
**Examples and Non-Examples of Behavior Specific Praise**

Example	Non-Example
"Paul, I really like how you walked over here so quietly!"	"Paul, way to go!"
"Jill, thank you for raising your hand to speak."	"Well done."
"Jack, you are working on your assignment so quietly."	"Thank you."
"Tom is sitting crisscross applesauce, that's what I like to see!"	"I like that."

was accompanied by an increase in the target student's compliance and engagement. Teacher and child behavior also generalized to a second transition activity. Results supported the notion that teachers could increase BSP, which could improve appropriate student behavior.

Hawkins and Heflin (2011) examined the effects of video self-modeling (VSM) and visual performance feedback (VPF) on the rate and maintenance of BSP for high school students with EBD. Feedback was provided using a line graph and edited videotape. Results showed increased and sustained rates of BSP. Student behavior was not targeted in this study. While teachers were able to increase BSP there were no data to support impact on student behavior.

Myers, Simonsen, and Sugai (2011) examined the effects of a tiered approach to performance feedback within a professional development context. Researchers collected data on the rate of specific contingent praise statements, rate of general praise statements, rate of negative interactions, and ratio of positive to negative interactions. Tier 1 training consisted of a review of specific, contingent praise and a verbal recommendation on ideal rates of praise of 4:1. Tier 2 training consisted of brief consultation with rationale and examples of BSP, ratios of positive to negative interactions delivered during baseline, and weekly praise from the researcher contingent on improved rates of BSP. Tier 3 interventions consisted of daily interaction with the researcher that included providing scripts to use when praising, giving suggestions for self-prompts, modeling specific and contingent praise, and the delivery of daily data feedback. All teachers increased their BSP within differing levels of professional development support. Researchers did not target specific students; however, the data showed a downward trend in problem behavior in each classroom.

The studies described above demonstrate that professional development can increase the rate of BSP used by general and special education teachers. These studies provide important results about methods to teach general and special educators how to use BSP. A limitation in applying the previously discussed training packages is the intense coaching used to change teacher behavior. This level of intensity may not be feasible in many schools. It is important to examine whether less intensive training can improve the use of BSP. A second limitation of the

previous studies is that the effect of BSP on student behavior was not a primary focus. Although results from previous studies showed increases in BSP, there were mixed results on student behavior. Further extension of training and support on BSP is warranted, as well as further investigation of the effectiveness of training packages on student behavior.

This current study extends the previous work on the use of BSP in two ways. First, we apply a similar training methodology (i.e., provide definition, examples of BSP) to general education teachers who have students with or at risk for EBD included in their classes. Second, we target increasing BSP to the *entire* class and measure the effects on students with or at risk for EBD, as opposed to targeting the increase of BSP to students with EBD (Conroy et al., 2009) or measuring the effect on the entire class (Duchaine et al., 2011).

## Research questions

Three primary research questions directed this study. First, can providing a simple training on the purpose and function of BSP and limited feedback lead to increased use of BSP? Second, will increases in BSP to *all* students improve on-task behavior of students with or at risk for EBD? Finally, will increases in BSP decrease the rate of correction statements to *all* students?

## Methods

### Participants and Setting

One teacher–student dyad (i.e., 1 teacher and 1 student) and three teacher–student triads (i.e., 1 teacher and 2 students) served as participants in the study. Data were collected in general education classrooms located in two elementary schools in the Southwestern United States and one middle school in the Midwestern United States.

### Second Grade

Teacher 1, a Caucasian female, was a highly qualified, National Board Certified Teacher who did not hold special education certification. Her class consisted of 20 students and one paraprofessional. Paul was an 8-year old, Caucasian male who received special education services for EBD. Paul's least restrictive environment (LRE) was the general educa-

tion classroom, but he was removed from the classroom for aggression and/or noncompliance. Paul's teacher noted that he exhibited inattentive, aggressive, and noncompliant behaviors. Observations occurred during circle time from approximately 9:10–9:40 a.m.

### *Kindergarten*

Teacher 2 was a Caucasian female who was certified and highly qualified, but did not have credentialing in special education. Her class was made up of 18 students. Jill was a 5-year old Caucasian female who had been referred to the school's multidisciplinary evaluation team (MET) due to behavior challenges reported by her teacher. It was noted that she was often inattentive, did not follow the classroom rules, and frequently complained of somatic problems (e.g., headaches, stomachaches). Jack was a 6-year old Caucasian male in this kindergarten class. He was referred to the school's MET for challenging behavior such as noncompliance, inattentiveness, and excessive disruptions. Observations occurred during circle time from approximately 9:10–9:40 a.m.

### *First Grade*

Teacher 3, a Caucasian female, was a certified and highly qualified in elementary education, but not certified in special education. She taught 21 students, including Tom and Bill who were both 7-year old Caucasian males being reviewed by the MET for behavior challenges. According to the teacher, both students were inattentive and disruptive. Bill was also reported to be noncompliant and combative with the teacher. Observations occurred from approximately 1:00–1:30 p.m. during center time.

### *Sixth Grade*

Teacher 4 was a highly qualified Caucasian female certified in secondary Spanish, but was not certified in special education. Kyle and Chris were 12-year old Caucasian males who received special education services for EBD. Their LRE was the general education classroom for the majority of the day. Teacher 4 reported high rates of off-task and disruptive behaviors from both students, and that these behaviors occasionally resulted in removal from the classroom. This class was included in a school that incorporated in-class (i.e., Monday through Wednesday) and online instruction (Thursday and Friday). Sixth-grade

students attended the class for one hour on Monday afternoon and one hour on Wednesday morning. Data collection took place in the class from 12:40 to 1:10 p.m. on Mondays and Wednesdays from 9:45 to 10:15.

## **Procedures**

### *Research Design*

This study employed a modified multiple baseline design across subjects and settings. Second grade data were collected non-concurrently (i.e., one year prior to the remaining data) because the study was halted due to a family emergency with the first author. Continuation of the study used the parameters of a concurrent multiple baseline design.

### *Dependent Measures*

Student measures included on-task behaviors operationally defined as follows: (a) actively listening to teacher instructions by being oriented toward the teacher or task; (b) responding verbally (e.g., asking questions regarding instructions) or nonverbally (e.g., head nodding) to teacher requests; (c) following teacher instructions; (d) being in appropriate geographical location (e.g., sitting at assigned seat during circle time); or (e) seeking help in the proper manner (e.g., raising hand). Off-task behavior was defined as behavior other than on-task behavior. Student measures were collected using the ABC Data Pro application on an iPod touch®.

Teacher measures included verbal interactions with the class. Observation sessions were voice recorded using a digital recorder. Following the observation, recordings were reviewed and coded using the ABC Data Pro application. *Table 1* presents operational definitions for the types of verbal interactions coded for teacher measures.

### *Data Collection Procedures*

Upon securing approval to conduct the research, we contacted school administrators who discussed the study with their teachers. We met with interested teachers individually to discuss the tenets of the study and to attain consent. Out of seven interested teachers, four agreed to participate in the study and provided consent. Teachers then nominated students at risk or identified with EBD (as determined by referral to the school's MET) or being served for special education. Teacher 1 (2nd grade)

nominated one student to participate in the study, while the remaining teachers nominated two students per classroom. Parental consent was obtained for each student.

Once consent was obtained, teachers identified the time or activity when target students exhibited the most challenging behavior. Data collection took place during specified times with observers entering 5 minutes prior to observation period. Teachers were provided with a small digital voice-recording device connected to a microphone that was clipped onto their lapel. Teachers provided signals that began the targeted activity, such as a song in the elementary classes and a verbal command or song in Spanish in the middle school class. Following the signal, observations began of student behavior. At the end of the observation period, researchers retrieved voice recorder and exited the classroom. Observations were set to occur for 30 minutes; however, activity time varied between 19 to 30 minutes (average 27 minutes). Paul was observed on 12 occasions. He was present at each scheduled observation. Jack and Jill were observed 17 and 16 times, respectively. Jill was present for all 17 observations; however, she became ill less than 5 minutes into the observation and her data were not included in the results. Tom was observed for 19 sessions. His parent checked Bill out of school on one occasion shortly after the observers entered the classroom. Kyle was observed 11 times, while Chris was observed 14 times. Kyle was removed from the classroom on two occasions to see the special education teacher as required on his IEP, and was absent on one occasion. On the day Kyle was absent, observers conducted the observation in the same manner as other days (i.e., observed Chris on the first, third, fifth intervals and so on).

Student data were collected using 10-second interval momentary time sampling techniques. For teacher-student triads, alternating intervals were used to record task engagement (Lloyd, Bateman, Landrum, & Hallahan, 1989; Sutherland et al., 2000). For instance, the first interval recorded Student 1's behavior, the second interval recorded Student 2's behavior, and so on. This allowed observation of multiple students during the same session.

### *Teacher Training*

Following baseline data collection, teachers were provided with a 30- to 40-minute training on BSP that included five components. First,

teachers were given a verbal definition of BSP. For the purpose of this study, BSP was defined as providing students with praise statements that explicitly describe the behavior being praised. Second, generic examples and nonexamples of BSP were explained to the teacher (see *Table 2*). Third, teachers were provided with specific examples of BSP that they used during baseline data collection. Fourth, teachers were shown a graph of their baseline usage of BSP and given an opportunity to set a goal for increasing BSP. Finally, teachers were asked to identify specific instances where they could use more BSP throughout the observation period. Following an opportunity to ask questions, teachers were thanked for their time and told that observations would continue the next day. An important aspect of this training is that we did not cue teachers to provide more or less BSP; rather, we wanted to determine natural occurrence following training.

### *Coding Data*

Student data were coded during the classroom observations. At the end of each interval, students were determined to be on task or off task. The corresponding button was pressed on the iPod and data were recorded into the ABC Data Pro application.

Teacher data were coded using frequency count by listening to the voice recording. Data were converted into rate per minute due to varying times of the observation sessions. Teacher data were coded into the ABC Data Pro application by listening to specific statements made by the teacher and pressing the corresponding button on the iPod. When coding teacher measures, there had to be a 2-second delay between praise or correction statements (Silvestri, 2004). For instance, stating, "You did a great job of sitting quietly, Sue." "You sat quietly too, Joe." "And you were quiet as well, Sam" in successive order without a break was coded as being 1 BSP because the teacher did not change the specific behavior being praised. On the other hand, if the teacher stated, in successive order, "You did a great job of sitting quietly, Sue," "Joe, thank you for raising your hand to speak," then this would have been coded as 2 BSP.

### *Teacher Feedback*

Teachers received performance feedback approximately every third day via e-mail.

Specifically, teachers were provided with their performance, their goal achievement or underachievement, and target student task engagement data. We did not address correction statements unless asked by the teacher.

#### *Interobserver Agreement (IOA)*

Co-observers were taught the operational definitions used in the study. Practice sessions using video and live action observations were used in the training. Following each training session, questions and concerns were addressed with the co-observers. Training continued until an IOA of at least 80% was attained. During the study, 35% of the total observations were co-observed. Scored-interval IOA for on-task behavior was used for the student measures. Overall agreement for task engagement was 86% (range 67% to 100%).

Teacher measures were permanent products and were coded independently. Similar training occurred for coding teacher measures. Total count IOA was used for these data, as they were collected using frequency count. Teacher measures were examined for reliability on 27% of voice recordings. Agreement for teacher measures was 75% (range 33% to 100%) for BSP, 80% (range 50% to 100%) for general praise statements, and 88% (range 75% to 100%) for corrective statements. Low IOA agreement for teacher measures was due to the low frequency of some behaviors; meaning, one disagreement could impact IOA by up to 10%.

## **Results**

*Figure 1* presents student on-task behavior and rate of teacher BSP for each class. *Table 3* presents the mean differences for on-task behavior between baseline and post-teacher training.

### **Second Grade**

Visual interpretation of the first graph of *Figure 1* shows a level change in Paul's behavior following teacher training. Additionally, his behavior showed less fluctuation following teacher training. Although his teacher's rate of BSP was not stable, Paul's intervals of being on task increased by an average of 25%.

*Table 4* shows the changes to the rate of BSP made following the training. Although *Figure 1* shows low stability in BSP rate, Teacher 1 increased BSP praise by 186% and non-BSP by

34%. Additionally, Teacher 1 decreased her use of correction statements by 43%.

### **Kindergarten**

Visual analysis of the second graph of *Figure 1* shows a level change and a stable rate of behavior following teacher training for Jill's behavior. Jack's task engagement data show a carryover effect; however, his behavior increased substantially on the second observation following training and remained stable thereafter. *Table 3* shows Jill's mean on-task behavior increased 19%, while Jack's increased 25%.

*Figure 1* shows that Teacher 2 increased her rate of BSP posttraining; however, the rate decreases over the final four data points. Her rate of BSP did increase 59% posttraining (see *Table 4*); however, posttraining data show more corrective statements (0.96 per minute) used than BSP (0.59 per minute) or non-BSP (0.42 per minute).

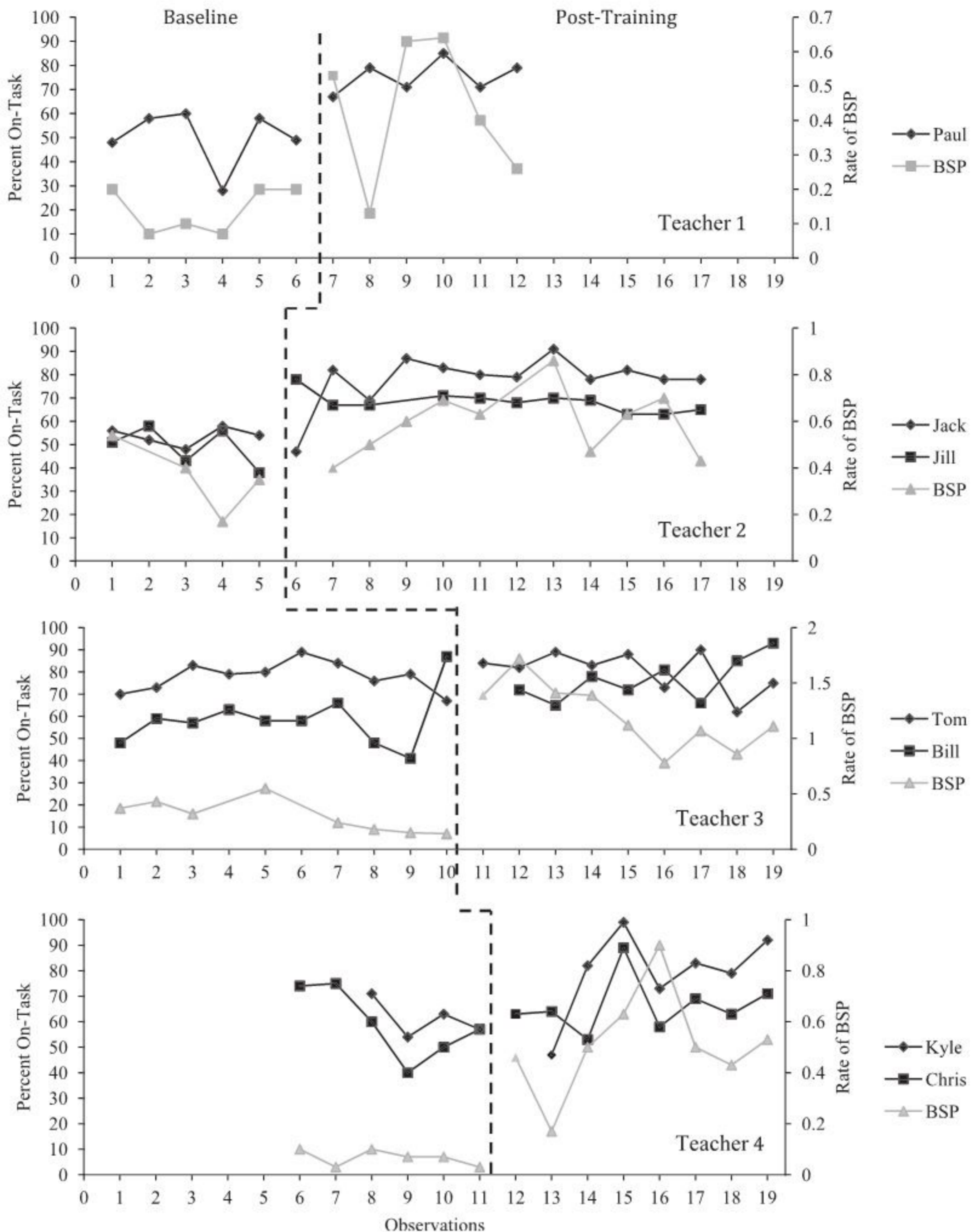
### **First Grade**

Graph 3 of *Figure 1* shows that Tom exhibited a high rate of task engagement prior to baseline (mean of 78%). Tom's behavior began to show less stability toward the end of the study; however, there was an overall increase in on-task behavior of 3%. Tom's final four data points, shown in *Figure 1*, follow the increases and decreases in teacher BSP, suggesting his behavior may have been impacted by BSP usage (Sutherland et al., 2000). With the exception of the final baseline data point, Bill showed a level change that began to trend upward in the final three days of data collection. Overall, Bill exhibited a 16% increase in on-task behavior posttraining.

Examination of *Figure 1* and *Table 4* show that Teacher 3 increased her BSP rates by 303% between baseline and posttraining. Although Teacher 3 exhibited a reduction in the rate of BSP on the final four data points, her rate showed stability. Additionally, Teacher 3 decreased her rate of correction by 31%. Teacher 3 almost achieved an overall rate of 2:1 BSP to correction statements by the conclusion of the study.

### **Sixth Grade**

Kyle and Chris both increased their overall mean of on-task behavior following teacher



**Figure 1. Student on-task behavior and teacher rate of BSP.**

training 18% and 7% respectively. The final graph of *Figure 1* shows an upward trend in Kyle's on-task behavior at the end of the study. Chris' on-task behavior is characterized by high amounts of overlap between baseline and posttraining rates. Additionally, Chris' on-task behavior was trending upwards prior to implementation of teacher training.

Teacher 4 had a clear level change in the use of BSP posttraining. Although her BSP rate

was variable, it did stabilize near the end of the study. Teacher 4 exhibited the largest overall gain in the use of BSP, increasing 642%.

### Additional Results

In an effort to further show the effects of increased rates of BSP on student behavior, a series of Spearman Rho (two-tailed) correlations were conducted with teacher rate of BSP

**TABLE 3**  
**Mean Percentage of On-Task Behavior**  
**by Phase**

Student	Baseline	Posttraining
Paul	50	75
Jack	54	78
Jill	49	68
Tom	78	81
Bill	61	77
Kyle	61	79

as the predictor variable and student on-task behavior as the criterion variable. In determining strength of correlation, Cohen's (1988) interpretation of correlational strength was used. Coefficients from .1 to .3 were considered weak, .3 to .5 were considered moderate and .5 and higher were considered strong.

First, data from each class were combined to determine overall effect of BSP on student behavior. Percentages of on-task behavior were averaged for the kindergarten, first grade, and sixth grade classes to create one datum for student behavior. This datum was correlated to the corresponding teacher rate of BSP. Results of the correlation of aggregated data show a statistically significant strong positive correlation [ $r_s(58) = .62, p < .001$ ]. Second, Spearman Rho correlations were conducted comparing each student's on-task behavior to teacher rate of BSP. Each of these correlations showed a positive relationship. A statistically significant strong relationship was found between Teacher 1 rate of BSP and Paul's on-task behavior [ $r_s(12) = .61, p < .05$ ]. Jack's [ $r_s(15) = .69, p < .01$ ] and Jill's [ $r_s(15) = .62, p < .05$ ] on-task behavior showed a statistically significant strong relationship to Teacher 2's rate of BSP. Correlations between Teacher 3's rate of BSP and Tom's [ $r_s(17) = .46, p = .06$ ] or Bill's [ $r_s(17) = .41, p = .11$ ] on-task behavior did not produce statistical significance, but did show a moderate strength of

correlation. Finally, a statistically significant strong positive relationship was shown between Teacher 4's rate of BSP and Kyle's on-task behavior [ $r_s(11) = .76; p < .01$ ]. A positive, yet statistically insignificant weak correlation was found between Chris' on-task behavior [ $r_s(14) = .26; p = .37$ ] and Teacher 4's rate of BSP.

Examination of *Table 4* shows that three of the four teachers decreased their rate of non-BSP posttraining. Teacher 1 (2nd grade) is the only teacher to show a rate increase in both BSP and non-BSP. *Table 4* also shows that the rate of corrective statements decreased for all teachers following their training. *Table 5* presents participant-specific rates of overall praise (BSP and non-BSP) and correction. Three of the participating students had increases in rates of praise posttraining, while three had decreases. Additionally, five of the six students had decreases in corrective statements following teacher training.

### Social Validity Measure

Following the study, a social validity measure was administered to gain teacher feedback on the training's utility. The 8-item measure used a 4-point Likert-type scale. All teachers rated the training as either favorable or highly favorable. Each teacher reported being highly likely to continue focusing on BSP in her classroom. They all reported being likely or highly likely to tell other teachers about BSP and were all highly likely to use of BSP when faced with challenging behaviors in the future. Perhaps the most fascinating result of the social validity measure was that each teacher reported that it was difficult to implement increases in BSP.

### Discussion

Results of the study adequately addressed our three research questions. The first question

**TABLE 4**  
**Mean Rates Per Minute of BSP, NBSP, and Correction for Baseline and Posttraining**

Teacher	BSP		NBSP		Overall Correction	
	Baseline	Posttraining	Baseline	Posttraining	Baseline	Posttraining
2nd Grade	.15	.43	.38	.51	.58	.33
Kindergarten	.37	.59	.53	.42	1.35	.96
1st Grade	.30	1.21	.11	.06	1.08	.74
6th Grade	.07	.52	.56	.43	.42	.40



**TABLE 5**  
**Mean Rates Per Minute of Overall Praise and Correction for Baseline and Posttraining**  
**by Target Student**

Student*	Overall Praise		Overall Correction	
	Baseline	Posttraining	Baseline	Posttraining
Jack	.04	.01	.11	.06
Jill	.02	.05	.10	.06
Tom	.03	.02	.05	.07
Bill	.03	.08	.14	.11
Kyle	.05	.02	.05	.03
Chris	.01	.03	.01	.00

\*These data were not collected for Paul

sought to determine if providing a simple training on the purpose and function of BSP would lead to increased use of BSP. Rates of BSP increased for all participating teachers in this study. Although three of the four teachers (i.e., Teachers 1, 2, and 4) exhibited variability in their rate, they each increased their use of BSP. Three of the four teachers appeared to have replaced their non-BSP usage with BSP. Findings of this study are consistent with prior research on the effects of professional development training packages created to support teacher's use of BSP (Chalk & Bizo, 2004; Duchaine, et al., 2011; Fullerton et al., 2009; Hawkins & Heflin, 2011; Myers, et al., 2011; Reinke et al., 2007; & Sutherland et al., 2000).

The second research question focused on determining if increases in BSP to *all* students would improve task engagement of students with or at risk for EBD. Results suggest that providing higher rates of BSP impacted on-task behavior of students with or at risk for EBD. Each student exhibited gains in their on-task behavior. Additionally, correlation analyses suggest a positive relationship between increases in rates of BSP and increases in on-task behavior, with a moderate to strong relationship for most students. It is worth noting the variability between baseline and posttraining rates of individual student praise (see *Table 5*). Overall, target students did not receive an exorbitant increase in direct praise. Three of the students received less direct praise post-training; however, their on-task behavior increased. This suggests that providing increased rates of BSP to an *entire* classroom can impact the behavior of students with or at risk for EBD. Our results are consistent with previous findings of studies that show increased usage of BSP results in improved

student engagement, task completion and academic responding (Brodin, Bruce, Mitchell, Carter, & Hall, 1970; Brophy, 1981; Ferguson & Houghton, 1992; Hall, Lund, & Jackson, 1968; Kirby & Shields, 1972; Sutherland et al., 2000).

For our third research question, we wanted to determine if increases in BSP would decrease teacher rate of correction statements to *all* students. Results showed that all teachers reduced the rate of correction statements following the training. Anecdotal evidence of this reduction was observed in each classroom when teachers were providing BSP to students who were on-task in order to correct the behavior of a student who was off-task. Prior to training, teachers would provide corrective statements in this situation. Additionally, *Table 5* shows that five of six target students received fewer corrections posttraining.

### Behavior Specific Praise Usage

For decades (e.g., Hall et al., 1968), researchers have shown that teacher attention in the form of praise can increase and maintain appropriate student behavior. Although general rates of praise to correction have been suggested (e.g., 4:1; Simonsen et al., 2008), there has not been a standard established as to what constitutes the optimal number of BSP given in response to student behaviors. A functional relationship between teacher praise and disruptive behavior of students of EBD has been demonstrated (Madsen, Becker, & Thomas, 1968; Sutherland et al., 2000; Ward & Baker, 1968). These studies reported an increase in BSP resulted in increased student engagement, while decreases in the use of BSP

trended toward less student engagement and more disruptive behaviors. The use of contingent specific praise could assist in the development of a positive environment conducive to learning and increasing student task engagement (Chalk & Bizo, 2004; Gable, Hester, Rock, & Hughes, 2009).

### **Teacher Training Package**

Providing teachers with definitions, examples, and opportunities to set goals (Conroy et al., 2009; Duchaine et al., 2011) has been shown to be an effective method of training. Performance feedback is also essential in reinforcing teacher use of BSP (Reinke et al., 2007). Through the training package designed for this study, we wanted to provide teachers with training and feedback that may be more readily available in their schools (i.e., not provide daily feedback). Results of the study suggest that providing general education teachers with a short (i.e., 30 minute) training that incorporated self-selected goals and performance feedback given every 3 days via email can enhance the use of BSP directed to *all* students.

### **Inclusive Classrooms for Students With or At riskRisk for EBD**

The current study targeted students with or at risk for EBD in inclusive settings. Examination of the effects of BSP in settings outside the general education classroom has been conducted (Hawkins & Heflin, 2011; Sutherland, et al., 2000); however, with the increasing use of the general education classroom as LRE, it is important to provide general education teachers with practical skills that can positively impact student behavior. Rich and Ross, and Walker and Severson (as cited in Sutherland, et al., 2000) noted levels of task engagement in the typical general education classroom ranged from 75% to 85%, as recorded by direct observations. Results of this study suggest that students with or at risk for EBD included in general education classrooms can have on-task behavior rates similar to their nondisabled peers. Also, this study shows that BSP can be generalized to the general education classroom for students with EBD. Moreover, this study suggests that students with or at risk for EBD do not need excessive amounts of individual praise in order for their behavior to be changed.

## **Limitations and Future Research Implications**

Several limitations are evident in this present study. First, it is possible that the social facilitation (Guerin, 1993) influenced the results of the study. Social facilitation suggests that a research participant's behavior may be enhanced by the presence of an observer. Because we did not collect maintenance data, it is unclear if social facilitation was a factor in obtaining positive results. The lack of maintenance data is a second limitation of the study. Due to participant recruitment challenges and scheduling conflicts with the schools, we were not able to collect data until near the end of the academic year. For the final three classrooms (first grade, kindergarten, sixth grade), the school year completed, prior to the collection of maintenance data. These data would have shown the sustainability of the gains following the termination of the treatment program (Cooper, Heron, & Heward, 2007).

A third limitation is that two students, Tom and Chris, showed a high amount of overlap between baseline and posttraining rates. Although the mean rate of on-task behavior increased for both, the effect of the training on their behavior is inconclusive. Having a prior investigation as to possible explanations for why Chris' on-task behavior was increasing prior to the implementation of the teacher training would have been useful in possibly accounting for this trend and its affect on the intervention. It is possible that Chris' off-task behavior functioned as an escape of class participation and that the BSP was not as reinforcing to him as it was to the other students. Future studies should further evaluate behavioral functions on students who do not respond to the intervention.

A fourth limitation of this study is the activities completed during observation periods. Prior to teacher training, Bill had a sharp increase in on-task behavior. Because he was observed during center time, his activity on day 10 of baseline was to color a worksheet. Anecdotally, his teacher noted that coloring was his favorite activity. This was the only instance in which coloring was the focus of the center time activity. Participation in preferred activities could affect opportunities to generate praise or corrections and did impact on-task behaviors.

Future research should continue to examine factors such as teachers' use of BSP on student

behavior in order to provide teachers with a more valid indication of what may be considered the most effective BSP rate and its relationship to the task engagement of students with EBD in the inclusive classroom setting. Researchers should also continue to collect data across various academic settings, providing more conclusive information as to the effects of the BSP strategy on students with EBD. Future research needs to continue the examination of how to close the research-to-practice gap through supporting teachers in identifying and maintaining evidence practices in the classroom.

The results of this investigation contribute to the growing number of studies investigating the effects of BSPs on student behavior through the implementation of professional development training of teachers of students with EBD and the examination of an evidence-based behavioral intervention. Helping students at-risk for and identified with EBD in the inclusive classroom setting to reach proficiency requires an increase to the current knowledge base on the effectiveness of particular academic interventions. For general education teachers, these findings are promising, and provide possible interventions to help students reach proficiency in a time of higher standards and expectations. For researchers, although these findings report positive gains in student behavioral outcomes, replication is needed which continues to explore the implications of academic and behavioral interventions for students with EBD within general education.

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#### MANUSCRIPT

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