EFFECTS OF PRAISE TRAINING AND INCREASING OPPORTUNITIES TO RESPOND ON TEACHERS' PRAISE STATEMENTS AND REPRIMANDS DURING CLASSROOM INSTRUCTION

DISSERTATION

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ABSTRACT

The purpose of this study was to extend the results of Sutherland, Wehby, and Yoder (2002), which suggested a correlational relationship between OTR and teacher praise in classrooms for students with EBD. The current study sought to extend Sutherland et al. (2002) by investigating a possible functional relationship between OTR and teacher praise in general education classrooms. Results from this study revealed no functional relationship between OTR and teacher praise. Furthermore, results showed no correlational relationship between OTR and naturally-occurring teacher praise; however, after praise training was implemented with two participants, there was a significant correlation between OTR and teacher praise. Lastly, the study revealed positive student and teacher perceptions of classroom instruction characterized by high rates of OTR and teacher praise.
Dedicated to Emma Grace
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CHAPTER 1
INTRODUCTION

Researchers in the field of applied behavior analysis advocate the use of explicit teaching methods for all learners (Heward, 2003; Heward, 1994). Heward (2003) asserts that effective teaching strategies may take various forms; however, several features are germane to systematic instruction based on the principles of applied behavior analysis. First, teachers must specifically define skills and break them down into smaller subtasks (i.e., task analysis), if necessary. Second, it is important for educators to directly and frequently measure student performance (Ysseldyke, 2001). This allows for necessary changes to be made in the curriculum. Third, students must be provided with frequent opportunities to respond during classroom instruction. “Contemporary educational research is unequivocal in its support of the positive relationship between students’ active engagement with academic tasks and their achievement” (Heward, 2003, p. 224). Fourth, teachers should provide immediate, systematic feedback for student performance. This involves teachers delivering praise for correct responding and corrective feedback for incorrect responding. Fifth, there should be a procedure to ensure transfer of stimulus control from cues or prompts during instruction to more naturally-occurring stimuli. Lastly, teachers should develop tactics for supporting generalization and maintenance of skills. That is, educators need to support students in performing skills in new or different situations and environments.
This study addresses the relation between two of the aforementioned components found to be characteristic of effective instruction: (1) rates at which teachers provide students with opportunities to respond (OTR) to academic requests, and (2) the frequency of praise statements delivered to students for appropriate academic and social behavior. Studies have shown that increased OTR can improve student academic performance in reading (e.g., Carnine, 1976; Smith & McLean, 1994) and math (Skinner, Ford, & Yunker, 1991; Skinner, Belfiore, Mace, Williams-Wilson, & Johns, 1997). Similarly, studies have shown that high rates of teacher praise have significantly increased student achievement in reading (Gable & Shores, 1980) and in math (Luiselli & Downing, 1980). Increased OTRs and teacher praise have been shown to result in increased engagement (Carnine, 1976; Sutherland, Wehby, & Copeland, 2000) and decreased disruptive behavior (West & Sloane, 1986; Gunter, Denny, Jack, Shores, & Nelson, 1993).

Gunter et al. (1993) suggested that there may be a relation between OTR and teacher praise. Specifically, the number of opportunities for student responding that a teacher provides is likely to coincide with the number of praise statements he or she delivers during classroom whole-group instruction. A study conducted by Van Acker, Grant, and Henry (1996) found that rates of OTR closely matched rates of teacher praise in classrooms for students with emotional and behavioral disorders (EBD).

Sutherland et al. (2002) also conducted a study to investigate the relationship between OTR and teacher praise in classrooms for students with EBD. Their results also showed a significant positive correlation between OTR and teacher praise. The authors hypothesized that teacher praise increased as a function of OTRs. They posited that this might occur because teachers’ behaviors are reinforced by the responses of their students.
The authors point out that although previous studies have shown the positive effects of OTR and teacher praise on the academic and social behavior of students with EBD, “descriptive research has suggested that teachers of students with EBD use these practices infrequently” (Sutherland et al., p. 6).

In the Sutherland et al. (2002), as well as others cited in this paper (e.g., Van Acker et al., 1996, and Cantrell et al., 1977), the authors used group-design studies to calculate coefficients of correlations between variables in order to show the relationship between OTR and teacher praise. A correlation is always a number between –1 and 1 and is the statistical relation between at least 2 variables, such that when the value of one variable changes, the value of the other changes, as well (Witte, Witte, & Smith, 2003). The correlation coefficient is a way to measure the degree to which 2 or more variables are linearly related. That is, a perfect linear relationship with a positive slope (i.e., both values are high) would have a correlation coefficient on +1; whereas, a relationship between the variables displaying a negative slope (i.e., one value is high and the other is inversely low) would demonstrate a correlation coefficient of –1. A correlation of 0 (zero) indicates there is no linear relationship between the variables (Witte, Witte, & Smith, 2003).

Furthermore, the authors referred to throughout this paper specified as to whether the two variables in their group studies were positively correlated (i.e., the data ran in the same direction for both variables) or negatively correlated (i.e., the data ran in opposite directions on the two variables) by using either the Pearson’s r or Spearman’s Rank Difference Coefficient of Correlation (Sutherland et al., 2002). For example, Sutherland
et al. (2002) reported a positive correlation between OTR and teacher praise, finding that when rates of OTR were high, rates of teacher praise were high, as well. Additionally, the authors reported a negative correlation between other teacher talk and correct student responses, stating that when rates of other teacher talk (e.g., off-topic statements) were high, rates of correct student responding were low.

However, one must be careful not to infer causation from correlations. That is, correlations merely represent the degree of observed association between two variables, not the extent of their causal relationship. Causality can only be established through controlled experimentation (Dillehay, Graham, & Mercer, 1992). Controlled experimentation involves manipulating one variable and observing the effect on another variable (Barlow & Hersen, 1984; Sidman, 1960). Controlled experimentation allows one to determine functional relationships if “behavior change is reliable and clearly related to the experimental intervention” (i.e., the independent variable) (Kazdin, 1984, p. 285). According to Horner et al. (2003), an “experimental effect” is achieved if the “predicted change in the dependent variable co-varies with manipulation of the independent variable” (p. 13).

Therefore, although correlations between OTR and praise appear to be strong in the educational literature, it is unclear whether OTR serves to increase praise, as hypothesized by Sutherland et al. (2002). Additional, experimental research is needed to answer this question.
PURPOSE OF THE STUDY

The purpose of this study was to extend the results of Sutherland et al. (2002), who demonstrated a strong positive correlation between OTR and teacher praise for students with EBD. The current study extended the results of the Sutherland et al. study by attempting to examine whether a causal relation between OTR and teacher praise existed. This was accomplished by manipulating OTR and observing the effects of increased OTR on teacher praise using a within subjects research design. This study also extended the results of the Sutherland et al. study by investigating the relation between OTR and praise in general education classrooms. Finally, social validity measures were included to assess student and teacher perceptions of high and low rates of OTR and praise.
CHAPTER 2
REVIEW OF THE LITERATURE

Opportunity to Respond (OTR)

Greenwood, Delquadri, and Hall (1984) define opportunity to respond (OTR) “as the interaction between (a) teacher formulated instruction...(the materials presented, prompts, questions asked, signals to respond, etc.), and (b) its success in establishing the academic responding desired or implied by materials, the subject matter goals of instruction” (p. 64). That is, OTR consists of not only a teacher question or prompt, but also of students actually providing an observable response to that question or prompt. Thus, sometimes OTR is referred to as promoting active student responding (ASR).

Educational research has shown that students who are given frequent opportunities to actively respond during academic instruction learn more than students who are given few opportunities to respond and, therefore, passively participate in teacher instruction (Fisher & Berliner, 1985; Greenwood, Delquadri, & Hall, 1984; Heward, 1994; Heward, 2003). This increase in learning may be due to the fact that students receive more frequent feedback when they are provided with frequent OTRs. That is, when students respond to a teacher prompt or question, teachers frequently respond with some sort of feedback to indicate correctness of the students’ performance (Van Acker et al., 1996 ). This feedback is crucial to the learning process (Heward, 2003). Having few OTRs during teacher-directed instruction may limit the number of
opportunities students have to obtain feedback on their performance, therefore limiting their learning.

There are many different ways that teachers can encourage students to actively respond during classroom instruction. The traditional method of promoting active student responding during lessons consists of the teacher posing a question to the entire class and then waiting for students to raise their hands. Typically, one student is called on to answer the question. In this situation, only one student (the one who is called on) has the opportunity to respond. The remaining students are not provided with an opportunity to actively respond to the question. Researchers have investigated alternatives to the traditional hand-raising method of soliciting student participation in instruction in an effort to promote ASR for the entire class.

One method for increasing participation of ASR of the entire class is the use of response cards. Response cards are “cards, signs, or items that are simultaneously held up by all students to display their responses to the question or problem presented by the teacher” (Heward, 2003, p. 292). For example, a teacher might give each a student in the class a small (e.g., 15 cm by 20 cm) laminated board, a dry-erase marker, and a small eraser. When using response cards during teacher-directed, whole-group instruction, the teacher poses frequent questions to the group. But rather than have students raise their hands and call on one student to answer the question, the teacher requires all students in the class to write their answers on their response cards and to hold their cards up in the air following a signal (e.g., “Cards up!”). Using this strategy, all students in the class have the opportunity to respond, and the teacher can evaluate the performance of all students. In addition, the teacher can provide feedback to all students, rather than just one. This
method of increasing student ASR is efficient, in that: a) teachers may ask questions in a
variety of ways, including true-false, multiple-choice, and fill-in-the-blank; b) it allows
all students the opportunity to actively respond in a short period of time; c) and it allows
the teacher to quickly evaluate the effectiveness of his/her teaching.

Foil and Alber (2002), suggest other strategies to increase ASR. For example,
students can be placed in small groups to participate in teacher-directed discussions, to
take part in content-related activities (e.g., discussion questions), or to create dramatic
plays that are curriculum-related. Group activities like these provide students with
opportunities to review the content of the lesson, as well as meaningful opportunities for
student responding. Another strategy is to incorporate mnemonic activities into the
curriculum. For example, a teacher might organize lesson content into acronyms or
songs that are easy for the students to remember. Students are able to actively respond to
teacher instruction when they practice writing or saying the acronyms/songs. Another
strategy that Foil and Alber suggest is class-wide peer tutoring (CWPT). CWPT pairs
students in dyads and allows them to quiz each other on the content of the lesson,
promoting high rates of ASR. All of the aforementioned strategies proposed by the
authors provide students with high rates of OTR and encourage active participation from
every student in the class.

Increasing OTR can have positive effects on both academic learning as well as
social behavior. The following sections provide an overview of the research
demonstrating these positive effects of increasing OTR.

*Effects of increasing OTR on academic behavior.* There are numerous studies in
the educational and behavioral literature demonstrating the effects of OTR on the
academic performance of classroom students. Narayan et al. (1990) conducted a study of the effects of response cards on the participation and academic achievement of 4th-grade students during group instruction. The authors compared rates of responding using traditional hand raising in response to the teacher’s questions to using of response cards for answering teacher questions (ASR). Experimenters measured the rates (i.e., frequency) of student responding before and during the ASR condition. Results showed that rates of responding during the ASR condition as well as daily quiz scores were significantly higher when response cards were used than when a traditional hand-raising procedure was used. In addition, the vast majority of students in the study preferred the ASR procedure to the hand-raising procedure.

In a replication of the Narayan et al. (1990) study, Gardner, Heward, and Grossi (1994) investigated the effects of response cards on the participation and academic achievement of 5th-grade students in an urban elementary school. The authors used an alternating treatments design consisting of two conditions – hand raising and response cards. Similar to the results of the Narayan et al. study, this study demonstrated that the frequency of active student responding was 14 times greater in the response card condition than in the hand-raising condition. Additionally, scores on next-day quizzes and cumulative tests were higher for all 22 students during the response card condition than during the hand-raising condition. The results from both studies demonstrate that response cards can be an effective, efficient method for increasing student ASR and student learning.

Skinner and Shapiro (1989) conducted a study of the effects of increasing OTR with five high school students with EBD. In this study, the authors used an alternating
treatments design with multiple probes to examine the effects of increasing OTR on the number of words read correctly and incorrectly per min. In the first condition, the experimenters used pre-recorded words and drill interventions that provided students with only 2 OTRs. In the second condition, students were provided with 1 OTR. The number of correct and incorrect words read per min was measured. Results indicated that when students were given more OTR, the mean number of words read correctly was approximately 50% greater. Conversely, rates of incorrect student responding decreased approximately 33% when students were provided with more OTR.

Skinner, Smith, and McLean (1994) found similar results in their investigation of the effects of increased OTR on the reading achievement of 3 elementary students with EBD. The authors varied teacher presentation rates of reading lessons during two conditions. In the first condition, students were given 3 opportunities to identify each sight word, compared to only 1 opportunity to identify each target word in the no-treatment condition (i.e., the control condition). In both conditions, teachers presented the material using two intertrial intervals: a 1-s and a 5-s presentation rate for the number of sight words each student read correctly. That is, the teacher varied the pace of her instruction. After collecting data in three different sessions, results showed that the number of sight words each student mastered increased in both conditions (1 OTR and 3 OTRs), as compared to the control condition. Furthermore, the intertrial intervals with which the teachers delivered instruction were irrelevant. However, the authors emphasized that teachers can provide more OTR and be more effective in their use of classroom instruction time if they use shorter intertrial intervals (i.e., using 1 s rather than the 5 s).
The effects of increasing OTR on the math achievement of students are also documented in the literature. Skinner and colleagues (1997) examined the effects of increased OTR using two interventions: written cover, copy, and compare (WCCC) and verbal cover, copy, and compare (VCCC). The WCCC intervention entailed training students to look at a math problem, cover the problem and answer, write the problem and answer, uncover the problem and answer, and evaluate what was written. The VCCC was identical to the WCCC intervention, except that the students were taught to verbally state the problem and answer, rather than answering the written problem. The authors found that the VCCC intervention resulted in approximately 2.5 times the OTR than the WCCC procedure. These findings support prior research, which found that when students are allowed to verbally respond to teacher questions or prompts, the result is an increase in overall academic responding. This is because verbal responses are more efficient (i.e., they take less time) than written responding and, thus, allow for more frequent OTR (Skinner et al., 1991). In addition, increased accuracy and fluency of math problem completion was found in the VCCC procedure, lending further support to the idea that when students are able to respond to academic requests in a topographically efficient way, teachers are able to present more learning trials in the same amount of instructional time (Skinner & Shapiro, 1989). The authors point out that greater learning trials can increase student learning in various stages of learning, including acquisition (Albers & Greer, 1991), fluency building (Skinner & Shapiro, 1989) and during maintenance (Ivarie, 1986).

Effects of OTR on social behavior. Research has demonstrated that increasing OTR can have a positive effect on social behavior as well as academic responding.
Carnine (1976) demonstrated the effects of increasing OTR on the off-task behavior of typically-developing first-grade students without disabilities. OTR were manipulated by varying the presentation rate of the teacher’s academic requests. “During the fast-presentation condition, the teacher presented a new task immediately following a student’s correct response, and in the slow-presentation condition the teacher waited 5 seconds after a correct response before presenting the next task” (p. 115). The author found that the faster presentation rate yielded higher percentages of correct responses (from 41% to 85%), as well as lower percentages of off-task behavior.

Similarly, West and Sloane (1986) investigated the effects of increased OTR (i.e., different presentation rates) and token reinforcement schedules on the disruptive behavior of students with mild mental retardation and behavioral disorders. The authors measured correct student responding and off-task behavior during four conditions: fast-paced (task was presented every 20 s) versus slow-paced (task was presented every 60 s) instruction and high-point (tokens were delivered every 60 s) versus low-point (tokens were delivered every 240 s) schedules of reinforcement. Results indicated no difference between schedules of token reinforcement; however, the fast-paced condition produced higher rates of correct responding (2.4 versus 0.9 per minute) and lower rates of off-task behavior (55% versus 80% of intervals) than the slow-paced condition. This study demonstrates that when teachers present instruction at a faster rate, students are given more OTR and, in turn, rates of correct responding increase. Furthermore, when the students in this study were given more OTR, and levels of off-task behavior decreased.

*Naturally-occurring rates of OTR in classrooms.* Researchers (e.g., Sutherland & Wehby, 2001; Sutherland et al., 2002) have demonstrated that teachers of students with
EBD tend to have relatively low rates of OTR. Van Acker, Grant, and Henry (1996) evaluated the naturally occurring rate of OTR in classrooms for students with EBD. An OTR was defined as providing the target student with an opportunity to publicly respond (e.g., orally or writing an answer on the chalkboard) to a specific academic task. The authors counted the number of OTR that occurred during the child’s regular school day using continuous data collection methods (i.e., portable laptop computer) for a minimum of 80 min per student. Students were divided into two groups: those at mid-risk and high-risk for aggression. The authors collected data on teacher behavior directed toward the students (e.g., praise, reprimands, OTR) and on student behavior directed toward the teacher (e.g., compliance, noncompliance, aggression). Results of the study indicated that teacher behavior varied significantly based on the student’s risk of aggression; however, the data revealed low overall rates of OTR for both groups. The authors reported rates of OTR ranged 0.020 to 0.025 per min, which translates to only 1 opportunity to respond every hour.

Another study investigating rates of naturally-occurring OTR in classrooms for students with EBD was conducted by Wehby, Symons, and Shores (1995). In this study, the authors directly observed teacher and student behavior in 14 classrooms for approximately 16 to 20 hours per teacher. Investigators defined OTR as teachers’ verbal statements or questions pertaining to social or academic behavior that requested the occurrence of an immediate, specific response from a student. The authors also measured 23 other teacher behaviors directed toward their students, reporting mean rate of responses per minute. The data revealed that rates of OTR ranged from 0.156 and 0.163 per min across 14 different classrooms. Thus, although OTR has been shown to be an
essential element to effective instruction (Sutherland et al., 2002), studies investigating OTR in the classroom reveal that teachers do not use this practice in their classrooms.

Teacher Praise

Another component of effective instruction is teacher praise (Heward, 2003; Sutherland et al., 2002). “Praise is a form of feedback that conveys information about the correctness or appropriateness of answers and other behaviors, as well as information about the teacher’s positive regard for the behaviors” (Emmer, 1987/1988, p. 32). While praise always provides feedback, not all feedback is praise. That is, when teachers make praise statements--whether specific or general--they provide the learner with information about their response or behavior; and they inform the student that their response or behavior is acceptable or favorable. On the other hand, teachers may provide feedback that does not include praise. For example, teachers may inform the learner that his behavior is unacceptable or incorrect (i.e., a reprimand). Such statements provide feedback but not praise.

Effects of teacher praise on appropriate classroom behavior. Research has demonstrated the positive outcomes (i.e., increases in appropriate behavior and decreases in inappropriate behavior) of praise interventions with children of all ages, including infants (Poulson & Klymissis, 1988), preschoolers (Connell, Randall, Wilson, Lutz, & Lamb, 1993; Fox, Shores, Lindeman, & Strain, 1986), adolescents (Martella, Marhand-Martella, Young, & MacFarlane, 1995; Staub, 1990), and adults (Cossairt, Hall, & Hopkins, 1973; Haseltine & Miltenberger, 1990).

Improvement in behavior of elementary school children as a result of teacher praise is evident in some of the earliest published research in the field of applied behavior
analysis. For example, Madsen, Becker, and Thomas (1968) investigated the effects of teacher behavior on the behavior of 3 elementary students. The experimenters implemented 3 conditions (Rules, Praise, and Ignoring) one at a time and then directly observed and measured student classroom behavior. The authors concluded that 1) rules alone had little effect on the classroom behavior of the participants, 2) the combined use of ignoring inappropriate behavior and praising appropriate behavior were effective in improving the classroom behavior of the participants, and 3) teacher praise was the crucial element to effective classroom management. This 1968 study was significant, in that it was the first time a “functional relationship between teacher praise and the disruptive behavior of students was demonstrated” (Sutherland, Wehby, & Copeland, 2000, p. 2).

Other studies investigating the effects of teacher praise produced similar, significant improvements in student behavior in secondary classrooms. For instance, McAllister, Stachowiak, Baer, and Conderman (1969), found that praise for appropriate student behavior significantly reduced the occurrence of inappropriate behavior of high school English students. Similarly, Zimmerman and Zimmerman (1962) determined that teacher praise functioned as a social reinforcer that shaped and maintained appropriate classroom behavior of secondary special education students.

Teacher praise has also been shown to increase the task engagement and study behavior of students in general education classrooms. Hall, Lund, and Jackson (1968) conducted a study that examined the effects of contingent teacher attention on the study behavior of students with histories of high rates of disruption or off-task behavior. Appropriate study behaviors were followed by teacher attention, and inappropriate study
behaviors were ignored. The results showed dramatic increases in appropriate study behavior when those behaviors resulted in contingent teacher attention. A brief reversal (i.e., a return to baseline conditions before the intervention was implemented) of the intervention generated low rates of study behavior; whereas return to intervention, once again, produced increased rates of study behavior.

Similarly, Broden and colleagues (1970) investigated the effects of teacher attention on the task engagement of two boys with a history of disruption in their 2nd grade classroom. In the first phase of the study, the teacher systematically increased attention for task engagement for one of the students, resulting in a large increase in his task engagement. Only slight improvements in task engagement were demonstrated in the second participant, who did not receive increased praise. In the second phase of the study, teacher attention was withheld from the first participant and increased for the second participant. This resulted in increased task engagement for the second participant and decreased task engagement in the first participant. A brief withdrawal of teacher attention for both students resulted in low levels of task engagement for both participants. Both boys’ task engagement returned to high levels when teacher attention for task engagement was reinstated for both participants.

The combined results of these studies suggest that teacher praise can be effective in improving the appropriate classroom behavior (e.g., on-task behavior, rule compliance) of students with and without disabilities.

**Effects of teacher praise on academic behavior.** Research has shown that teacher praise can improve academic achievement, as well (e.g., Gable & Shores, 1980; Luiselli & Downing, 1980). Blaney (1983) investigated the effects of teacher praise on the
academic achievement of elementary students, comparing groups that were taught using high (i.e., praising correct responses, providing corrective feedback for incorrect response) versus low (i.e., neutral feedback, such as “OK” for correct responses and “No” for incorrect responses) levels of teacher praise. The author found that students in the groups that received higher rates of praise for correct responding performed significantly better on academic tests than did students who received lower praise rates for correct responding.

Luiselli and Downing (1980) conducted a study investigating the effects of teacher praise on the math achievement of a 10-year-old child in special education. The experimenters collected data on the number and accuracy of completed multiplication problems during a 35-min session. During baseline, three worksheets were presented to the student and the teacher said, “Here is your work for today.” The participant was told to sit at his desk and work independently for the duration of the session. When intervention was implemented, the student was allowed to take his papers to the teacher for feedback. If all of the problems were correct, the student received lavish amounts of praise (e.g., “Good for you, Len; Good going; That’s a great job!”) and a few seconds of physical contact (e.g., touching his shoulder, ruffling his hair). The criterion for reinforcement was gradually increased every few days. The data showed that the reinforcement (i.e., teacher praise and brief physical contact) resulted in significant increases in the number of math problems completed correctly. These effects were then replicated by reinstating baseline conditions, followed by another intervention phase.

Gable and Shores (1980) compared two teaching strategies -- contingent teacher praise and teacher modeling -- on the reading achievement of 2 students with disabilities.
During baseline, each student was asked to begin reading on a specific page with no additional feedback or instructions. During the first phase of intervention, the teacher provided praise (“Good reading; That’s correct”) contingent upon accurate oral reading on a variable ratio (VR5) schedule of reinforcement. That is, the teacher provided praise statements for every 2- to 7-word passage that the students read correctly. This resulted in a dramatic increase in accurate oral reading. Following a reversal to baseline and reinstatement of the praise intervention, the praise intervention was withdrawn and replaced by teacher modeling. During this condition, the teacher provided a correct model of each word on which the student had made an error during the previous day’s oral reading exercise. This phase was implemented to identify whether simply increasing the amount of teacher attention and information would result in improvements in oral reading accuracy to those seen in the praise condition. The results showed that teacher modeling was not as effective as contingent teacher praise in producing high rates of oral reading accuracy.

The results of the previously described studies suggest that teacher praise can be a powerful tool in the classroom for producing both appropriate classroom behavior and correct academic responding. As such, one might expect that teachers use praise frequently and effectively as part of their teaching repertoire. The next section analyzes the results of studies that have evaluated the naturally occurring rates of teacher praise in the classroom.

*Rates of teacher praise.* Several studies evaluating the naturally occurring rates of teacher praise have been conducted. Most of these studies are descriptive in nature and indicate that teachers infrequently use praise in their classrooms (Craft et al., 1998).
One of the earliest studies that evaluated teacher praise rates was conducted by White (1975), in which the author measured the natural rates of teacher praise statements. The author collected data on teacher statements of approval and disapproval for 104 teachers across grades 1 through 12 during 16 systematic observations (8340 min total). White found higher rates of teacher praise in early grades (0.39 to 1.3 per min), with a steady decline after the 2nd grade. White also found that the rate of teacher praise was significantly lower in high school grades than in elementary school grades, averaging about one praise statement every 5 to 10 min. Similarly, disapproval statements were higher in lower grades and gradually declined each subsequent year.

More recently, Van Acker, Grant, and Henry (1996) evaluated teacher praise rates in classrooms for children with EBD. These authors found that praise rates ranged from 1.2 to 1.4 per hr in classrooms for children with EBD. In a similar study, Shores, Jack, Gunter, Ellis, DeBriere, and Wehby (1993) reported teacher praise rates as low as 1 per hr. Wehby, Symons, and Shores (1995) found even lower rates of praise for children with EBD. These authors observed teachers in 67 classrooms for students with EBD across four states (Florida, Kansas, Missouri, and Tennessee). The classrooms were comprised of students from diverse backgrounds, including urban, suburban, and rural areas. They found the naturally occurring rates of teacher praise in these classrooms to be between .02 and .04 per hr.

Brophy (1981) suggested that teacher praise does not occur frequently in most classrooms. The research described earlier supports this claim, demonstrating very low rates during classroom instruction--ranging from as few as .02 to as many as 1.4 per hour. Assuming 30 students per classroom (which is typical of many urban classrooms) each
child in the classroom would be lucky to receive one praise statement per day at this rate. These findings appear to be incongruent with research demonstrating the power and effectiveness of praise in improving academic performance and social behavior.

*Increasing rates of teacher praise.* The naturally-occurring low praise rates of teacher praise observed and in studies described previously have led researchers to design and implement interventions targeting increases in teacher praise. For example, Sutherland and Wehby (2001) investigated the effects of self-evaluation on teacher praise behavior in classrooms for students with EBD. The authors recruited 20 teachers and randomly assigned them to one of two groups: self-evaluation and no-treatment. During baseline, no changes were made to teacher instruction. In the treatment condition (i.e., the self-evaluation group), teachers were required to audiotape their instruction and self-evaluate their use of praise statements. Data were collected across 20 sessions for a total of 5 hrs per teacher. Results showed significant increases in rates of teacher praise for participants in the self-evaluation group. Teachers in the treatment group provided nearly 3 times the number of praise statements, when compared to the non-treatment group. Furthermore, teachers who used self-evaluation reduced their number of reprimands during whole-group instruction, even though reprimands were not targeted for change. Although there was no statistical significance between the two groups for the total number of reprimands, the students in the classrooms of the non-treatment teachers provided 50% fewer correct responses. Additionally, teachers in the non-treatment group displayed twice as much “other talk” compared to teachers in the treatment group. Although teachers in the treatment group perceived this “intervention to be feasible to implement within the ongoing curriculum in their classrooms” (Sutherland & Wehby,
2001, p. 168), treatment effects were not maintained when experimenters conducted 4 (60 min) follow-up observations in each participant’s classroom approximately 1 month later.

Similarly, Sutherland, Wehby, and Copeland (2000) conducted a study investigating the effects of an observation-feedback intervention on the praise rates of a 5th-grade teacher of students with EBD. During baseline, no changes were made to teacher instruction, and data were collected on teacher praise (i.e., frequency and specificity) and student on-task behavior. During intervention, the teacher was provided with verbal feedback regarding the frequency and specificity of his praise statements. Furthermore, the teacher was praised for using high rates of specific praise. Results showed that the feedback intervention was successful in increasing the frequency and quality of teacher praise and in increasing on-task behavior of the students. However, when the authors collected follow-up data 1 month after the conclusion of the study, they found that the effects of the intervention were not maintained over time.

Gunter et al. (1993) investigated the use of lag sequential analysis as a tool for determining the function of disruptive behavior in students with EBD. That is, the authors looked at the conditional probabilities “of one event preceding or following another event. Conditional probabilities are calculated by totaling the frequency of one coded event (the condition) and then the proportions of all the events that precede or follow that event” (Gunter et al., 1993, p. 139). In a series of experiments, teachers were asked to use various teaching strategies, including teacher praise, to reduce the disruptive behavior of their students. In all conditions, teachers were provided with prompts and daily feedback regarding interactions with their students. Results showed that teacher
praise was effective in reducing the disruptive behavior of EBD students; however, consistent with other research (e.g., Sutherland & Wehby, 2001; Sutherland et al., 2000), rates of teacher praise decreased to baseline levels once the prompts were withdrawn.

Thus, although research has investigated a variety of effective interventions (e.g., self-evaluation, feedback) designed to increase teacher praise, the effects of such interventions have not resulted in maintenance of high rates of teacher praise over time. The reasons for this lack of maintenance are unclear. One hypothesis for the poor maintenance results in studies designed to increase teacher praise is that the intervention “may not have been powerful enough to promote lasting change” (Sutherland & Wehby, 2001, p. 168). It may be that teacher training and/or intervention conditions were not long enough (in duration) to produce durable results. For example, in the Sutherland and Wehby (2001) study, the intervention phase lasted only 2 weeks. Similarly, in the study conducted by Sutherland et al. (2000), the authors collected data only 3 days a week for several weeks.

In the Sutherland et al. (2000) study, when the authors withdrew feedback and praise of specific teacher praise, rates of teacher praise dramatically decreased. Consistent with educational literature on student behavior previously addressed in this paper, teacher behavior (i.e., praise rates) also decreased when experimenters withdrew positive reinforcement (e.g., feedback and praise). Thus, correct student responding “may not have been powerful enough to occasion lasting change in teachers’ instructional behavior” (p. 169). The authors suggest that future research is warranted to determine effective means of maintaining high rates of desirable teacher behavior (e.g., OTR and praise) in the absence of experimenter prompting and reinforcement.
A third hypothesis is that teachers are resistant to improving their praise rates because they believe that children should demonstrate appropriate classroom behavior and academic responding independent of teacher praise or that praise is actually harmful to children. This hypothesis is discussed in more detail in the following section.

Resistance to teacher praise. While the empirical literature has demonstrated the positive effects of teacher praise on student academic and social behavior, there are those who are resistant to utilizing or increasing praise as an integral part of their classroom instruction. In fact, there are many members of the educational field who staunchly advocate against the use of praise in the classroom. For example, Curwin (1980) cautions teachers and parents about the dangers of praise, asserting that praise is “far more dangerous than most of us suspect” (Curwin, 1980, p. 61). In fact, he holds that it may be “just as addictive as drugs and alcohol” (Curwin, 1980, p. 61). Curwin explains that children who appear to be “addicted to praise” constantly downgrade themselves, engage in behavior guaranteed to get them more of whatever it is they crave, are manipulative, and are unable to “appreciate their own unique talents and abilities unless they are approved of by others” (Curwin, 1980, p. 62).

Similarly, Larrivee (2002) states that teacher praise undermines the development of our fundamental democratic values. The author asserts that classrooms must be arenas for critical conversations and respectful dialogues, and praising students would threaten that exchange. Larrivee also advocates the use of self-evaluation by all students and asserts that teacher praise interferes with that process.

Finally, according to Kohn (1993), praising students for a specific task takes away from their “intrinsic motivation” to perform the very same task. Although much
empirical literature shows otherwise (Cameron & Pierce, 2001; Cameron & Pierce, 1996; Cameron & Pierce, 1994), Kohn states that praising students is counterproductive and actually undermines student academic achievement, decreasing their motivation to succeed. According to Kohn (1993), there are “four accounts of how praise may impede performance: it signals low ability, makes people feel pressured, invites a low-risk strategy to avoid failure, and reduces interest in the task itself” (Kohn, 1993, p. 101). Despite research previously cited, Kohn contends that studies displaying the positive effects of teacher praise are “remarkably scarce” and those who give credence to praise must rely on a “blind faith in the Skinnerian model” (Kohn, 1993, p. 98).

While essentially unfounded, these claims about the negative effects of praise in the classroom are important to consider because they may explain why so many teachers display such low rates of praise in their instruction. Interventions that focus on increasing teacher praise may fail to produce maintenance because teachers may view interventions based on praise as counterproductive (based on their training and reading literature, such as that described above). This resistance to using praise and lack of maintenance of increased rates of praise found in studies evaluating the effects of interventions designed to increase teacher praise suggest that exploration/research of acceptable alternative methods for increasing teacher praise may be warranted.

The Relation between OTR and Teacher Praise

Teacher praise and OTR have been found to be highly correlated (Van Acker et al., 1996; Cantrell, Stenner, & Katzenmeyer, 1977; Sutherland, Wehby, & Yoder, 2002). Sutherland et al. (2002) conducted a study investigating the relationship between OTR and teacher praise, in which the authors observed twenty teachers (grades K-8) of
students with emotional and behavioral disorders (EBD) for a minimum of 90 min per teacher. Teachers were observed during explicit whole-group instruction across several subject areas (e.g., math, reading, language arts, science, and social studies). Investigators collected data on 9 teacher behaviors (e.g., behavior-specific praise for social behavior; behavior-specific praise for academic behavior; reprimands; individual opportunities to respond; group opportunities to respond) and one student behavior (correct responding). The investigators calculated *Pearson’s r correlation coefficient* to evaluate the relations between OTR and teacher praise. Significant positive correlations were found between praise and OTR. There were also positive correlations between students’ correct responses and OTR and academic talk. The authors asserted that the “significant correlation between praise and OTR suggests that teachers with high rates of praise have high rates of OTR and [vice versa]” (p. 10).

Van Acker et al. (1996) reported similar findings regarding the relation between praise and OTR. The authors reported nearly identical rates of OTR (at .025 per minute) and teacher praise (at .024 per minute) for students at mid-risk for aggression. Similarly, in the group of students at high-risk for aggression, investigators reported comparable rates of OTR (.019) and teacher praise (.020).

Summary

Educational research has shown the positive effects of both increased OTR and high rates teacher praise on the academic and social behavior of individuals of all ages and in a variety of different content areas. Furthermore, research demonstrates that despite the empirical evidence of the positive effects of high rates of OTR and teacher praise on both the academic achievement and social behavior of children, many teachers
rarely use these practices (Sutherland et al., 2002). As a result, some studies have been conducted to evaluate the utility of interventions for teachers to increase their praise rates. Such research has shown that these interventions can be successful in increasing teacher praise while the intervention is in effect. However, long-lasting, durable increases in teacher praise have not been found when interventions have been removed. The reasons for this lack of maintenance are unclear. One reason for the low rates of praise in the classroom may be that teachers are resistant to using praise as a reward and/or reinforcer because they have been told by educational “experts” that praise is harmful to children (Ryan & Deci, 1996; Kohn, 1993). Given this resistance to using praise in the classroom and the lack of maintenance of intervention effects for increasing praise, research on improving other aspects of effective instruction that might have a positive side effect of increasing praise may be warranted.

Sutherland and colleagues (2002) found a “significant correlation between praise and OTR suggests that teachers with high rates of praise have high rates of OTR” (p. 10) and vice versa. There are numerous implications of this relation between OTR and teacher praise. Sutherland et al. (2002) assert that “if a predictable relationship between teacher praise and OTR does exist, it would have implications for interventions designed to increase their occurrence: It may be possible to effect both by increasing one” (p. 6). That is, if a teacher learned to increase his or her OTR during instruction, a similar increase in praise might occur. This strategy for increasing teacher praise may be advantageous because teachers may be less resistant to increasing OTR than they are to increasing their praise. However, there is limited research on the functional (i.e., causal) relationship between OTR and teacher praise. To date, most studies of relation between
teacher praise and OTR have been correlational in nature. Causal relationships cannot be inferred from such correlations (Cohen, 1988). Research that evaluates the functional relationship between OTR and praise is needed before such recommendations for changing teacher behavior in the classroom can be made.

Another limitation of the literature on OTR and teacher praise is that nearly every study has been conducted with students with emotional and behavioral disorders (EBD) (e.g., Carnine, 1976; West & Sloane, 1986; Skinner et al., 1991; Skinner & Shapiro, 1989). Research into the relation between OTR and teacher praise in general education classrooms is warranted, as determining a functional relationship between the two would have implications for the success of all students, not just those with EBD.
Research Questions

1. Is there a similar relation between opportunities for student response (OTR) and teacher praise for general education teachers as has been reported in the literature for teachers of EBD students?

2. Given that there is a relation between OTR and teacher praise and given low rates of OTR during whole-class instruction, what are the effects of increasing OTR on teacher praise rates during whole-class instruction? That is, is there a functional relationship between OTR and teacher praise?

3. Given that there is not a relation between OTR and teacher praise (e.g., given high rates of OTR and low rates of teacher praise) during whole-class instruction, what are the effects of praise training on the frequency of praise statements during whole-class instruction?

4. Given increases in teacher praise during whole-class instruction, either as a function of increased OTR or praise training, what are the effects of increased praise statements on the reprimands of teachers during classroom instruction?

5. What are teachers’ perceptions about elements of effective instruction (e.g., frequent OTR and teacher praise) before and after increasing teacher OTR and praise?

6. What are students’ perceptions about low and high rates of OTR and teacher praise during whole-class instruction?
CHAPTER 3

METHOD

Participants and Settings

Three teachers from a Midwestern urban elementary school affiliated with The Ohio State University’s College of Education, participated in the study. (See Appendix A for letter of support from the school.) Participating teachers’ years of experience ranged from 2 to 26 years. Approximately 25 teachers worked at the school, and 350 students in grades PreK through 5 attended the elementary school. Participating teachers were selected from the pool of 25 teachers on the basis of several criteria: Participants were general education teachers who possessed at least a Bachelor’s Degree in Elementary Education and had been observed to display low rates of OTR or teacher praise on previous informal observations. Participants were selected based on their willingness to collaborate with the experimenters (a minimum of 1 time per week) and to make minor changes in his or her instruction (e.g., increasing his/her OTR). Participants were excluded if other research was being conducted in their classroom or if the building principal suggested specific teachers be excluded from the study for other reasons (e.g., the teacher was currently undergoing other systematic evaluations, such as evaluations for earning professional—rather than provisional—licensure.)

Mr. Thomas was 36 years old and had been a 4th-grade teacher at the elementary school for 2 years. Prior to coming to this school, he had been employed in the business
sector for 10 years. Thus, he had no previous teaching experience prior to coming to this school. Mr. Thomas had approximately 28 children in his class, most of which were below-average performers. Thirteen of Mr. Thomas’ students were on IEPs and were pulled out of his room for at least a portion of their day for individual or group instruction. Previous observations had revealed that Mr. Thomas’ rates of OTR and praise statements were at near-zero levels during classroom instruction. Additionally, the experimenter observed that Mr. Turner displayed weak classroom management skills and high levels of frustration during whole-group instruction.

Mrs. Carl was a 56-year-old, 5th-grade teacher at the school and had a total of 26 years teaching experience. Mrs. Carl also demonstrated near-zero rates of both OTR and teacher praise during previous observations during whole-group instruction. Mrs. Carl had 29 students in her classroom, most of whom were average achievers. Eight students were pulled out for special education services at some point during the day; however 3 of those were in gifted or accelerated programs. Mrs. Carl mentioned several times that her daughter was working on her dissertation at the time the study occurred and was “happy to help out” because her daughter told her “how difficult it was to get teachers to participate in research.”

Similarly, Mrs. McKenzie was a 44-year-old, 5th-grade teacher with 21 years teaching experience. She had 31 students in her classroom, 10 of whom were on IEPs for some sort of special education services. The students in Mrs. McKenzie’s room had higher incidences of referrals to the office and her predominate way of dealing with classroom management issues was to yell at the students. She was known in the building for being “tough” on her students, but the experimenter observed an affinity between
Mrs. McKenzie and her students. An example of this was when several of her “tougher” (i.e., trouble-maker) students asked her to participate in the talent show with them. Mrs. McKenzie was a participant in an unrelated thesis study conducted in 2003 by another graduate student at The Ohio State University (Frieder, 2003). The investigator of the current study served as a second observer in the 2003 study and observed near-zero levels of OTR and teacher praise and high rates of reprimand statements during Mrs. McKenzie’s classroom instruction.

Participants were provided with a copy of the general procedures of the study (see Appendix B for a copy of these general procedures) and were asked to sign a letter of consent (see Appendix C), acknowledging their consent to participate and their right to withdraw from the study at any time without any sort of penalty. Although participants were aware that the study involved increasing OTRs, they were naïve to the fact that the experimenter would be recording teacher praise as the primary dependent variable in the study, at least at the onset of the study.

The study took place in the teachers’ classrooms and observations were conducted during teacher-identified, teacher-led group instruction times. “Teacher-led instruction” was defined as academic curricula presented by the teacher to a large group of students. The lessons were based on lesson plans written ahead of time by each teacher.

Mr. Thomas was observed during reading (morning sessions) and math (afternoon sessions) whole-group instruction. Mrs. Carl was observed during morning social studies whole-group instruction consistently throughout the study. For the majority of sessions, Mrs. McKenzie was observed during afternoon math whole-group instruction, but occasionally she was observed during morning social studies whole-group instruction.
Participants were asked to advise the experimenter of any changes in their schedule; however, there were approximately 10 days throughout the study when data were not collected for various reasons, including field trips and teacher absenteeism. Additionally, there were several days (i.e., 7-8) in which the participants specifically requested that the experimenter not collect data in their classrooms. Sometimes, the participants expressed that it was a “bad day” and “would rather not” have the experimenter in the room during their whole-group instruction. Other times, participants indicated that they were “not ready” or were “unprepared” to be observed. On these occasions, the experimenter complied with their requests and did not collect data on those days.

**Materials**

*Recording system.* An audio recording system was used throughout the study to record data. This system consisted of a small wireless microphone (Radio Shack, model 32-1221B) worn by each of the participants during each session. The microphone sent a signal to a tape recorder located at the back of each room and each session was recorded onto 90 min audio tapes.

*Teacher Cuing Device.* Teachers were asked to wear a MotivAider® to prompt them to ask OTRs during classroom instruction. See Figure 3.1 for a picture of a MotivAider®. The MotivAider® was a pager-like device worn by each participant (e.g., on his/her belt) that was programmed to vibrate at fixed or variable intervals. For example, if the target number of OTRs for a given participant was 15 in 15 min, the MotivAider® was set to vibrate approximately every 60 s.

*Experimenter*
The experimenter was a doctoral candidate in Special Education and Applied Behavior Analysis at The Ohio State University. She received a B.S. in Special Education from Wright State University in Dayton, Ohio in 1995. She received a Master’s Degree in Curriculum and Instruction from Wright State University in 2001. She was a certified Special Education Teacher in the state of Ohio and held a certificate in Special Education Supervision. Additionally, the experimenter had prior experience working with students, teachers and administrators in the school in which the study was conducted. She spent her second year of her doctoral program implementing school-wide positive behavior strategies such as social skills training, student praise notes, and Behavior Bingo. The experimenter also consulted with individual teachers (at their request) regarding specific students who displayed inappropriate behavior in their classrooms. She had experience observing in most of the classrooms throughout the building, including the classrooms of the participants in the current study.

Definitions and Measurement of Dependent and Independent Variables

The primary dependent variables were OTR and teacher praise. A secondary dependent variable was teacher reprimands. The definitions of the dependent variables were based on the definitions provided in Sutherland et al. (2002).

Primary dependent variables: OTR consisted of both group and individual OTR. Group OTR was defined as the teacher providing a question or statement that was a request for more than one student to simultaneously make an oral or otherwise public (e.g., on the chalkboard) academic response. In addition, Group OTR also included questions directed toward the entire class, but it was expected that only one child would answer. Examples of group OTR were “Can anyone tell me the answer to number five?”
and “What is the capital of Ohio?” Nonexamples were requests for nonacademic responses, such as “Please take your books out and turn to page 250;” requests directed at an individual student, such as “Emma, what is two plus two?” and managerial statements, such as “It’s time for lunch.” **Individual OTR** was defined as the teacher providing a question or statement that was a request for one specific student to make an oral or otherwise public academic response. Examples of individual OTR were “What month is it, Sam?” and “Jim, how many seasons are there in a year?” Nonexamples were nonacademic requests directed at a specific student, such as “Susan, are you supposed to sit that way in your chair?” and requests for whole-group responses, such as “Who knows what year it is?” and “How many seasons are in a year?”
Figure 3.1  Picture of MotivAider™ worn by participants
**Teacher praise.** Praise consisted of both behavior-specific and nonbehavior-specific praise for student academic and social behavior. **Behavior-specific praise for student academic or social behavior** was defined as the teacher making a verbal comment indicating approval of students’ academic or social response and that specified the specific behavior for which the praise was given. Examples of behavior-specific academic praise were: “Yes, that’s right. Two plus two is four. Good job!” and “Good job sitting correctly in your seat.” Nonexamples were “Yes, good job.” and “Thank you.” **Nonbehavior-specific (i.e., general) teacher praise statements** were defined as the teacher making a verbal comment that indicated approval of students’ behavior but did not specify an academic or social behavior. Examples were “Good job” and “Way to go.” Non-behavior-specific teacher praise statements also included general statements that, by themselves, do not indicate teacher approval. However, when delivered contingent upon an appropriate (i.e., correct) individual or group response, these statements constituted a praise statement for purposes of this study. For example, words like “yes,” “right,” “thank you,” “exactly”—when stated after either an individual or group response—were counted as non-behavior specific praise statements. Nonexamples were “Fantastic job tying your shoe” and “Adam, I like the way you helped your friend.” Other nonexamples included any nonverbal behavior (e.g., smiling, nodding, pointing, giving thumbs up) displayed by the teacher that indicated approval.

**Secondary dependent variables: Reprimands and neutral feedback.** Reprimands consisted of both group and individual reprimands. **Group reprimands** were defined as verbal comments indicating disapproval of a small or whole group’s behavior in the class. Examples are “It’s too loud in here. Everyone needs to be quiet.” and “I’m not pleased
with the way you all lined up.” Nonexamples were “Who thinks it’s too loud in here?” and “A couple of you need to keep your hands to yourself when you line up.” Other nonexamples included teacher nonverbal behavior (e.g., dirty looks, pointing, physical redirection, or finger snapping) that indicated disapproval. **Individual reprimands** were defined as verbal comments indicating disapproval of an individual’s behavior. Examples were “John, please sit down. It’s not time to get up.” and “You’re too loud, Jessica.” Nonexamples are “Jessica!” (i.e., stating or yelling the student’s name without specifying any specific reason for saying the student’s name) and “Sit down!” (directed at the entire class). Other nonexamples included teacher nonverbal behavior (e.g., dirty looks, pointing, or finger snapping) indicating disapproval.

**Neutral feedback** consisted of both group and individual neutral feedback. Neutral feedback was defined as verbal comments indicating neither approval nor disapproval of students’ academic or social responses, but rather, indicated teacher acknowledgement that a student response was given. Examples of neutral feedback are “Okay,” “Mmm-hmm,” and repeating the student’s response aloud. Nonexamples are “Great answer,” “Good job,” and remaining silent when a student responds to a social or academic request/question. Neutral feedback + praise was defined as the total number of neutral feedback statements and praise statements delivered during classroom instruction.

**Independent Variables: OTR and praise training.** The experimenter provided OTR training to each of the participants, in which she defined and gave examples of OTR. The experimenter also modeled a lesson, both with and without high rates of OTR. The participants were given the opportunity to practice building in high rates of OTR to their lesson plans. See procedures for a full explanation of OTR training.
The experimenter provided praise training to two of the participants, in which she defined and gave examples of praise, contrasting it with neutral feedback statements. Participants were given the opportunity to role-play situations involving praising their students during whole-group instruction. See procedures for a full explanation of praise training.

**Measurement.**

Data on the dependent and independent variables (OTR, praise, reprimands, and neutral feedback) were collected using interval recording within 15-min sessions and are reported as frequency counts. See Appendix F for a sample recording form. Specifically, observers tallied the number of occurrences of each of the dependent and independent variables made by the teacher during the 15-min session, and the total number of occurrences for each variable (i.e., frequency) for that session was graphed.

All sessions were audio taped for scoring purposes. Teachers wore a wireless microphone and the output (teacher talk) was recorded by a remote tape recorder during each session. Data for all sessions were scored live, but the audiotapes were used so that data could be scored at a later point in time if necessary to ensure accuracy of the data, as well as for interobserver agreement purposes.

**Observer training**

The experimenter served as the primary observer and trained additional observers to collect data for interobserver agreement purposes. Prior to the study, audiotapes of the experimenter modeling various rates of OTR, praise, reprimands, and neutral feedback during whole-class instruction were made for observer training purposes. Observers were volunteers from an Introduction to Special Education course taught by
the experimenter at The Ohio State University during the Spring 2004 quarter. All three observers were undergraduate students majoring in elementary or special education and received extra credit points for assisting with the study.

Training was conducted across 3 sessions conducted across 1 week. Each training session lasted approximately 45 min. First, observers were given a written summary of the dependent and independent variables, and the experimenter reviewed the definitions of these variables with them. Then, observers practiced scoring data for teacher behavior using the training audiotapes while the experimenter simultaneously but independently scored the audiotape. The observers’ data sheets were then compared to the experimenter’s data sheet and were scored for agreement with the experimenter. The experimenter provided praise statements (e.g., “Great job,” “Way to go. Your accuracy is nearly 100%”) to the observers for data sheets with high percentages (90% or higher) of agreement. Additionally, corrective feedback for inaccurate scoring was provided to the observers for scores below 90%. Training continued in this manner until the observers were able to consistently obtain at least 90% agreement with the experimenter.

Interobserver agreement

After observers were trained, they conducted interobserver agreement (IOA) checks on 35% of all sessions during the study. IOA was calculated by dividing the smaller number of observations recorded by one observer within a session by the larger number of observations recorded by another observer in that same session and multiplying by 100. For example, if one observer scored 9 praise statements within one session and the other observer scored 10 praise statements in that same session, agreement was calculated by dividing 9 by 10 and multiplying by 100 (i.e., 90%
agreement). This procedure was conducted for every 15-min observation, and then these scores were averaged to obtain the overall agreement. If agreement scores fell below 85% at any time during the study, retraining of observers would have been conducted. However, agreement scores remained above 85% across all target behaviors throughout the investigation and re-training was not necessary.

Table 3.1 displays the agreement scores for each dependent and independent variable across specific participants. Overall, agreement for frequency of OTR ranged from 86% to 98% (M = 92.1%) across participants. Agreement for frequency of general praise ranged from 85% to 100% (M = 99.1%) across participants. Agreement for frequency of behavior specific academic praise ranged from 88% to 100% (M = 98%) across participants. Agreement for frequency of behavior specific social praise ranged from 89% to 100% (M = 94.7%) across participants. Agreement for frequency of reprimands ranged from 88% to 100% (M = 94.8%) across participants. Agreement for neutral feedback statements ranged from 86% to 98% (M = 89.7%) across participants.
<table>
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<th>PARTICIPANT</th>
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<th>IOA MEAN</th>
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<td>39%</td>
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<td>88%-100%</td>
<td>39%</td>
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<tr>
<td></td>
<td>Specific Praise – Social</td>
<td>95.3%</td>
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<td></td>
<td>Neutral Feedback</td>
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<tr>
<td>Mrs. McKenzie</td>
<td>OTR</td>
<td>89.9%</td>
<td>86%-95%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>General Praise</td>
<td>98.6%</td>
<td>93%-100%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>Specific Praise - Academic</td>
<td>97.9%</td>
<td>93%-100%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>Specific Praise – Social</td>
<td>92.4%</td>
<td>89%-97%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>Reprimands</td>
<td>92.1%</td>
<td>88%-98%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>Neutral Feedback</td>
<td>88.1%</td>
<td>86%-94%</td>
<td>31%</td>
</tr>
<tr>
<td>Total Mean</td>
<td></td>
<td>93.2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.1 Interobserver Agreement
Experimental Design

The research design employed in this study was a multiple-baseline across participants design. Baseline data were collected for all participants to establish the levels of OTR, praise, reprimands, and neutral feedback prior to making any programmed changes in OTR. When a stable trend in responding was established, the experimenter collaborated with the first participant (Mr. Thomas) to increase opportunities for student responding during his lessons. Mr. Thomas was selected as the first participant for whom OTR were manipulated because he displayed the lowest rates of OTR and teacher praise in baseline. OTRs were not manipulated initially with the other two participants because their rates of OTR were already high during baseline. However, their praise rates were low. Therefore, praise training was implemented for these participants after a high and stable pattern in OTR and praise was established for Mr. Thomas. Finally, because Mrs. Carl’s OTR decreased following praise training, the experimenter collaborated with her to increase her OTR.

Procedures

Baseline. During the baseline condition, participants were told to provide instruction as they typically did. Prior to the start of each session, the experimenter set up the audio recording system and remained in the classroom, collecting data for the entire session. Data were scored for dependent variables (praise, reprimands, and neutral feedback), as well as the independent variable (OTR). During each baseline session, the experimenter did not give any prompts or feedback to the teachers or their students regarding any aspect of their instruction. Sessions were 15 min in duration.
**OTR Training.** Prior to changing OTR rates, the experimenter conducted individual training sessions with participants during their free periods or after school for approximately 20 min per session. The experimenter and the participant met in participant’s classroom for training. During these training sessions, the experimenter thanked the participants for their participation and then give a brief overview of what OTR was and some of the benefits of high rates of OTR, as described by Sutherland and colleagues (2000, 2001, 2002).

OTR was explained and modeled to the participants, and reference sheets citing examples of high versus low rates of OTR were provided to each participant. (See Appendix E for a sample of these as well as a list of questions related to the content of the lesson. The experimenter said, “This is what a low OTR lesson looks like.” The experimenter then modeled the lesson as it was written (with very few OTR). Next, the experimenter said, “Now, let me show you what the same lesson looks like when I increase my OTR to a higher rate.” She provided the participant with a revised lesson plan that included several OTR in it (see Appendix for a sample). The experimenter explained to the participant that it can sometimes hard to remember to stop instruction and provide OTR. The experimenter explained that in such cases it is helpful to have some sort of cue to remind one to provide an OTR. At this point, the experimenter presented the participant with a MotivAider® and explained how it worked. She set the MotivAider® to vibrate every 30s and placed it on the table so the participant could hear the vibration. She suggested that when the participant taught a lesson, he/she could wear the MotivAider® to prompt question-asking at the appropriate interval, depending on the
condition. Then, the experimenter modeled the same lesson again; however, this time, each time the MotivAider® vibrated, she inserted a question from the list of questions provided to the participant, checking off each question as it was asked. The participant was advised to give his/her students feedback regarding the accuracy of their responses to OTRs and to otherwise respond as he/she normally would; thus, each participant was neither encouraged nor discouraged to deliver praise during the increased OTR condition.

During the next training session, the participant was given a second (different) lesson plan, and he/she practiced writing questions and inserting them into his/her lesson plans during the training. The experimenter said, “Here is a new lesson plan. Read through the lesson and let’s work together to create 10 questions you could ask during the lesson. Then, we will insert a number of the questions into the lesson plan so you will remember when to ask questions. I will help you with this now, and I will continue to help you with this throughout the study. This is what we will do when we meet at the beginning of each week.” Then, the participant wrote questions related to the content of the lesson with the assistance of the experimenter. For example, if a participant was having a difficult time coming up with enough questions for a particular lesson, the experimenter helped the participant write relevant questions and made suggestions for the most appropriate place to insert the questions.

After the questions were written and the participant was ready to practice inserting the questions into the sample lesson plan, the experimenter gave the participant a Motivaider® and told the participant that the vibration should serve as a cue to provide an OTR within the next few seconds. The experimenter said, “The MotivAider® will help to remind you to ask questions during your lessons. When it vibrates, just ask a
question as soon as you can (i.e., the next time it is appropriate). It is not necessary to stop in the middle of your sentence or thought to ask a question.” Although each participant was instructed to wear the MotivAider® on his or her belt or in his or her pocket during the increased OTR phases, the MotivAider® remained on the table during training so that both the participant and the experimenter could hear it vibrate.

Following his/her practice lesson, the participant received feedback regarding his/her performance. Specifically, the participant received feedback on whether they provided the stipulated number of OTR. Participants were required to ask the correct number of questions (within one question of the required number of questions; i.e., if the required number of questions was 6, the participant must ask between 5 and 7 questions to have “correct” performance) over 3 consecutive training sessions prior to beginning the next phase of the study. Had a participant not provided the appropriate number of OTR specified by the condition, retraining and practice sessions would have been provided.

**Increased OTR.** Participants provided copies of their lesson plans to the experimenter at the beginning of each week. At that time, the experimenter and the participant reviewed the lesson plans for the upcoming week together, wrote specific questions that could be asked during the lesson, and inserted the questions into the lesson at appropriate places. For example, if a participant was being observed during reading instruction, the experimenter collaborated with the participant to write and embed questions related to the specific reading passage covered during the whole-group instruction. Again, participants were asked to give their students feedback regarding the accuracy of their responses to OTR and to otherwise respond as they normally would;
thus, participants were neither encouraged nor discouraged to deliver praise during this phase.

In an effort to ensure participants provide the assigned number of OTRs during whole-group instruction, each participant was provided with a MotivAider®. The intervals at which the MotivAiders® were set depended on the targeted number of OTR for that particular participant. For example, if the target number of OTR was 15 in 15 min, the MotivAider® was set to vibrate approximately once every 60 s to prompt an OTR.

A goal of 10 OTR per 15-min session was established for Mr. Thomas after OTR training. This was based on Mr. Thomas’ baseline level of OTR, which averaged 5 per 15-min session (excluding the first session). Mr. Thomas’ goal of 10 OTR per session was double that of his rates during baseline. A goal of 40 OTR per 15 min session was established for Mrs. Carl during this phase (i.e., her highest rate during baseline). OTR during baseline averaged 26.7 per session and decreased to an average of 16.4 after praise training. Thus, Mrs. Carl’s goal of 40 OTR per session was 1.5 times that of her average during baseline. A goal of 35 OTR per 15 min session was established for Mrs. McKenzie during this phase. Her OTR during baseline averaged 22.1 per session; making her goal of 35 per session 1.5 times that of her baseline average.

Praise Training. For participants with high OTR rates and low praise rates during baseline (Mrs. Carl and Mrs. McKenzie), the experimenter conducted two individual praise training sessions during their free periods or after school for approximately 20 min per session. The experimenter and the participants met individually in the participants’ classrooms for training. The experimenter gave a brief explanation of the definition of
praise and neutral feedback and provided examples and nonexamples of both. (See Appendices F and G for samples of the descriptions and examples provided). The experimenter provided opportunities for role play, and participants were asked to provide original examples of both praise and neutral feedback. The experimenter said, “Pretend I am a student and I have just given you a correct answer when you asked me the capital of Ohio. Give me a behavior-specific praise statement first.” Then, the participants might say, “Good job! Columbus is the capital of Ohio!” Next, the experimenter said, “Now give me a general praise statement.” Then, the participant might say, “Well done!” or “Way to go!” The experimenter gave several examples of student behavior and asked the participants to practice administering praise statements. However, unlike the Sutherland et al. (2001/2002) studies, the experimenter in this study did not explicitly ask participants to increase their use of praise during classroom instruction; she merely explained the difference between neutral feedback and praise statements.

**Integrity of the Independent Variable**

A number of steps were taken to ensure that the participants provided the specified number of OTR per session throughout the study. First, the experimenter met with participants to develop specific questions that were used for OTR before each lesson (as previously described). In addition, the participants wore MotivAiders® to cue them to provide an OTR, as previously described. Also, the experimenter had planned to periodically prompt the participants to give students OTR during whole-group instruction via hand signals or written cue cards. For example, if a teacher had been directed to provide 2 OTR per min during 15 min of whole-group instruction and 2 min had gone by without an OTR, the experimenter would have held up a cue card that read, “Ask a
question!” However, all of the participants met their goals, and these additional prompts were unnecessary.

Throughout the study, the experimenter collected data on the number of OTR provided by participants. During the Increased OTR condition, participants were given feedback on their rate of OTR during each lesson. For example, if the participant met the targeted number of OTR for a session, the experimenter told the participant how many OTR he/she displayed and congratulated him/her for meeting the specified number of OTR. If the participant had failed to provide the specified number of OTR in a given session, the experimenter would have informed the participant that he/she did not meet the criterion, conducted additional training with that participant, and provided additional cues and prompts during lessons as necessary to maintain the integrity of the independent variable. However, all of the participants met their target rates of OTR throughout the study.

Social Validity

Teacher questionnaires were administered prior to baseline and also at the conclusion of the study (see Appendices H and I) to determine teacher perceptions of effective instructional practices, such as increased OTR and praise. Teachers were also asked questions regarding their willingness to modify their own classroom instruction to include such effective instructional practices.

Also, students from the same elementary school were asked to watch videotapes of one of the participating teachers during whole-group instruction. Videos of Mrs. McKenzie were shown, in which she incorporated various rates (i.e., low and high) of OTR and teacher praise. For the low OTR/praise video, the experimenter selected Mrs.
McKenzie’s first session during baseline and for the high OTR/praise video, Mrs. McKenzie’s last session (after OTR training) was shown to the students. After viewing each videotaped vignette, the students were given a questionnaire (see Appendix J) to evaluate their perceptions of the teacher and her instruction. These questionnaires were administered to students because students are the most relevant consumers affected by classroom instruction.

On two separate occasions, the experimenter introduced herself to two groups of third graders (who were sitting in their respective seats after returning from recess) and asked for their cooperation in an activity. The experimenter told the students that they would be seeing two different video clips (both recorded during instruction in Mrs. McKenzie’s classroom). The students were told that they would be asked questions about the videos afterward. During both sessions, the students viewed the low OTR/praise condition first and the high OTR/praise condition second; there was no discussion in between the two vignettes. Then, the experimenter passed out the questionnaires and read through the questions, one at a time, allowing time for the students to mark their answers or ask any questions. The students were told that there were no right or wrong answers and to just say what they thought about each question. After all of the questions were read and the questionnaires were collected, the experimenter thanked the students for their time and attention.
CHAPTER 4

RESULTS

OTR, Teacher Praise, and Total Feedback

Results for frequency of OTR and praise by teacher are shown in Figure 4.1. Results for Mr. Thomas’ OTR, praise, and total feedback are displayed in the top panel of Figure 4.1. Initially, Mr. Thomas demonstrated high rates of OTR (44 during the first 15-min session) in the baseline condition; however, subsequent observations resulted in a decrease in Mr. Thomas’ OTRs to an average of 5 OTRs per session. Mr. Thomas’ praise rates remained low and stable throughout baseline, averaging 2 praise statements per 15-min session. Thus, for Mr. Thomas, OTR and praise appeared to be closely related (i.e., both were very low during baseline). Thus, OTR training was implemented to increase Mr. Thomas’ OTR and to observe the effect on his praise. After OTR training, Mr. Thomas was given a goal of increasing his OTR to 10 per 15-min session. On all subsequent sessions, Mr. Thomas met or exceeded this goal. During the Increased OTR condition, his OTR averaged 27.1 per session. However, his praise rates remained consistently low, averaging 2.5 per session throughout the condition. Thus, a relation between increased OTR and praise was not observed. In fact, when rates of OTR increased, rates of praise remained consistently low. However, when praise was combined with neutral feedback, an increase in total feedback to the students was observed. This increase was closely related with the number of OTR delivered during
instruction. The experimenter planned to implement praise training with Mr. Thomas next to ensure that he understood the definition of praise. However, because the school year ended, it was not possible to implement this condition with Mr. Thomas
Figure 4.1. Frequency of OTR, teacher praise, and total feedback during 15 minute sessions.
Results for Mrs. Carl’s OTR, praise, and total feedback are shown in the middle panel of Figure 4.1. Mrs. Carl’s frequencies of OTR were near zero level for the first two days of baseline. However, she demonstrated a sharp increase in OTR on Session 3, and her frequency of OTR remained high throughout the remainder of the condition, averaging of 29.6 (range 14-52) OTR per session. Conversely, Mrs. Carl’s frequencies of teacher praise remained low throughout baseline, averaging 4 (range 1-8) per session. However, when praise was combined with neutral feedback, the frequency of total feedback closely correlated with the frequency of OTR. Because Mrs. Carl displayed high OTR already, but her praise was low, praise training was implemented to ensure that Mrs. Carl understood what behaviors constituted praise. After praise training was implemented with Mrs. Carl, her praise consistently increased from 12 to 25, averaging 16.7 per session. Interestingly, however, for Mrs. Carl, OTR and praise seemed to be inversely related. Specifically, her frequencies of OTR steadily decreased as her praise increased. Her OTRs decreased from 41 to 17 per session, averaging 16.4 OTRs per session. As a result of these findings, OTR training was implemented to re-establish high levels of OTR and to observe the effects of praise. Following OTR training, Mrs. Carl’s rate of OTR immediately increased to a stable pattern averaging 42.5 per session, while her praise rates increased slightly from 17 to 24 per session during this phase. While OTR and praise were not closely related in this condition, they appeared to be more closely related than in the baseline condition.

Results for Mrs. McKenzie’s OTR, praise, and total feedback are shown in the bottom panel of Figure 4.1. Mrs. McKenzie’s frequencies of OTR during baseline were variable, averaging 22.1 (range 9 to 45) per 15-min session. Her frequencies of praise
during baseline were consistently low, averaging 5.9 (range 1 to 13) praise statements per 15-min session. Like Mrs. Carl, Mrs. McKenzie’s frequency of praise was not closely correlated to her frequency of OTR. However, when neutral feedback was added to praise (total feedback), a very close correlation was observed. Thus, praise training was implemented to ensure that Mrs. McKenzie understood what behaviors constituted praise. Following praise training, Mrs. McKenzie’s frequency of praise dramatically increased from 1 (in the last session of baseline) to 31 (in the first session after praise training) and remained high, averaging 27 praise statements per 15-min session. In addition, frequencies of OTR also steadily increased from 18 to 27 per session. To evaluate whether further increasing Mrs. McKenzie’s frequency of OTR would result in further increases in her frequency of praise, OTR training was implemented. However, due to time constraints (i.e., the end of the school year), it was only possible to obtain one data point for the increased OTR phase for Mrs. McKenzie. During that session, where her goal was to deliver at least 30 OTR during the session, her rate of OTR increased to 39 (1.5 times higher than baseline). When her OTR increased, her frequency of praise remained high (31), closely approximating the frequency of OTR.

**Teacher Praise and Reprimands**

Figure 4.2 shows the frequencies of praise and reprimands for each participant across experimental conditions. The top panel of Figure 4.2 shows the frequencies of praise and reprimands across experimental conditions for Mr. Thomas. During baseline, when Mr. Thomas’ frequency of praise was low (averaging 2 per session), his frequency of reprimands steadily increased from 8 to 34 per 15-min session. Similarly, following
Figure 4.2. Frequency of teacher praise and reprimand statements during each 15 min session
OTR training, when Mr. Thomas’ frequency of praise remained low, his frequencies of reprimands remained high.

The middle panel of Figure 4.2 shows the frequencies of praise and reprimands across experimental conditions for Mrs. Carl. During baseline, when Mrs. Carl’s frequency of praise remained consistently low, her frequency of reprimands were extremely high, averaging 18.8 (range 5 to 31) per session. After Mrs. Carl received praise training, and her praise rates steadily increased from 12 to 25, her frequencies of reprimands decreased from 9 to 2 per 15-min session. During the increased OTR phase of the study, when Mrs. Carl’s frequencies of praise further increased, her frequency of reprimands reached near zero levels.

The bottom panel of Figure 4.2 shows the frequencies of praise and reprimands across experimental conditions for Mrs. McKenzie. During baseline, when Mrs. McKenzie’s frequencies of praise were consistently low, her frequency of reprimands was very high. In fact, her frequencies of reprimands were nearly three times higher than her frequencies of praise, averaging 15 (range 3 to 22) per 15 min session. After praise training, when Mrs. McKenzie’s praise rates steadily increased, her reprimands significantly decreased to near-zero levels. These near-zero levels of reprimands were maintained during the Increased OTR condition, where her frequency of praise was even higher than following praise training.
<table>
<thead>
<tr>
<th>Instructional Practice</th>
<th>Mr. Thomas Before</th>
<th>Mr. Thomas After</th>
<th>Mrs. Carl Before</th>
<th>Mrs. Carl After</th>
<th>Mrs. McKenzie Before</th>
<th>Mrs. McKenzie After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Student Responding</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>High Rates of Teacher Questions</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Explicit Teacher Instruction</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Students Discovering Their Own Learning</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>High Rates of Teacher Praise</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Teacher Creativity</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Physical Environment of Classroom</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Hands-on Activities for Student Learning</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

**KEY:**

1 = This practice is not important at all for effective instruction
2 = This practice is slightly important for effective instruction
3 = This practice is moderately important for effective instruction
4 = This practice is very important for effective instruction
5 = This practice is vital to effective instruction

Table 4.1 Teacher Survey: Elements of Effective Instruction
Social Validity

collection. On a 5-point Likert-type scale (1 being not important at all, 5 being vital for effective instruction), all participants marked 5 for active student responding before commencement of the study and again after the study had been completed. For all participants, their perceptions of the importance of high rates of teacher questions ranged from 4 to 5, with a mean of 4.3 before commencement of the study and a mean of 5 after the study had been completed. For all participants, explicit teacher instruction ranged from 1 to 5, with mean of 3 before commencement of the study and a mean of 3 after the study had been completed. For all participants, students discovering their own learning ranged from 3 to 5, with a mean of 4 before commencement of the study and a mean of 4 after the study had been completed. For all participants, high rates of teacher praise ranged from 4 to 5, with a mean of 4 before commencement of the study and a mean of 5 after the study had been completed. For all participants, teacher creativity ranged from 4 to 5, with a mean of 4.7 before commencement of the study and a mean of 4.7 after the study had been completed. For all participants, the physical environment of the classroom ranged from 3 to 5, with a mean of 4.3 before commencement of the study and a mean of 4.3 after the study had been completed. For all participants, hands-on activities ranged from 3 to 5, with a mean of 4 before commencement of the study and a mean of 4 after the study had been completed. Thus, the only change from the first survey to the last was the increase regarding high rates of teacher praise.

Table 4.2 shows the teachers’ perceptions regarding their willingness to change their classroom instruction. Again, a 5-point Likert-type scale was used, 1 meaning that
<table>
<thead>
<tr>
<th>Instructional Practice</th>
<th>Mr. Thomas Before</th>
<th>Mr. Thomas After</th>
<th>Mrs. Carl Before</th>
<th>Mrs. Carl After</th>
<th>Mrs. McKenzie Before</th>
<th>Mrs. McKenzie After</th>
</tr>
</thead>
<tbody>
<tr>
<td>You need to make your classroom a pleasant learning environment.</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>You need to increase the number of questions you ask students.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>You need to use hands-on activities in class.</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>You need to use explicit instruction.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>You need to use high rates of praise.</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>You need to let students discover their own learning.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>You need to be more creative in your teaching.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>You need to allow for greater active student responding.</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Key:
1 = Not a problem - you'll make the change right away
2 = It might be difficult, but you'll make the change
3 = You really don't want to, but you'll make the change recommended by the consultant
4 = You won't make the changes unless your building principal requires you to
5 = You refuse to make this change

Table 4.2 Teacher Survey: Willingness to Change
they would make the change right away without any problems, 5 meaning they refuse to make the suggested change. For all participants, making their classroom a pleasant learning environment ranged from 1 to 2, with a mean of 1.7 before and after the study took place. For all participants, increasing the number of questions they ask ranged from 1 to 1, with a mean of 1 before commencement of the study and after the study had been completed. For all participants, using hands-on activities ranged from 1 to 2, with a mean of 1.7 before the commencement of the study and after the study had been completed. For all participants, using explicit instruction ranged from 1 to 2, with a mean of 1.3 before the commencement of the study and after the study had been completed. For all participants, using higher rates of praise ranged from 1 to 2, with a mean of 1.3 before the commencement of the study and a mean of 1 after the study had taken place. For all participants, letting students discover their own learning ranged from 1 to 2, with a mean of 1.7 before the commencement of the study and after the study had taken place. For all participants, being more creative ranged from 1 to 1, with a mean of 1 before the commencement of the study and after the study had taken place. For all participants, allowing greater active student responding ranged from 1 to 2, with a mean of 1.3 before the commencement of the study and a mean of 1 after the study had taken place. Therefore, the only two instructional practices teachers viewed differently before and after the study were high rates of teacher praise and greater active student responding (i.e., frequent OTR).

Student Perceptions. Table 4.3 shows student perceptions of instruction incorporating low versus high rates of OTR and teacher praise. Out of a total of 54
students, 91% said that the teacher with high rates of OTR and praise was the best class. Similarly, 93% of students said that the classroom with the teacher using high rates of OTR and praise looked more fun. Ninety-three percent of the students also said that the teacher with high rates of OTR and praise would make them feel better about themselves (than would the teacher with low rates of OTR and praise). Ninety-one percent of students surveyed said they would rather be in the classroom with the teacher who displays high rates of OTR and teacher praise. Lastly, when asked which classroom the students felt they would learn the most, 91% of them said it was the one with high rates of OTR and teacher praise.
<table>
<thead>
<tr>
<th>Question:</th>
<th>Video #1 Low OTR &amp; Praise</th>
<th>Video #2 High OTR &amp; Praise</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Which video shows the BEST class?</td>
<td>5 9.3%</td>
<td>49 90.7%</td>
</tr>
<tr>
<td>2. Which of these classrooms looks more FUN?</td>
<td>4  7.4%</td>
<td>50 92.6%</td>
</tr>
<tr>
<td>3. Which classroom would make you FEEL better about yourself?</td>
<td>4  7.4%</td>
<td>50 92.6%</td>
</tr>
<tr>
<td>4. Which classroom would you rather be in?</td>
<td>5  9.3%</td>
<td>49 90.7%</td>
</tr>
<tr>
<td>5. In which classroom would you LEARN the most?</td>
<td>5  9.3%</td>
<td>49 90.7%</td>
</tr>
<tr>
<td>Mean (54 Total Students)</td>
<td>4.6 8.54%</td>
<td>49.4 91.46%</td>
</tr>
</tbody>
</table>

Table 4.3 Student Survey
CHAPTER 5
DISCUSSION

The purpose of this study was to extend the results of Sutherland, Wehby, and Yoder (2002), which suggested a correlational relationship between OTR and teacher praise in classrooms for students with EBD by investigating the possibility of a “functional relationship” between variables using single-subject design research. Unlike the authors of previous studies investigating the correlation between OTR and teacher praise, the current study was not designed to evaluate “correlations” between OTR and praise. Thus, the experimenter did not compute correlations between variables. Instead, OTRs were manipulated to observe the effect on teacher praise, and “relations” or “relationships” between variables were inferred by visual inspection of the data.

The current study sought to extend Sutherland et al. (2002) by investigating a possible functional relationship between OTR and teacher praise in general education classrooms. Results from this study revealed no functional relationship between OTR and teacher praise. Furthermore, results showed no relationship between OTR and naturally-occurring teacher praise; however, after praise training was implemented with 2 participants, there was a significant relation between OTR and teacher praise. Lastly, the study revealed positive student and teacher perceptions of classroom instruction characterized by high rates of OTR and teacher praise. Specific research questions are addressed below.
1. Is there a similar relation between opportunities for student response (OTR) and teacher praise for general education teachers as has been reported in the literature for teachers of EBD students?

In the literature, OTR and teacher praise have been found to be highly correlated (Van Acker et al., 1996; Cantrell, Stenner, & Katzenmeyer, 1977; Sutherland, Wehby, & Yoder, 2002). However, these studies were conducted in classrooms for students with EBD or with students who displayed aggressive behavior. This study evaluated, in part, whether a similar correlation exits between OTR and praise for general education teachers who teach typically-developing students. In the present study, none of the 3 participants demonstrated a close relation between OTR and praise during the baseline condition. These results are quite different from the previous findings cited above. At least two explanations may account for such a discrepancy.

One explanation for the differences may be the difference in populations studied. Previous studies have been conducted with teachers of EBD students, and this study was conducted with general education teachers. Research has shown that many students with EBD are placed in educational settings without the prerequisite skills necessary for successful participation during classroom instruction (Quinn, Jannasch-Pennell, & Rutherford, 1995; Sutherland and Wehby, 2001). Additionally, the literature suggests a relationship between academic difficulties and inappropriate or disruptive classroom behavior in students with EBD (Gunter & Coutinho, 1997; Gunter et al., 1994; Sutherland & Wehby, 2001; Wehby, Symons, Canale, & Go, 1998; Sutherland and Wehby, 2000). Thus, there are many factors that may negatively affect the academic and
social development of students with EBD that would not be relevant for students who are typically-developing (Farmer, Farmer, & Gut, 1999; Sutherland and Wehby, 2000).

For these reasons, it is important for teachers of students with EBD to design their classroom environment and use teaching methods that don’t just reduce occurrences of inappropriate behavior, but also increase the likelihood that positive student-teacher interactions that lead to academic success within the classroom (Gunter et al., 1993; Shores, Gunter, & Jack, 1993; Heward, 2003). Traditionally, teachers of students with EBD have been trained to focus more on the disruptive behavior of students, rather than their academic behavior or progress (Wehby, Lane, & Falk, 2003). Teachers of students with EBD “must be careful not to create an environment in which coercion is the primary means by which students are motivated to follow the rules” (Heward, 2003, p. 306). Active student responding (through the use of providing frequent OTRs) and providing praise statements during classroom instruction are two ways that EBD teachers are trained to maintain positive student-teacher interactions (Heward, 2003), thereby reducing the number of disruptive or inappropriate behaviors during class. By recognizing and attending to those elements of a student’s life that the teacher can effectively control, rather than those she cannot (e.g., home situation, peer group), the teacher of a student with EBD is more likely to make a difference in that student’s learning (Heward, 2003). Unfortunately, it has been suggested that teachers of students with EBD do not receive the appropriate teacher training to meet the distinct needs of their students, and thus, rates of OTR and teacher praise remain low (Sutherland & Wehby, 2001; Sutherland, Wehby, & Yoder, 2002).
Contrasted with teachers of students with EBD, teachers in general education settings have received less behavior management training and more training regarding academic content areas (ODE, 2004). In fact, most teacher training programs in the state of Ohio only require one course related to classroom management, focusing the majority of the rest of the coursework on academic content curricula. Thus, rates of OTR and teacher praise may be different for teachers in classrooms for students with EBD and those teaching in general education classrooms because teachers in EBD classes tend to focus more on social behavior, rather than academic behavior like their general education counterparts (Wehby, Lane, & Falk, 2003).

A second possible explanation for the discrepancy between the current study and previous studies is that the teachers in previous studies received praise training prior to data collection (J. Wehby, personal communication, July 1, 2004), whereas the teachers in the present study did not receive praise training prior to data collection. Sutherland, Wehby, and Yoder (2002), which asserts a correlational relationship between OTR and teacher praise, was a reanalysis of a 2001 study conducted by Sutherland and Wehby. However, the experimenter in the current study was unaware that the two articles were written regarding the same 2001 study until personal communication between the experimenter and one of the authors of both studies (J. Wehby, personal communication, July 1, 2004). So, because the procedures and methods in the current study were based on those described in Sutherland, Wehby, and Yoder (2002), where teacher praise training was not described or even mentioned, teacher praise training was not implemented prior to data collection in this study.
Nonetheless, the teacher training procedures were described in Sutherland and Wehby (2001) and included the following components:

1) The teachers were asked to make a prediction about his or her use of praise per 15-min session,

2) The first author shared with each teacher the observed mean rate of praise per 15-min session from the pretreatment phase,

3) The teachers were provided with examples of effective praise and its potential benefits in her or his classroom, and the application of effective praise in her or his classroom were discussed,

4) The teachers were trained to use a microcassette recorder and a protocol for recording praise statements, and he or she was introduced to the procedure for recording his or her instructional language and coding praise statements,

5) The teachers were instructed to listen daily to a sample of her or his instructional behavior,

6) The teachers set a goal of a certain number of praise statements per 15-min session, and the goal was written on the protocol sheets by the first author to serve as a reminder to the teacher,

7) The teachers were instructed to use self-praise (praising himself or herself daily for attempting to increase his or her rate of praise) following his or her daily evaluation of the use of praise, and

8) The teachers were instructed to graph his or her praise statements each day.

Thus, the teachers in the aforementioned study were extensively trained.
regarding praise and were aware of their praise rates via a self-monitoring procedure prior to data collection.

Unlike the participants from Sutherland and Wehby (2001) and Sutherland, Wehby, and Yoder (2002), the teachers in the current study received no training in how praise was defined, what the benefits of using praise in the classroom are, or in how to self-monitor their praise prior to data collection. In all likelihood, this procedural difference was a major factor in the difference in findings between this study and the studies conducted by Sutherland and colleagues. Interestingly, anecdotal evidence (i.e., teacher interviews conducted by the experimenter) collected during the current study revealed that the participants believed that they were praising students after a response was given. The participants stated that they felt that by repeating the students’ responses or saying things like, “Okay” and “Mmm-hmm” following a student response, they were providing the students with verbal comments indicating approval of their response (i.e., praise). When Mrs. Carl and Mrs. McKenzie were provided with praise training, where they were taught the definitions of praise and neutral feedback, both teachers demonstrated increased frequencies of praise. These findings provide further support that the initial training conducted in the Sutherland et al. studies likely influenced the frequency of teacher praise in those studies.

As a side note, it is important to note that teacher praise was divided into two categories: general and behavior specific praise. This distinction was made because the educational literature clearly describes the effectiveness, as well as the benefits, of behavior specific praise (Brophy, 1981; Heward, 2003). However, behavior specific praise did not occur during any of the participants’ teacher-led instruction, which is
consistent with prior research in this area. Therefore, results were reported simply as “praise statements” and a distinction between general and behavior specific praise was not warranted.

Although the results from this study did not suggest a close relation between OTR and teacher praise for general education teachers, there was a strong relationship between OTR and neutral feedback + praise. That is, when praise statements were combined with neutral feedback (e.g., “Okay” or repeating the student’s response), frequencies of neutral feedback + praise statements were nearly identical to those of OTR provided by each participant. Although research shows that corrective feedback for incorrect student responding reduces the likelihood that the student will repeat the error in the future (Heward, 2003), data were not collected on the frequency of corrective feedback statements made by the teachers during whole-group instruction. Anecdotally, the experimenter in this study did observe any corrective feedback statements during classroom observations of all three participants. Therefore, neutral feedback (e.g., “Okay”) and praise statements (e.g., “Good job!”) accounted for the total number of feedback statements made during instruction.

As stated previously, during baseline, the participants in this study had a different definition of praise than the experimenter. Had these participants been exposed to praise training prior to commencement of the study, their frequency of praise rates may have more closely approximated their frequency of neutral feedback + praise. However, providing praise training prior to commencement of the study may also have artificially inflated the frequency of praise that the teachers naturally displayed. That is, teachers may display some reactivity simply by enrolling in the study. Specifically, because the
participants in the Sutherland et al. (2000, 2001) studies were exposed to praise training sessions prior to the beginning of data collection, this training may have served as an indicator of what behaviors the experimenter was observing and, thus, participants may have altered their behavior to please the experimenter.

A long-standing issue in research is participant reactivity to having their behavior observed (Reid, Parsons, & Green, 1989; Shepis, Reid, Ownbey, & Parsons, 2001). Findings from the current study lend support to the notion that information provided to the participants prior to data collection may influence their behavior. The experimenter had the opportunity to observe all of the participating teachers in this study in a previous, unrelated study conducted last year by another student completing her thesis (Frieder, 2003). The experimenter observed all three of these participants to consistently display low rates of both OTR and teacher praise at that time. In fact, these observations led the experimenter to an interest in studying these questions and in approaching these teachers to ask for their consent in participating in this study. They appeared to be ideal candidates for the current study. Thus, the baseline results for Mrs. Carl and Mrs. McKenzie were very surprising—their high frequencies of OTR during baseline were quite unexpected, given the experimenter’s previous observations of their instruction.

Reactivity is the most likely explanation for these surprising findings for the following reasons: First, consent forms were provided to each participant asking for their participation in a study examining the effects of providing various levels of OTR (i.e., asking questions) to students during whole-group instruction. Therefore, all of the participants were aware that the experimenter would be observing the number of OTRs provided during instruction. However, they were unaware that praise would be recorded
as a dependent variable. Two of the 3 participants who had displayed near zero rates of both OTR and praise in previous, unrelated observations increased their frequencies of OTR during the baseline condition, but their praise rates remained extremely low. A likely explanation for this might be that the information provided to the participants on the consent form (i.e., participant knowledge prior to data collection) alerted them to what behaviors the experimenter would be recording. In fact, just prior to one baseline session, the experimenter happened to pass by Mrs. McKenzie’s desk and noted a sheet of paper with a list of questions that corresponded to the day’s lesson that the experimenter would shortly observe. When the experimenter asked Mrs. McKenzie about the list of questions, Mrs. McKenzie stated that she wanted to “be prepared” for the observation, knowing that the study was about OTR. (On two previous occasions where baseline observations had been scheduled, Mrs. McKenzie had cancelled the observation because she was not “prepared.”). This type of behavior was something the experimenter had never before observed from Mrs. McKenzie prior to initiation of the study.

Lending further support to this hypothesis are the data for Mrs. Carl and Mrs. McKenzie after praise training occurred. Both teachers dramatically increased their rates of praise after praise training sessions were conducted. Although the experimenter never explicitly encouraged the participants to increase their use of praise, merely providing the training certainly informed them as to what the experimenter was looking for. Consequently, information provided to participants in any study may have powerful effects on the results of the study and should be carefully considered when designing any experiment.
Although the results from this study do not show a close relation between OTR and teacher praise in general education classrooms, as has been previously suggested in the literature regarding teachers of students with EBD conclusions regarding the relationship between OTR and praise with general education teachers should be made with caution. Previous studies suggesting a correlation between OTR and teacher praise in classrooms for students with EBD were conducted with large groups of teachers and the current study investigated the relationship included only 3 participants. Therefore, the results from this study cannot be generalized to all general education teachers, and future research investigating the relationship between OTR and teacher praise is warranted in classrooms for teachers of students with EBD, as well as general education teachers.

2. *Given that there is a relation between OTR and teacher praise and given low rates of OTR during whole-class instruction, what are the effects of increasing OTR on teacher praise rates during whole-class instruction? That is, is there a functional relationship between OTR and teacher praise?*

One participant in this study, Mr. Thomas, demonstrated a relation between OTR and praise in that both were very low during baseline. However, in his case, when he increased his OTR, praise did not increase substantially. These results suggest that no functional relationship between OTR and teacher praise exists. It is interesting to note that Mr. Thomas did display an increase in total feedback when his OTRs increased, and total feedback and OTR were closely related. Mr. Thomas did not receive any praise training during the study, however, and he may have believed he was praising students by simply repeating their answers or saying “Mmmm-hmmm” following their answers.
Perhaps if Mr. Thomas had received praise training, a closer relation between OTR and praise would have been observed following OTR training.

Mrs. Carl’s data suggest that frequencies of praise and OTR may be inversely related rather than positively related. That is, following praise training, when Mrs. Carl’s praise increased, OTRs actually decreased. This may have been a function of reactivity, as mentioned previously, in that Mrs. Carl may have simply shifted her behavior according to what she thought the experimenter was looking for (i.e., high OTRs in baseline and high frequencies of praise following praise training). Alternatively, Mrs. Carl may have been unable to maintain high frequencies of OTRs when she began to make an effort to increase her praise. Research suggests that often performance in one skill area may decrease for a short period of time when an individual begins to is asked to demonstrate or practice another skill (Good & Brophy, 1986; Snowman, Biehler, & Bonk, 2003). Following OTR training, Mrs. Carl increased her OTRs to the desired level, but her frequency of praise did not increase substantially from the previous condition. Thus, it did not appear that increases in OTR were functionally related to increases in praise for her either.

Mrs. McKenzie, on the other had, began to demonstrate closely related frequencies of OTR and praise following praise training, and this relation seemed to continue following OTR training. Her data suggest that there may be a functional relationship between increased OTRs and praise. However, such limited data were available for her during the Increased OTR condition that it is difficult to draw any conclusions.

Overall, results from this study indicate that there is not a functional relationship between OTR and teacher praise. However, it is important to note that providing
increased OTRs and high rates of teacher praise during classroom instruction were not believed to be in the participants’ repertoires (from previous observations) and training was necessary for both skills. However, this presumption proved to be incorrect. These teachers did appear to have the skill of providing high OTR in their repertoires (based on the results of their baseline data). On the other hand, these behaviors apparently did not constitute a typically displayed repertoire for the (based on the experimenter’s previous observations of them in the classroom). One reason these teachers did not typically display these behaviors might be because they were not fluent in the skill of providing high OTR. That is, perhaps providing high OTR was a very effortful response for them. Research with children suggests that until students achieve specific, minimal levels of fluency for a specific behavior, they lack the capability to sustain a stable performance of that behavior for an extended period of time (McDowell & Keenan, 2001). The same may be true for teachers. For example, the decrease in reprimands during baseline may have been due to the participants concentrating on providing high rates of OTR.

3. Given that there is not a relation between OTR and teacher praise (e.g., given high rates of OTR and low rates of teacher praise) during whole-class instruction, what are the effects of praise training on the frequency of praise statements during whole-class instruction?

Two of the participants, Mrs. Carl and Mrs. McKenzie, did not demonstrate a relation between OTR and praise. Instead, these participants displayed high frequencies of OTR but low frequencies of praise. Thus, praise training was implemented for them. Similar to Sutherland and Wehby (2001), during praise training the participants of this study were provided with definitions, examples and nonexamples of teacher praise as it relates to
classroom instruction. However, unlike Sutherland and Wehby (2001), participants did not discuss their praise rates with the experimenter, nor did they learn to self-monitor their praise statements during classroom instruction. Neither the previous studies nor the current study encouraged or asked participants to praise their students. In spite of this, both Mrs. Carl and Mrs. McKenzie increased their frequencies of praise following praise training relative to baseline.

It is hypothesized that if praise training had occurred prior to data collection, a close relationship between OTR and teacher praise may have been observed, as suggested in the literature (Sutherland & Wehby, 2001; Sutherland, Wehby, & Yoder, 2002). Thus, a functional relationship between praise training and the frequency of teacher praise appears to be evident. Although the experimenter did not explicitly ask the teachers to increase their use of praise statements in their classroom instruction, their rates of praise dramatically increased the first session subsequent to praise training (for both participants). Furthermore, praise training was implemented at different times for the two participants (i.e., in a multiple-baseline fashion), lending further support to the notion that praise training and increased praise are functionally related. That is, the mere occurrence of praise training may cause an increase in the frequency of teacher praise.

This has major implications for teacher training in applied settings. Results from this study suggest that administrators may not need to insist or require teachers to maintain specific praise rates; rather, teachers’ praise rates may increase as a result of attending praise training. Therefore, such training procedures may be implemented for teachers or staff members who perceive praise negatively, as described previously. Further research is necessary to determine maintenance of such praise behavior and subsequent training
sessions may be necessary to sustain high rates of teacher behavior because it is unknown how long increased praise rates would maintain in the absence of an observer in the classroom (Sutherland & Wehby, 2001).

4. Given increases in teacher praise during whole-class instruction, either as a function of increased OTR or praise training, what are the effects of increased praise statements on the reprimands of teachers during classroom instruction?

Increases in frequencies of praise were observed for both of the participants who received in praise training, Mrs. Carl and Mrs. McKenzie. Mr. Thomas did not receive praise training, and increasing his OTRs did not result in an increase in his frequency of praise. Interestingly, after praise training occurred and Mrs. Carl’s and Mrs. McKenzie’s praise rates increased, both of their frequencies of reprimands steadily decreased to near zero levels. Mrs. Carl’s rates of reprimands and praise were a complete reversal of rates observed during baseline. Similarly, Mrs. McKenzie’s rates of praise increased from 1 to 31 per 15 min session, while her rates of reprimands decreased from a high of 22 during baseline to 0 during the increased OTR condition. Mr. Thomas, whose praise never increased, maintained high frequencies of reprimands throughout the study.

Thus, results from this study revealed decreased reprimand statements as a result of increased teacher praise statements during classroom instruction. In addition to the positive effects of increased teacher praise on student academic (e.g., Gable & Shores, 1980) and social (e.g., Luiselli & Downing, 1980) behavior, the decrease in reprimand statements may enable teachers to model behaviors that create a positive classroom climate (Harris & Lowery, 2002). Furthermore, research shows that students learn more and show greater academic achievement in schools that have a positive learning
environment (Black, 1997). These data suggest that it may be possible to decrease the frequency of reprimands in the classroom simply by targeting and increasing the number of praise statements teachers make.

5. What are teachers’ perceptions about elements of effective instruction (e.g., frequent opportunities for student response [OTR] and teacher praise) before and after increasing teacher OTR and praise?

Prior to the study, the teachers participating in this study completed a questionnaire asking their opinions about elements of effective and instruction, as well as their willingness to change current instructional practices, if asked. On the “Effective Instruction” survey, 2 of the 3 participants ranked asking high rates of questions a 4 on a 5-point Likert-type scale, indicating that they thought it was very important (but not vital) for effective instruction. Similarly, all 3 participants rated teacher praise a 4, signifying that it was important, but not vital to effective classroom instruction. Interestingly, all participants ranked high rates of questions and teacher praise as vital elements of effective instruction (5 out of 5) on the same questionnaire that was administered at the conclusion of the study.

Prior to data collection, participants were asked if they would be willing to make changes to their instruction in a number of ways. All 3 participants said they would have no problem implementing high rates of questions during instruction, if asked. Similarly, 2 of the 3 participants indicated that they would also have no trouble increasing their praise rates before the study began. Not surprisingly, all 3 participants maintained their opinion regarding increasing questions during whole-group instruction. However, the
participant who said that increasing praise rates would be difficult at the beginning of the study changed her answer to “Not a problem. I’ll make the change right away.”

Thus, teachers’ perceptions of frequent OTR and teacher praise prior to participation in the study were that they were important, but not crucial, variables to effective classroom instruction. However, after participating in the study and receiving training on OTRs and teacher praise, all of the participants rated OTR and praise as being vital to effective classroom instruction. Furthermore, all 3 participants were willing to change their current instructional practices (i.e., it would not be a problem) to incorporate higher rates of OTR and praise at the conclusion of the study, as compared to the beginning of the study when participants indicated that it might be difficult to make changes.

6. What are students’ perceptions about low and high rates of OTR and teacher praise during whole-class instruction?

When shown videos depicting teachers demonstrating low and high rates of OTR and teacher praise during classroom instruction, an overwhelming majority (93%) of students preferred the video in which the teacher displayed high rates of both OTR and praise. A variety of adjectives describing the teacher or class were selected to coincide with words children that age would regularly use in conjunction with something or someone they found favorable. For example, the questionnaire asked students to choose the best class and asked which class looked more fun. Although the same teacher appeared in both tapes, the students were able to discriminate between low and high rates of OTR and teacher praise as evidenced by their overwhelming preference for the videos in which the teacher displayed high OTR and praise. The results from the student surveys are significant, in that the students are the consumers most affected by the quality
of instruction they receive in the classroom (Council for Exceptional Children, 2004). These data reveal that, not only are frequent opportunities for student responding and teacher praise empirically validated instructional practices (Heward, 2003), but they are also correlated with high rates of student satisfaction. Students who enjoy being in school and have teachers who make them feel good about themselves are more likely to remain attentive and motivated during instruction, as “students learn more in schools with a positive climate and culture” (Black, 1997, p. 33). Thus, given results from previous studies regarding the positive effects of teacher praise, results from the student questionnaires suggest that increased OTR, high rates of teacher praise, and improved student performance, which might be viewed by students as a positive classroom culture, may be integrally related.

Higher rates of on-task student behavior often lead to decreases in disruptive or off-task behavior, as those are behaviors are incompatible with appropriately responding to instruction (Cooper, Heron, & Heward, 1987). Thus, teachers may benefit from providing instruction that includes high rates of OTR and praise because the result of such instruction typically produces greater on-task behavior, which may decrease classroom management issues and improve student satisfaction. After all, the best way to deal with disruptive behavior is to prevent its occurrence in the first place (Peterson & Lacy Rismiller, 2004). Results from the student questionnaires indicate that providing high rates of OTR and teacher praise may be two simple ways of doing just that.

Nonetheless, caution is warranted when interpreting the results of these surveys. Although it is clear which video the students preferred, as indicated in their survey results, it remains unclear as to why students preferred the high OTR video. However,
anecdotal evidence (i.e., comments overheard by the experimenter during administration of the survey) suggested that the students preferred the video of the teacher using high rates of OTR and praise because they felt better about how instruction was presented in that video clip. Specifically, the students made verbal comments such as, “That teacher was nicer in the last video” and “She (Mrs. McKenzie in the high OTR/praise vignette) was smiling more in the second video.” However, future research is warranted regarding why students prefer videos of teachers providing high OTR and praise than videos of teachers providing low OTR and praise.
Limitations of the Study

One limitation of the current study was time. Unfortunately, there were many times when the experimenter was scheduled to collect data and was unable to do so due to conflicts such as teacher absenteeism, field trips, and end-of-the-year activities.

Another way that time was a limitation was the availability of only one increased OTR session for the third participant. It would have been more desirable to conduct several sessions to determine whether a stable pattern of responding would have occurred. Additionally, had more time been available, praise training would have been implemented for Mr. Thomas and additional OTR conditions would have been implemented with Mr. Thomas and Mrs. Carl (i.e., the experimenter would have manipulated various rates of OTR to determine the effect(s) on teacher praise).

Another limitation of the current study was the inconsistency of observation times for each of the participants. Participants were observed at different times throughout the day and had they been observed at the same time (i.e., teaching the same subject matter) each day, it may have eliminated some of the variability in the data. One reason for the inconsistency of observation times was teacher willingness (or lack thereof) to having the experimenter in his or her classroom every day. Furthermore, at one time or another, all three participants asked the experimenter not to collect data, as scheduled, because it was “a bad day.” All three participants, on one or multiple occasions, informed the experimenter that he or she preferred that data not be collected on certain days. The participants indicated that student disruption and/or teacher mood were responsible for the “bad days.” The experimenter complied with the wishes of the participants and did not collect data on those “bad days” because she felt that teacher participation in the
study would have been in jeopardy had she insisted on observing. Not collecting data on these days may have impacted the results of the study, however. For example, had Mrs. Carl or Mrs. McKenzie been observed during these “bad days,” their rates of OTR may have been lower and rates of reprimands may have been higher, as expected prior to data collection. It might be suggested that the participants’ attention would have been drawn to issues of classroom management, rather than providing OTR and/or praise statements.

Another limitation of the study was the sequence in which the experimenter showed the videotapes to the children when administering the student questionnaires. The tapes were shown in the same order to both groups of children (low rates of OTR and teacher praise in the first video and high rates of OTR and teacher praise in the second video). Varying the sequence of the videos would strengthen the results of the questionnaire, in that, if the students consistently preferred the video showing instruction with high rates of OTR and teacher praise (despite the order in which they were seen) the high percentage of preference for high rates of OTR and teacher praise would most likely be due to the method of instruction, rather than other, possible variables (e.g., simply marking the last video for each question because it was the last thing they saw or vice versa). Results from the questionnaire would be significantly strengthened if they were shown to other, large groups of children in random order.

Suggestions for Future Research

This study showed no relation between OTR and teacher praise when praise training was not implemented, and thus, no functional relationship between OTR and praise could be established with participants in general education classrooms. However, after praise training was implemented with 2 of the 3 participants, the frequency of
teacher praise dramatically increased, while the frequency of teacher reprimands decreased. This study also revealed high of teacher and student satisfaction when it comes to classroom instruction methods incorporating high rates of OTR and praise.

These findings are in contrast to those of Sutherland and Wehby (2001) and Sutherland, Wehby, and Yoder (2002). The difference in findings may be related to the fact that Sutherland and colleagues provided praise training prior to the commencement of their studies. This training may have inflated rates of teacher praise, thereby overestimating the relationship between OTR and praise. Future researchers should continue to investigate the relationship between OTR and teacher praise. Specifically, it might be interesting to investigate the relationship between naturally occurring praise rates and OTR to the relationship between praise rates and OTR after praise training has occurred. These investigations should be conducted with teachers of general education students, as well as teachers of students with EBD.

Even if there is a close relation between teacher praise and OTR, this study produced no evidence that a functional relation exists between the two variables, at least for general education teachers. However, this study is limited by the number of participants included. Thus, conclusions regarding the nature of the relation between OTR and praise must be made with caution. Future studies should address a similar research question with a larger group of participants to allow for more generalized conclusions regarding that relation.

Also, the level of praise training provided in this study was dramatically different from the level of praise training provided in the studies by Sutherland and colleagues (2001, 2002). In this study, praise training was relatively brief (i.e., 30 min) and
consisted only of providing teachers with the definitions of praise and neutral feedback. In the Sutherland et al. studies, praise training was more intensive and consisted of a number of additional steps (e.g., teachers self-monitoring their praise rates). It is unclear what the relation is between increased teacher praise, maintenance of those praise rates, and the quality and quantity of teacher training. Questions for future consideration might include the following: How extensive does the praise training need to be to yield high rates of praise statements during classroom instruction (i.e., duration and frequency of training)? What effect does the presence or absence of a conspicuous observer on the maintenance of teacher praise over time? What other strategies can be incorporated into praise training to produce long-term maintenance of high praise rates?

Furthermore, it is not known exactly what the “ideal rate” of OTR is for whole-group instruction. This number may vary according to the content of the instruction, as well as the level of the students in the classroom. However, future research is warranted to determine if such an “ideal rate of OTR” exists and if so, what the effects of requesting that teachers provide that number of OTR during whole-group instruction are. Questions for consideration might include the following: What is the “ideal” number of OTR per lesson? How was that “ideal” rate of OTR determined? What would the effects of teachers attempting to maintain high rates of OTR on other teacher behavior, such as praise or corrective feedback? What strategies might be incorporated into OTR training to produce long-term maintenance of high rates of OTR?

A final area in need of further research is the preservice training programs of both special and general education teachers. Although teachers of students with emotional and behavioral disorders are trained to focus primarily on social (i.e., disruptive) behavior
(Wehby et al., 2003) and general education teachers are trained to primarily focus on academic content areas (ODE, 2004), information regarding the integration of praise into either teacher training programs remains unknown. It is also unclear what teacher perceptions (regarding their preservice training programs) would be. Questions for future consideration might include the following: What are the differences and similarities of teacher training programs for general and special education teachers? What are teacher perceptions of general and special education teachers regarding their preservice programs? How was praise addressed, if at all, in the two different training programs? What are the implications of the two training programs, given their different foci, on effective classroom instruction?

Summary

The purpose of this study was to extend the results in Sutherland, Wehby, and Yoder (2002) to investigate the relationship between OTR and teacher praise in general education classrooms. Contrary to the results found in previous studies (Sutherland & Wehby, 2001; Sutherland, Wehby, & Yoder, 2002), this study showed no relation between OTR and teacher praise. Furthermore, a functional relationship between the two was not established. Dramatic increases in teacher praise and decreases in reprimand statements resulted after praise training; however, these results warrant caution, as all three participants’ behavior appeared to have been influenced by reactivity to the presence of the observer. High levels of both student and teacher satisfaction were achieved at the conclusion of the study. Thus, given the positive outcomes of increased OTR and teacher praise, as well as consumer (e.g., student, teacher) satisfaction, it could
be suggested that principals and administrators advocate the use of such teaching methods during classroom instruction.
References


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*, 5-13.


APPENDIX A
SUPPORT LETTER
To Whom It May Concern:

This letter is an acknowledgement of support for Laura Lacy Rismiller to conduct her dissertation at Parkmoor Urban Academy in the Columbus Public School District from January to June of 2004. I understand that Laura will be conducting a study looking at the relationship between opportunities for students to respond to teacher questions and teacher praise. If Laura is approved to complete her research project by the district, it is my understanding that Laura will be working with teachers to build in various levels of opportunities to respond within their lessons. I also understand that Laura will be assessing the collateral effects of such a student, such as student behavior (time on task vs. time off task; inappropriate vs. appropriate behavior during the lesson) and teacher/student satisfaction.

If you have any questions, feel free to contact me at 614-7-365-5349 and I would be happy to assist you in any way that I can.

Sincerely,

Mrs. Stacy H. Macarthy
Principal
Procedures to be given to teachers:

Baseline. During this condition, I will be directly observing your classroom for approximately 15 minute intervals during a time of day in which you conduct whole-group instruction. Lessons will be taught in the same manner that you have been teaching and no changes are made during this time.

Intervention. During intervention, I will be meeting with each teacher one time per week (usually at the beginning of the week) to look for ways to build in high rates of questions that will give students more opportunities to respond (e.g., 4-6 questions per minute) during whole-group instruction. I will not ask you to change any other aspect of your instruction.

I will observe your classroom several (3-5) times per week for approximately 15 minutes during a predetermined block of time in which you conduct whole-group instruction.

Reversal. There may be a time when I will ask you to withdraw the high rates of question-asking and revert back to your typical lesson plans.

Misc.
All sessions will be videotaped; however, the confidentiality of each participant (teacher) will be kept by changing names. Also, none of the students will be identified by name because data will be collected on the group, as a whole.

Contact Information:
Laura Lacy Rismiller 614-688-8106
Dr. Stephanie Peterson (advisor) 614-247-6233
APPENDIX C
TEACHER CONSENT
Teacher Participation Form

This letter is to acknowledge that I have agreed to participate in Laura Lacy Rismiller’s research study looking at the effects of increasing teacher opportunities for student response (OTR). I may contact her (614-688-8106) or her advisor, Dr. Stephanie Peterson (614-247-6233) at any time with any questions or concerns I may have regarding this study.

I agree to collaborate with Ms. Rismiller in order to increase the number of questions I ask during whole-group instruction.

I also acknowledge that I have the right to withdraw from the study at any time without any penalty.

Signed, ___________________________  Date: ___________________________
Teacher Training Reference Sheet

Low Condition
2 times the average number of OTRs given in baseline condition
For example, if your average number of OTRs (per 15 minute session) during baseline was 1, then you would ask 2 questions per 15 minute session in the low condition.

Medium Condition
2 times the average number of OTRs in the low condition
For example, if your average number of OTRs (per 15 minute session) during the low condition was 2, then you would ask 4 questions per 15 minute session in the medium condition.

High Condition
2 times the average number of OTRs given in the medium condition
For example, if your average number of OTRs (per 15 minute session) during the medium condition was 4, then you would ask 8 questions per 15 minute session in the high condition.
APPENDIX E
DATA SHEET – TEACHER BEHAVIOR
**Key:***

<table>
<thead>
<tr>
<th>OTR</th>
<th>Praise</th>
<th>G</th>
<th>A</th>
<th>S</th>
<th>NBS</th>
<th>IR</th>
<th>GR</th>
</tr>
</thead>
</table>

**1m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**2m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**3m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**4m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**5m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**6m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**7m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**8m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**9m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**10m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**11m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**12m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**13m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**14m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**15m**
- OTR: ____________________
- Praise: ____________________
- G: ________
- A: ________
- S: ________
- NBS: ________
- IR: ________
- GR: ________

**Key:**
- OTR: Opportunities to Respond
- G: Group (this is the number of OTRs asked to the entire class/group)
- I: Individual (this is the number of OTRs asked to an individual student)
- Praise: Praise Statements
- A: Academic (verbal comments indicating approval of students' academic behavior that specify the behavior)
- S: Social (verbal comments indicating approval of students' social behavior that specify the behavior)
- NBS: Non-Behavior Specific (verbal comments indicating approval of students' behavior that do not specify the behavior)
- IR: Individual Reprimand (verbal comments indicating disapproval of an individual student’s behavior)
- GR: Group Reprimand (verbal comments indicating disapproval of the class/group’s behavior)
Teacher Praise

General Praise  (Nonbehavior-specific)

Ex:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Nonexample:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Behavior-specific Praise
⇒ Academic

Ex:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Nonexample:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

⇒ Social

Ex:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Nonexample:
________________________________________________________________________

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APPENDIX G
PRAISE TRAINING SHEET
PRAISE vs. NEUTRAL FEEDBACK

Definition of teacher praise:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Definition of Neutral Feedback:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Examples of Neutral Feedback:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Nonexamples of Neutral Feedback:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
APPENDIX H
TEACHER SURVEY-EFFECTIVE INSTRUCTION
Directions: Please rate the following instructional practices as you see their relevance/importance in effective classroom instruction. Use the following rating scale as a guide:
1 = This practice is not important at all for effective instruction
2 = This practice is slightly important for effective instruction
3 = This practice is moderately important for effective instruction
4 = This practice is very important for effective instruction
5 = This practice is vital to effective instruction

1. Active student responding (students have the opportunity to respond to teacher questions frequently – examples include verbal responses and writing on response cards)
   1  2  3  4  5

2. High rates of teacher questions
   1  2  3  4  5

3. Explicit teacher instruction (teachers tell students what they want them to learn and use methods that are clear and leave no room for student assumption/discovery)
   1  2  3  4  5

4. Students discovering their own learning (the teacher is more of a facilitator than an instructor)
   1  2  3  4  5

5. High rates of teacher praise
   1  2  3  4  5

6. Teacher creativity
   1  2  3  4  5

7. Physical environment of the classroom (making sure the classroom looks nice; posters on the wall; room is inviting)
   1  2  3  4  5

8. Hands-on activities for student learning
   1  2  3  4  5

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APPENDIX I
TEACHER SURVEY-WILLINGNESS TO CHANGE
Directions: Assume that you have a new educational consultant in your building recommending that you make some changes in your classroom instruction. Please rate your willingness to make changes in your classroom instruction, given the following:
1 = Not a problem – you’ll make the change right away
2 = It might be difficult, but you’ll make the change
3 = You really don’t want to, but you’ll make the change recommended by the consultant
4 = You won’t make the changes unless your building principal requires you to
5 = You refuse to make this change

1. You need to make your classroom a pleasant learning environment (e.g., put posters on the walls and make sure your room is organized).

   1  2  3  4  5

2. You need to increase your opportunities for response during your lesson (e.g., building in high rates of teacher questions).

   1  2  3  4  5

3. You need to use hands-on activities in your classroom.

   1  2  3  4  5

4. You need to use explicit instruction in your classroom (i.e., telling students what you expect them to learn and using clear, direct methods to teach the material).

   1  2  3  4  5

5. You need to use high rates of praise in your classroom (i.e., you must make 4-6 praise statements per minute).

   1  2  3  4  5

6. You need to let students discover their own learning (i.e., you are more of a facilitator rather than an instructor).

   1  2  3  4  5

7. You need to be very creative in your teaching.

   1  2  3  4  5

8. You need to allow student to frequently respond during your lesson (this can be done verbally or by using materials like response cards, that allow students to write answers to questions and hold them up so you can see them).

   1  2  3  4  5
APPENDIX J
STUDENT SURVEY
Student Survey

1. Which of the classrooms in the videos you watched is the BEST class?
   _____ #1
   _____ #2

2. Which of these classrooms looks more FUN?
   _____ #1
   _____ #2

3. Which classroom/teacher would make you FEEL better about yourself?
   _____ #1
   _____ #2

4. Which classroom would you rather be in?
   _____ #1
   _____ #2

5. In which classroom would you LEARN THE MOST?
   _____ #1
   _____ #2