

2017

An Analysis of General Education Teachers' Use of Diverse Praise

Shelby L. Beschta

Eastern Illinois University

This research is a product of the graduate program in [School Psychology](#) at Eastern Illinois University. [Find out more](#) about the program.

Recommended Citation

Beschta, Shelby L., "An Analysis of General Education Teachers' Use of Diverse Praise" (2017). *Masters Theses*. 2706.
<https://thekeep.eiu.edu/theses/2706>

This is brought to you for free and open access by the Student Theses & Publications at The Keep. It has been accepted for inclusion in Masters Theses by an authorized administrator of The Keep. For more information, please contact tabruns@eiu.edu.


The Graduate School
EASTERN ILLINOIS UNIVERSITY™
Thesis Maintenance and Reproduction Certificate

FOR: Graduate Candidates Completing Theses in Partial Fulfillment of the Degree
Graduate Faculty Advisors Directing the Theses

RE: Preservation, Reproduction, and Distribution of Thesis Research

Preserving, reproducing, and distributing thesis research is an important part of Booth Library's responsibility to provide access to scholarship. In order to further this goal, Booth Library makes all graduate theses completed as part of a degree program at Eastern Illinois University available for personal study, research, and other not-for-profit educational purposes. Under 17 U.S.C. § 108, the library may reproduce and distribute a copy without infringing on copyright; however, professional courtesy dictates that permission be requested from the author before doing so.

Your signatures affirm the following:

- The graduate candidate is the author of this thesis.
- The graduate candidate retains the copyright and intellectual property rights associated with the original research, creative activity, and intellectual or artistic content of the thesis.
- The graduate candidate certifies her/his compliance with federal copyright law (Title 17 of the U. S. Code) and her/his right to authorize reproduction and distribution of all copyrighted materials included in this thesis.
- The graduate candidate in consultation with the faculty advisor grants Booth Library the non-exclusive, perpetual right to make copies of the thesis freely and publicly available without restriction, by means of any current or successive technology, including by not limited to photocopying, microfilm, digitization, or internet.
- The graduate candidate acknowledges that by depositing her/his thesis with Booth Library, her/his work is available for viewing by the public and may be borrowed through the library's circulation and interlibrary loan departments, or accessed electronically.
- The graduate candidate waives the confidentiality provisions of the Family Educational Rights and Privacy Act (FERPA) (20 U. S. C. § 1232g; 34 CFR Part 99) with respect to the contents of the thesis and with respect to information concerning authorship of the thesis, including name and status as a student at Eastern Illinois University.

I have conferred with my graduate faculty advisor. My signature below indicates that I have read and agree with the above statements, and hereby give my permission to allow Booth Library to reproduce and distribute my thesis. My adviser's signature indicates concurrence to reproduce and distribute the thesis.

Graduate Candidate Signature

Faculty Adviser Signature

Printed Name

Printed Name

Graduate Degree Program

4/19/17

Date

Please submit in duplicate.

GENERAL EDUCATION TEACHERS' USE OF DIVERSE PRAISE


An Analysis of General Education Teachers' Use of Diverse Praise

BY
Shelby L. Beschta


THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF SPECIALIST IN SCHOOL PSYCHOLOGY
IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERISTY
CHARLESTON, ILLINOIS
2017


I HEREBY RECOMMEND THAT THIS THESIS BE ACCEPTED AS FULLFILLING
THIS PART OF THE GRADUATE DEGREE CITED ABOVE



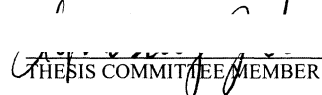
THESIS COMMITTEE CHAIR 4/12/17
DATE



DEPARTMENT CHAIR 4/12/17
DATE



THESIS COMMITTEE MEMBER 4/12/17
DATE



THESIS COMMITTEE MEMBER 4/12/17
DATE

THESIS COMMITTEE MEMBER DATE

THESIS COMMITTEE MEMBER DATE

Abstract

Teacher praise is a strategy that effectively reduces student disruptive and off-task behavior. Although teacher praise has been studied for more than five decades, most research has looked at general and behavior specific praise. There may be other aspects of praise, beyond specificity, that could inform consultation. Examining teachers' diverse use of praise may inform how to maximize this strategy and improve upon teacher training. The purpose of this study was to determine whether teachers' diverse use of praise could be measured. Once it was determined, the data were analyzed to determine how many diverse praise categories teachers used on average and whether differences were noted between early and late grade elementary teachers use of diverse praise. Data for this study were re-analyzed from an original study which included 5721 minutes of direct observation across 28 kindergarten through fifth grade classrooms (approximately 200 min per classroom) to measure teachers' average use of diverse praise categories per observation. Across all 28 classrooms, teachers used 3.7 total diverse praise categories (TDP) per observation. Additionally, on average, teachers used more behavior specific diverse praise (BSDP) than general diverse praise (GDP) categories per observation per hour and this difference was statistically significant. There was no statistically significant difference in the number of TDP categories coded per observation per hour between early and late elementary classrooms. Lastly, praise adjective, compliance/appreciation, and work GDP categories were used most frequently across all teachers. Implications and future directions are discussed.

Keywords: Diverse Praise, Teacher Praise, Teacher Training, Student Behavior, Classroom Management

Acknowledgements

I would first like to thank my thesis chair, Dr. Margaret Floress for all of her help, time, and support throughout the duration of this project. Dr. Floress played an intricate role in guiding me through my data coding as well as critiquing my thesis manuscript, and for that I am sincerely grateful.

I would also like to thank Dr. Assegedetch HaileMariam and Dr. Lyndsay Jenkins for their time on my thesis committee. Their insight and critiques helped guide my thesis project on a clear and meaningful path.

Data coding would not have been possible without the help of Christina Bounds. I am truly appreciative of all the hours she put into coding to help me succeed with this project.

This project could not have been completed without the love and support from my close family and friends, including my school psychology cohort. I am forever grateful for the support they provided me throughout the duration of, not only this project, but my higher education as a whole.

Table of Contents

Abstract.....	2
Acknowledgments.....	3
Introduction.....	7
Praise Defined.....	8
Recommendations for Praise Use.....	9
Contingent and Specific.....	9
Positive Teacher-Student Interaction.....	10
Differentiated.....	10
Reinforcing.....	10
Sincerity.....	12
Supportive and Enthusiastic.....	12
General Praise vs Behavior Specific Praise.....	14
SWPBIS	17
Praise Rates.....	18
Explanation for Studying Diverse Praise.....	19
Discriminative Stimuli.....	20
Relevant Stimuli.....	21
Quality of the Reinforcers and Habituation.....	22
Current Study.....	23
Research Questions.....	24
Method.....	25
Participants and Setting.....	25

Diverse Praise Categories.....	25
Behavior Specific Diverse Praise (BSDP) Defined.....	26
General Diverse Praise (GDP) Defined.....	27
Rater Training.....	29
Procedures.....	29
Data Analyses.....	30
Results.....	32
Observations.....	32
Diverse Praise.....	32
GDP vs BSDP.....	33
TDP in Early vs Late Elementary Classrooms.....	34
Differences in Teachers Use of GDP.....	34
Discussion.....	36
Limitations.....	41
Future Research.....	43
References.....	45
Appendix A.....	51

List of Tables

Table 1. School demographics.....	53
Table 2. Teacher demographics.....	54
Table 3. Average number of diverse praise categories per observation by grade level....	55
Table 4. Teachers' mean and range of diver praise rates per observation per hour	56
Table 5. Teachers' use of GDP by category.....	57

List of Figures

Figure 1. Total Teacher General Diverse Praise.....	58
---	----

An Analysis of General Education Teachers' Use of Diverse Praise

Many teachers struggle with classroom management and report that it is one of the most difficult parts of their job, but also an area in which they receive the least level of training (Barrett & Davis, 1995; Evertson & Weinstein, 2006; Houston & Williamson, 1992). Praise is an easy to implement, no cost, effective strategy that has been studied since the 1960s to decrease disruptive student behavior and assist classroom teachers with classroom management (Hall, Lund, & Jackson, 1968; Madsen, Becker, & Thomas, 1968; Shutte & Hopkins, 1970; Thomas, Becker, & Armstrong, 1968). These studies suggest that, when teachers increase their use of praise, disruptive student behavior decreases. More recently, intervention studies have focused on increasing teachers' use of behavior-specific praise (BSP) and have demonstrated that using BSP decreases disruptive student behavior and increases appropriate student behavior (Dufrene, Lestremay, & Zoder-Martell, 2014; Fullerton, Conroy, & Correa, 2009; Reinke, Herman, & Stormont, 2013; Sutherland, Wehby, & Copeland, 2000).

Unfortunately, few studies have examined praise beyond BSP. In a systematic review of the literature, Floress, Beschta, Meyer, and Reinke (in press), found that the majority of praise research has focused on studying BSP, verbal, individual, and contingent praise; however, there are other praise characteristics that may also be related to positive student outcomes, such as the variety of praise statements that teachers use within their classrooms. If teachers' diverse use of praise can be measured objectively, it may prove to be an important praise characteristic that strengthens the utility and/or effectiveness of teacher praise. The purpose of this study is to identify different types of

diverse praise and to determine, on average, how many different types of diverse praise teachers use in general education classrooms.

Praise Defined

Praise is described as a verbal statement or gesture signifying teacher approval of a desired student behavior and goes beyond verbal feedback for a correct academic response (Brophy, 1981; Cavanaugh, 2013; Reinke, Lewis-Palmer, & Merrell, 2008). Praise is commonly broken down into two forms, BSP and general praise (GP). BSP is defined as the delivery of approval by the teacher to the student which includes a specific and explicit description of the approved behavior (Briere, Simonsen, Sugai, & Myers, 2015; Reinke, Lewis-Palmer, & Matin, 2007). An example of BSP is "You did a fantastic job walking to your seat quietly". This statement explicitly states the approved behavior so children can make the connection between the praise received (i.e., fantastic job) and the behavior displayed (i.e., walking to your seat). GP differs from BSP in that it expresses approval or admiration without explicitly stating what was approved (Jenkins, Floress, & Reinke, 2015; Myers, Simonsen, & Sugai, 2011). Examples of GP include "good," "great," and "fantastic" because they all express approval without specifically stating the behavior or describing what was approved. It is argued that BSP is a superior use of praise compared to GP because BSP clearly makes the connection between children's behavior and approval, and leave the children with little doubt of what they did to receive the praise (Hawkins & Heflin, 2011).

Prior to determining whether or not teachers' diverse use of praise can be measured, it is important to review what guidelines for delivering effective praise have been offered, what specific praise characteristics have been studied, the extent to which

GP versus BSP has been studied, how praise fits into school-wide preventative models, and to what extent research has examined praise rates to inform Tier I intervention.

Recommendations for Praise Use

Many researchers provide guidelines for delivering teacher praise (Gable, Hester, Rock, & Hughes, 2009; Hester, Hendrickson, & Gable, 2009; Sutherland, Copeland, & Wehby, 2001). Some recommendations are objective (e.g., praise should be contingent, specific, and directly linked to the behavior that is being approved; Partin, Robertson, Maggin, Oliver, & Wehby, 2010), while other recommendations are more subjective (e.g., praise should be delivered enthusiastically and with sincerity (Brophy, 1981). The following section reviews praise recommendations found in the literature.

Contingent and specific. Brophy (1981) recommended that praise be contingent and specific. Blaze et al. (2014) also recommended that contingent praise be used after a single occurrence of appropriate student behavior. In other words, praise should not be used spontaneously, but rather strategically following a specific appropriate behavior (Myers, Simonsen, & Sugai, 2011; Sutherland, Wehby, & Copeland, 2000). In a study where teachers were trained to modify their teaching to increase attention, make transitions more obvious, improve opportunities to respond, and provide praise, Anderson, Evertson, and Brophy (1979) reported that teachers were rarely specific in their use of praise statements. They argued that when teachers are not specific in their delivery of praise, the praise statement is not as effective because the connection between the praise statement and the specific behavior being approved is less obvious to the student.

Positive teacher-student interaction. In addition to specific and contingent praise, Sutherland (2000) as well as Moore Partin and colleagues (2009) recommended that praise should be delivered in a way that increases positive teacher-student interaction. Often, students who are targeted for praise intervention have a history of behavior problems, and students with behavior problems are more likely to experience negative teacher-student interactions compared to students without behavior problems (Moore Partin et al., 2009). Praise creates opportunities for positive student teacher interactions and when this happens, overall teacher-student relationships improve (Moore Partin, 2009).

Differentiated. Moore Partin and colleagues (2009) also recommended that praise be centered on the student's diverse skill level. In other words, praise should be delivered in a way that is differentiated for each student's individual needs (Gable, Hester, Rock & Hughes, 2009). For example, one student may rarely raise a hand to speak in class without blurting out first. When that student raises a hand prior to speaking in class, he/she should be praised specifically for remembering to raise a hand. Similarly, a student who struggles to stand in line appropriately (e.g., hands to self, mouth quiet, eyes forward), should be praised when standing in line while keeping hands to him/herself and facing forward. Praising students based on the individual skills they need to work on is important because children are more likely to make improvements in the areas they have deficits.

Reinforcing. Gable and colleagues (2009) also argued that it is important to ensure that praise is reinforcing for the student receiving praise. Differentiating praise so that it is delivered in a way that is reinforcing is key to effectively using praise. It is

important to take into consideration the unique characteristics of the individual being praised and determine whether or not praise is changing the target behavior. It is possible for praise to function as a reinforcer for one individual, but not another (Moore Partin et al., 2010). Although many contemporary researchers recommend that praise be delivered contingently, specifically, in a way that increases positive teacher-student interaction, be differentiated based on student need, and be functionally reinforcing, Brophy (1981) may offer the most influential review on teacher praise.

Brophy (1981), *Teacher Praise: A Functional Analysis* is likely the most widely reviewed article related to teacher praise. When a Google Scholar search was conducted using the search term “teacher praise” by the primary investigator, the first article found was Brophy (1981), which was cited by more than 970 other articles (Google Scholar, 2015). In his review of teacher praise, Brophy (1981) recommended that praise be informative, specific, genuine, supportive, individualized, sincere, enthusiastic, and contingent. Brophy indicated that these recommendations were based on the work of O’Leary and O’Leary (1977). Some of these recommendations are consistent with the previous section (i.e., praise should be specific, individualized, and contingent); however Brophy also suggested that teacher praise should be genuine, supportive, sincere, and enthusiastic. These praise characteristics are arguably less objective and; therefore, more difficult to measure. However, Brophy is not the only one to recommend that praise include subjective qualities. McKay (1992) stated that when using praise one should “...find as many opportunities to sincerely praise your children as you can” (p. 243). Similarly, Bayat (2011) claimed that if praise is done meaninglessly it loses its effectiveness, and therefore promoted that praise be delivered in a “sincere manner.”

However, despite these recommendations, there is no empirical support to suggest that praise is more effective when it is “genuine,” “supportive,” “sincere,” or “enthusiastic,” because these praise characteristics have never been experimentally studied nor defined.

Sincerity. It is possible that these characteristics have never been experimentally studied because measuring these constructs would be extremely difficult. For example, measuring sincerity or genuineness is likely to be difficult because it is an internal state that is subjective to outside observers. Henderlong and Lepper (2002) reviewed the effects of praise on children’s motivation and concluded that if praise is perceived as sincere, it is likely to enhance motivation. However, they also determined that measuring subjective praise characteristics, like sincerity, presents a great challenge. For example, they found that it was difficult to determine how honest (or sincere) praise differs from falsified praise and because of this, these authors concluded that they were unable to determine whether or not honest praise was actually different from falsified praise.

Supportive and enthusiastic. It is also likely that measuring whether or not a teacher is supportive in his/her use of praise would prove difficult. One reason for this is because support can be viewed on a continuum. One person may judge a teacher’s praise to be supportive, while another person may judge the teacher’s praise to not be supportive. Enthusiasm is also a construct that can be judged on a continuum. One teacher may be judged as enthusiastic until another teacher with more or less enthusiasm is observed. The possible continuum of these praise characteristics makes them difficult to measure and ultimately study. Additionally, both support and enthusiasm are subjective in nature and make reliable coding difficult. While many of the recommended guidelines for how to use praise are logical (e.g., praise should be enthusiastic,

supportive, sincere, and genuine) these characteristics are difficult to measure and there is no evidence to support that they are effective or essential components of praise because they have never been studied. The following section will discuss the praise characteristics that have been studied.

Floress et al, (in press) reviewed the praise literature spanning the past thirty-four years and identified twelve praise characteristics that have been studied. In this systematic review, 29 praise studies were identified and analyzed to determine which praise characteristics had been studied in the literature. Studies included for review included intervention studies where teachers were trained to increase their use of praise or studies where no intervention took place and teacher praise was examined in relation to other variables (e.g., opportunities to respond, criticism, or student behavior). In each of the 29 studies the dependent variable was examined to identify which praise characteristics were described. For example, if a dependent variable provided an example of praise as a teacher stating "I like the way that you are standing in line" the specific praise characteristics that were identified (coded) included: BSP (standing in line specifically identified), verbal (the use of the word "stating" suggests verbal communication), individual (directed to one student), and contingent (occurred after appropriate behavior was observed). Each of the 29 articles were coded for 12 praise characteristics, which included: general, BSP, verbal, written, tangible, physical, gesture, individual, group, public, private, and contingent. Each article could be coded for multiple praise characteristic categories.

Results from the Floress et al. (in press) review indicated that the three most frequently studied praise characteristics were contingent, individual, and BSP. The three

least studied praise characteristics included public, private, and written. Interestingly, of the 29 studies reviewed, the study that examined public versus private praise (Blaze et al., 2014) was the only study that experimentally compared two praise characteristics in an attempt to determine which characteristic was most effective. No other praise characteristic, including BSP, has been experimentally compared to determine superiority; however, the praise literature suggests that BSP is superior to GP (Anderson, et al., 1979; Brophy, 1981).

General Praise versus BSP

As noted above, many researchers provide recommendations on the effective use of praise which include specifically identifying the child's behavior that earned approval (i.e., using BSP; Brophy, 1981). Despite the recommendation that praise be specific and the implication that BSP is superior to general praise, no study has experimentally manipulated BSP and GP to determine if in fact BSP is most effective in reducing student disruptive and off-task behavior (Floress et al., in press). One study (Anderson et al., 1979) is frequently cited as evidence that BSP is superior to GP. In their study, Anderson et al. examined teachers' implementation of praise in small first grade reading groups. The teachers in the study were provided with over 20 guidelines on principles of effective classroom management, one of which was related to praise. Teachers were instructed to use praise in moderation so that it was not meaningless and to use specific praise. The authors reported that specific praise statements were positively related to academic achievement and therefore concluded that for praise to be effective, it needed to be specific (Anderson et al., 1979). There are several limitations with this study. First, this study was a correlational study and therefore, concluding that using specific praise is

more effective than using GP cannot be determined. In addition, teachers were encouraged to implement more than 20 guidelines for effective instruction (only one of which was praise). It is possible that increases in student achievement may have been related to any number or combination of the 20 recommended guidelines for effective instruction. Therefore, it is impossible to know how praise specifically influenced student achievement. While these findings are important, additional research examining the relation between BSP and student academic and behavioral outcomes are needed.

More recently, Floress, Jenkins, Reinke, and Baji (under review) found a relation between teachers' natural use of BSP and student off-task behaviors. The authors of this study told teachers they were observing "behavioral classroom management skills" and then conducted direct behavioral observations in 28 different general education, elementary (K-5th grade) classrooms. Both BSP and GP and student class-wide off-task and disruptive behavior were measured. Across all grade levels, teachers' natural use of praise was low and GP was used more frequently than BSP. Furthermore, there was a significant relation between teachers' natural use of BSP and class-wide off-task behavior. In other words, in classrooms where teachers used more BSP, class-wide off-task behavior was lower. A significant relation was not found between GP and class-wide off-task or disruptive behavior. These findings suggest that teachers who naturally use more BSP statements (have not received praise training) may have fewer students who are off-task and that higher natural rates of BSP may serve as a preventative classroom management strategy. Additional studies are needed to replicate these findings and further examine teachers' natural use of BSP and its influence on behavior class-wide.

Although further research is needed to determine whether BSP is superior to GP or if teachers who naturally use higher rates of BSP have more class-wide appropriate student behavior, many studies have found that after training teachers to use BSP student behavior improves. Armstrong, McNeil, and van Houten (1988) examined the effects of a teacher training program (Principal's In-service Training Package) on teacher praise rates and on student behavior within the school system. After training, Armstrong and colleagues found a steady decline in the rate of disruptive student behavior related to increased teacher specific praise statements as demonstrated by a corresponding drop in student disruptive behavior and an increase in classwork and homework completion. Disruptive behavior was measured by direct observation data gathered on two students referred by teachers as being the most disruptive in the classroom. Similarly, Dufrene, Lestremau, and Zoder-Martell (2014) examined the effects of using direct behavioral consultation to increase teacher praise and decrease student disruptive behavior. Teachers in this study were trained to use BSP statements to manage classroom behavior and found that after teachers were trained, disruptive classroom behavior decreased. Lastly, Stormont, Smith, and Lewis (2007) also found that after teachers were trained to identify and specifically praise preschool students who were following expectations, student behavior problems declined. In all of these studies, after teachers were trained to increase their use of specific praise, student behavior problems decreased. Although these studies did not directly compare the effectiveness of BSP to other praise characteristics (e.g., GP), these studies demonstrate that BSP has a positive effect on students' behavior class-wide or school-wide. For this reason, BSP is often a component of school-wide behavior prevention programs because BSP promotes students' adaptive and appropriate behavior.

SWPBIS

School-wide Positive Behavioral Interventions and Supports (SWPBIS) are being used in school systems to prevent student behavior problems and promote a positive school climate. It is a well-researched, systems change framework (Bradshaw et al., 2008; Nelson, Martella, & Marchand-Martella, 2002; Pas & Bradshaw, 2012). SWPBIS focuses on team-based leadership, data-based decision making, and positive supports for all students. These positive supports include the use of praise; however, there is not a specific guideline set for how much praise needs to be used in order to be effective.

Determining an effective praise rate that leads to decreases in disruptive student behavior class-wide is important information that could be easily incorporated into the SWPBIS framework (Floress & Jenkins, 2015). For example, if teachers who naturally praise at a specific rate (e.g., 3-5 BSP statements per 10 minutes) have fewer class-wide behavior problems, then the use of that specific praise rate could be used as a Tier 1 SWPBIS standard. Members of the school SWPBIS team might observe classroom teachers to determine whether they are meeting this praise standard and give feedback. If teachers are aware of the standard, they too could learn to self-monitor their own use of praise to determine whether they are using the specified praise rate. Both of these examples might be ways to universally screen teachers' natural use of BSP and whether or not they are meeting the standard. Setting a Tier 1 praise standard and ensuring that teachers are meeting this standard prior to moving on to a more intensive Tier 2 intervention, might prevent student behavior problems from occurring and be a better use of time and resources. Unfortunately, few studies have examined teachers' natural use of

praise in the general education classroom and even fewer have examined the relation between teachers' natural rates of praise and class-wide behavior.

Praise Rates

White (1975) was one of the first studies that examined teachers' natural rates of praise. White used the term "approval," in her study and defined approval as verbal teacher praise or encouragement (White, 1975). White found that, in early elementary grades, teachers praised students at higher rates compared to later grades. Among first and second grade classrooms teachers' average total praise was 43.7 approvals per hour (Jenkins et al., 2015; White, 1975). For late elementary, grades 3-5, classrooms teachers' average total praise was 20.8 praises per hour (Jenkins et al., 2015; White, 1975). Furthermore, in middle and high school, the rates declined to 17.1 and 8.4 praises per hour respectively (Jenkins et al., 2015; White, 1975). This study is important because it was the first to measure natural rates of praise across elementary, middle-school, and high-school classrooms, in addition to finding that teachers praised less as they taught older students.

Recent examination of general education teachers' natural use of praise has reported similar findings to the White study. Floress and Jenkins (2015) sought to determine the natural rates of GP and BSP among general education kindergarten teachers. They found that the total praise rates (GP and BSP) in general education kindergarten classrooms, almost forty years later, were similar to the rates reported by White among first and second grade classrooms (47.3, 43.7 praises per hour, respectively). Floress et al. (in press) also sought to determine the natural rates of GP and BSP used among general education (K-5th) teachers. Results demonstrated that overall

teachers' GP across grade levels were similar, ranging from 21.0 to 34.9 across the six grade levels. However, teachers' BSP depicted a downward trend similar to what White (1979) reported. Kindergarten teachers' BSP, on average, was 10.25 per hour, whereas fifth grade teachers' BSP, on average, was 1.1 per hour. Although kindergarten teachers' natural BSP rate was higher than fifth grade teachers', the average natural rate of kindergarten teachers' BSP was below the recommended intervention rate (i.e., 18-30 praises per hour; Floress & Jenkins, 2015). It is unclear whether the recommended rate is necessary to use praise effectively as a universal strategy to prevent student behavior problems class-wide or whether a less frequent rate would be just as effective.

In addition to examining teachers' natural rates of praise and the relation between praise and student behavior, another possible praise characteristic that might inform effective praise use is teachers' diverse use of praise and the average number of diverse praise categories a teacher uses. Examining general education teachers' natural use of diverse praise is the logical first place to start investigating diverse praise. It is possible that teachers who use multiple diverse praise categories on average may also have better class-wide student behavior. If so, finding an optimal number of diverse praise categories may also provide a universal screening criterion for teachers' use of praise as a universal strategy. Unfortunately, no one has measured or studied teachers' use of diverse praise (Floress et al., in press).

Explanation for Studying Diverse Praise

There has been extensive research on how discriminative stimuli, relevant stimuli, the quality of a reinforcer and habituation influence learning. These concepts may help explain how both BSP and diverse praise may influence appropriate student behavior.

Discriminative stimuli. Organisms learn by discriminating between different stimuli. For example, humans discriminate between the colors on stoplights and recognize that each light results in a different consequence (i.e., traffic moves, slows, or stops). The ability to discriminate between stimuli is important because it relates to predicting consequences. As individuals learn which stimuli are linked to reinforcement, they begin to repeatedly and/or frequently perform that behavior (Skinner, 1950). B.F. Skinner demonstrated this in laboratory settings using an operant chamber and small animals such as rats or pigeons. The operant chamber was equipped with a response lever, two lights, and a food dispenser. When a rat was placed in the chamber with repeated trials it learned that a signal (lit key) predicted the availability of food. Therefore, in the presence of a lit key the rat was likely to push a lever that led to food delivery (reinforcement) and when the key was not lit the rat was unlikely to push the lever. When the rat pushed the lever only in the presence of the lit key, this demonstrated that the rat was able to discriminate when reinforcement was available and when it was not. Thus, the lit key became a discriminative stimulus for food availability and increased the probability that the rat would push the lever in the future when the key was lit (Skinner, 1950). Learning is likely to occur more quickly when stimuli are easily discriminable (e.g., having a well-lit key versus a dimly lit key; Skinner, 1950).

A teacher who uses BSP may become a discriminative stimulus more easily than a teacher who uses GP because BSP is a more salient or obvious stimulus in the environment. In other words, children can easily predict that a certain teacher (signal) is likely to deliver praise (reinforcement) after the child displays an appropriate behavior; therefore, that child is more likely to demonstrate appropriate behavior in the future,

when in the presence of that teacher. Furthermore, when a teacher states specifically what the child did that led to praise, the specific praise itself provides a clear signal for under what conditions (e.g., pushing in a chair) praise is delivered.

It is possible that a teacher who uses diverse praise may also become a discriminative stimulus more easily than a teacher who uses the same praise statement (e.g., good or good job getting to work) repeatedly regardless of whether the praise is general or specific. When teachers use a variety of praise (e.g., Awesome! or great effort or nice job tying your shoes) the variety may allow children to more easily predict that that teacher is likely to deliver praise. Similarly, when a teacher uses diverse praise, it may provide clear examples (signals) for what kinds of behavior (e.g., effort, kindness, sitting still) will be praised.

Relevant stimuli. Individuals also learn to attend to relevant stimuli and to ignore stimuli that have little meaning or importance (Shriver & Allen, 2008). For example, there are multiple stimuli that an individual experiences at any time such as the firmness of the seat beneath you or the cool draft that is blowing across the back of your neck. Sometimes these stimuli result in a change in one's behavior such as moving to a different seat or putting on a scarf. Other times, these stimuli are ignored because they are not important or the consequence (putting on a scarf) does not serve as a reinforcer (you're hot, it's 90 degrees outside!). Meaningless or unimportant stimuli are not reinforcing because they are not paired with a desired consequence (Mackintosh, 1975).

Relevant stimuli may support the idea that GP may be less effective than BSP praise. For instance, GP may hold less value because it is more frequently used or even overused. When teachers use the same GP statement (e.g., good) or even BSP statement

(e.g., thank you for raising your hand), students may habituate to the praise statement because it no longer signals approval that is relevant to the student. On the other hand, BSP (overall) may be more effective than GP because BSP is used less frequently and therefore may hold more meaning for students. Similarly, a teacher who uses general diverse praise (GDP), such as a single adjective (e.g., Awesome!), or praise focused on effort or work (e.g., great job) and behavior-specific diverse praise (BSDP; e.g., nice sitting, nice standing in line, nice using the bathroom quickly etc.) may ensure that praise continues to be meaningful and important to students.

Quality of the reinforcer and habituation. The quality of a reinforcer also determines whether something will be reinforcing for an individual and therefore has direct implications for learning (Shirver & Allen, 2008). Having a variety of rewards is likely to be reinforcing to an individual compared to rewards that are repeatedly presented (Miltenberger, 2001). For example, randomly offering an edible (e.g., Kit Kat), playing a board game, or having access to t.v. delivered contingently on whether or not a child brings home their homework is likely to more effectively maintain bringing homework home compared to offering a Kit Kat every day (Madaus et al., 2013). Offering only one reward, such as an edible, may eventually lose its value as a reinforcer due to the frequency in which it is provided. In other words, the child is likely to habituate to the edible reward. Habituation is the decrease in the strength of a behavior following repetition of a stimulus (Powell, Honey, & Symbaluk, 2013; Thompson & Spencer, 1966). As stimuli repeat themselves, or become a natural part of the environment, individuals grow accustomed to the stimuli.

Considering this, students may habituate to teachers who use the same praise statements (e.g., Good) repeatedly. Praise statements that students become accustomed to may not hold the same quality or reinforcing potential as praise used diversely (Shriver & Allen, 2008). Diverse praise may effectively increase students' appropriate behavior because children are less likely to habituate. Children may prefer to be praised in a variety of ways for a variety of appropriate behavior. Therefore, the use of diverse praise is likely to provide a higher quality of reinforcement due to the uniqueness or novelty. Diverse praise may also prevent children in the classroom from becoming habituated to praise as a reinforcer.

Overall, children learn in many ways but strategic use of teacher praise likely facilitates children's understanding of appropriate behavior. A teacher who uses diverse praise may serve as a discriminative stimulus that signals the student that reinforcement is available if appropriate behaviors are displayed. Similarly, the quality of the praise (more diverse praise) itself may make the teacher a more relevant signal for reinforcement. Lastly, diverse praise may provide novelty and students may be less likely to habituate to teachers who use more diverse praise compared to teachers who use less diverse praise. Each of these learning components help to explain why diverse praise is important to study and how it may be an effective characteristic that when used strategically increases student appropriate behavior.

Current Study

Praise is a free, non-intrusive strategy that can easily be incorporated into teachers' daily classroom routine. Although behavior specific praise is one of the most studied type of praise (Floress et al., under review), there may be other characteristics

that are important to study, such as teachers' diverse use of praise. Teachers' diverse use of praise has not been studied and has the potential to positively influence students' behavior, because students may more readily identify teachers who use more diverse praise as discriminative stimuli for reinforcement (praise). In addition, diverse praise may be more relevant to students thereby decreasing the likelihood that students will habituate to praise. For these reasons, it may be easier for children to learn which appropriate behavior to repeat in the presence of teachers who use more diverse praise. If diverse praise can be objectively measured, future studies could investigate the optimal number of diverse praise categories teachers should use to guide best practice; however, prior to studying the relation between diverse praise and student outcomes, it was important to determine whether teachers' use of diverse praise could be objectively measured, as well as the average number of diverse praise categories teachers used by answering the following research questions:

1) What was the average number of diverse praise categories used at each grade level (kindergarten – fifth grade)? Since diverse praise had never been studied there were no specific predictions for this question.

2) Did teachers use more BSDP categories or GDP categories on average per observation? It was hypothesized that teachers would use more GDP categories than BSDP categories. Based on previous research (Reinke, Lewis-Palmer, & Martin, 2007; Reinke et al., 2013; Floress & Jenkins, 2015), teachers use more GP than BSP; therefore, it was hypothesized that this trend would also be observed when examining diverse praise categories.

3) Were there differences between early elementary (K-2nd) and late elementary (3rd-5th) teachers' use of diverse praise categories? Previous studies have not found statistically significant differences in teachers' use of praise across grade levels; however, downward trends in praise have been noted as teachers praise older students less (Floress & Jenkins, 2015; White, 1975). Therefore, it was predicted that early elementary teachers (K-2nd) would use more diverse praise categories than late elementary teachers (3rd-5th).

Method

Participants & Setting

The participants in this study included 28 elementary, general education teachers (K-5th) from six elementary schools (five public, one private) located in Central Illinois. The demographic information for these schools is presented in Table 1. The current study re-analyzed data from an original study that examined teachers' natural rates of general and specific praise (Floress et al., under review). Teacher demographic information is provided in Table 2. All of the teacher participants were Caucasian. Twenty-seven of the teachers were female and one was male. Half of the teachers had four-year degrees and half held master's degrees. Nearly half (39%) of the teachers reported to have five or fewer years of teaching experience.

Diverse Praise Categories

The primary investigator helped collect data for the original study, Floress et al., under review. In this role, the primary investigator observed teachers use the same key phrases (e.g., good or good job) repeatedly to show their approval. In some cases, a teacher on average used a high number of general praises with very little variety, which led the primary investigator to question whether diverse praise might be a meaningful

praise metric (e.g., is there a difference between a teacher who uses 20 “good jobs” in an hour versus a teacher who uses 5 “good jobs,” 5 “excellent,” 5 thumbs up, and 5 hi-fives?) However, prior to determining how diverse praise influences student behavior, the primary investigator needed to determine whether diverse praise could be measured. The primary investigator and thesis chair completed a preliminary review of teacher praise to determine whether diverse praise categories could be created and coded reliably. Diverse praise categories were developed by examining data from three randomly selected classrooms from the original 28 classroom data set. Preliminary review suggested that diverse praise could be coded by type, that is GDP and BSDP. GDP was broken down into eight categories: 1) praise work 2) praise adjective 3) praise effort 4) praise compliance/ appreciation 5) praise gesture 6) praise tangible 7) praise physical and 8) praise miscellaneous. The following section provides the definitions created to code BSDP and the eight definitions used to categorize GDP with specific examples for each.

BSDP Defined

To measure BSDP, BSP (which were recorded verbatim) from the original study were re-analyzed to make sure that the original data were coded correctly. To do this, the primary investigator went through the original data and ensured that praise identified as BSP was consistent with the original definition: “any specific verbalization or gesture that expresses a favorable judgment on an activity, product, or attribute of the students(s),” for example, “Terrific job presenting your project”, or “That is a cool picture!” Gestures paired with a description of a student’s behavior were also defined as BSP such as a teacher stating “You are standing in line so well” and then giving that child a thumbs up (Floress et al., under review). If BSP from the original study was

miscoded, it was re-coded correctly. Once all the BSP data from the original study were checked to make sure they were in fact BSP, the verbatim BSP data were coded using the BSDP categories and the number of different BSDP categories were counted. For example, if the teacher had a total of three BSP statements including: 1) "I like how Joe is sitting" 2) "Jack, you are doing a great job sitting" and 3) "I like how quietly you are working" the first two statements were counted as one diverse praise category because both target the behavior "sitting." The third BSP praise statement was counted as a second BSDP category because it targeted a different behavior "working." Therefore, this teacher would have a total of two BSDP categories for this observation. For each teacher observation, the total BSDP categories used were totaled and an average was obtained across the number of observations completed with that teacher.

GDP Defined

To measure GDP, GP (which were recorded verbatim) from the original study were re-analyzed to make sure that the original data were correctly coded. Similar to what was described above, the primary investigator went through the original data and ensured that praise identified as GP was consistent with the original definition: "any nonspecific verbalization or gesture that expresses a favorable judgment on an activity, product, or attribute of the student." Examples included "Good", "Wonderful", or a thumbs up without a description of the appropriate behavior. If GP from the original study was miscoded, it was re-coded correctly. Once all the GP data from the original study were checked to make sure they were in fact GP, the verbatim GP data were coded using the GDP categories (described below) and the number of different GDP categories were counted. If more than one GP data were coded for the same category (e.g., praise

work), that category was only counted once for that observation. For each teacher observation, the total GDP categories used were totaled and an average was obtained across the number of observations completed with that teacher. GDP operational definitions are described below (see Appendix A):

Praise work. The "job" category refers to a task a child is doing or has completed and emphasizes the child's work (e.g., good job) while expressing approval.

Praise adjective. The adjective category refers to either a single adjective or an adjective with enhancement being used to express approval (e.g., great, super, nice).

Praise effort. The praise effort category is characterized by the use of the word "try" or a similar term which emphasizes that the child is putting forth effort (e.g., nice try, great start).

Praise compliance/ appreciation. The praise compliance or appreciation category uses the term "thank you" to communicate approval for compliance or appreciation for something that a student did (e.g., thank you).

Praise gesture. The praise gesture category is characterized by verbal gestures (e.g., give yourself a thumbs up) or nonverbal gestures (e.g., giving a thumbs up).

Praise tangible. The praise tangible category is characterized by either a verbal gesture (e.g., telling a student to move their card) or nonverbal tangible (e.g., teacher giving a child a sticker).

Praise physical. The praise physical category is characterized either verbally (e.g., give yourself a pat on the back) or nonverbally (e.g., the teacher giving a hi-five).

Praise miscellaneous. The praise miscellaneous category is utilized when there is a praise statement so unique that it cannot be categorized into any of the other categories.

After categories were created, the primary investigator and thesis chair coded five of the 28 teachers' praise data using the diverse praise categories. The average number of total diverse praise (TDP) used per observation was 4.4 (range 1.4-6.3). TDP was a sum of GDP and BSDP. The average number of GDP categories used per observation was 2.2, while the average number of BSDP categories used per observation was 2.2. The average number of total diverse praise categories (GDP and BSDP combined) used per hour for the first five teachers was .08 (range 0.41-1.92). The average number of GDP and BSDP categories used per hour was 0.04, respectively.

A graduate student was trained to code for diverse praise. Her diverse praise codes and the primary investigator's codes were compared to calculate interrater reliability across the five teachers. Inter-rater reliability was calculated using percent agreement (Cooper, Heron, & Heward, 2007). Agreement for total GDP categories was 98.4% and 98.3% for total BDSDP categories. TDP (GDP and BSDP combined) was 98.4%. This suggests that diverse praise could be quantified using the categories created.

Rater Training

Two raters (the primary investigator and a graduate student) were trained to code BSDP and GDP so that 100% of the data could be calculated for inter-rater agreement. Prior to coding, each rater went over the BSDP and GDP category definitions and examples. Discussion took place to clarify any questions regarding the definitions and examples and non-examples were reviewed. Then, each rater coded three, 10-15 min teacher verbatim observations. These training observations were used for training only and were not a part of the 28-teacher sample. Once agreement was 80% or greater (using

percent agreement) on the three observations, raters were considered trained.

Procedures

Prior to coding the data for the current study, the primary investigator went through the original data and extracted both GP and BSP verbatim data. As each type of praise was extracted, it was checked for accuracy (as described above). Then, GP and BSP verbatim data were entered into an excel spreadsheet and organized by observation and teacher. The excel sheet was duplicated and each rater individually applied the GDP and BSDP codes to the verbatim data. For example, if the general praise statement was “great job” that was coded as the “Praise Work” category and code 1 was given (see Appendix A). After applying the codes, the raters added up how many different GDP categories were identified (e.g. 1 + 2 + 2 + 4 = 3 categories) and how many different BSDP categories were used by each teacher (e.g. 1 sitting + 3 walking = 2 categories). Coding in this way allowed for inter-rater agreement to be calculated. If there were disagreements, the primary investigator met with the second rater to discuss discrepancies to increase future coding accuracy.

Inter-rater reliability was calculated by comparing the total number of diverse praise categories identified per observation between the primary investigator and graduate student. Agreement was calculated by dividing the smaller number of TDP categories by the larger number of TDP categories to obtain a percentage of discrepancy between raters (Cooper, Heron, & Heward, 2007). Inter-rater agreement was calculated for 100% of the verbatim observation data coded for this study. Inter-rater reliability for TDP was 98%, suggesting a high amount of agreement between both raters.

Data Analyses

For analyzing the data, different procedures were used. To answer the first research question, “What is the average number of diverse praise categories used at each grade level (kindergarten-fifth grade),” the average number of total diverse praise categories coded, per observation was calculated for each of the 28 classrooms. If a teacher used 29 diverse praises across all their observations (e.g., 10 observations), then their TDP would be 2.9. Then an average was obtained for each grade level (i.e., kindergarten-fifth grade). Finally, because each classroom did not have exactly 200 min of direct observations (total observation min ranged from 150-228) the average number of diverse praise categories coded per observation per hour were calculated for each teacher and for each grade level.

To answer the second research question, “Do teachers use more BSDP categories or GDP categories on average per observation,” the average number of BSDP categories coded per observation per hour and the average number of GDP categories coded per observation per hour were used. To determine if there were significant differences in the average number of BSDP and GDP categories per observation, a *t* test was conducted. A *t* test compared the average number of BSDP categories per observation per hour and the average number of GDP categories per observation per hour to determine if there were statistically significant differences.

Lastly, for the third research question, “Are there differences between early elementary (kindergarten – second grade) and late elementary (third – fifth grade) teachers’ use of diverse praise categories,” the average number of TDP categories coded, per observation, per hour for early elementary and the average number of TDP categories

coded, per observation, per hour for late elementary were used. Averages from teachers in kindergarten, first, and second grade were combined to make up early elementary and averages from teachers in third, fourth, and fifth grade were combined to make up late elementary. To determine if there were significant differences between early and late elementary, a *t* test was conducted. A *t* test compared the average number of TDP categories coded, per observation, per hour for early elementary and the average number of TDP categories coded, per observation, per hour for late elementary to determine if there was a statistically significant difference.

Results

Observations

The data used in this study were re-analyzed from an original sample that examined teachers' natural rates of GP and BSP (Floress et al., under review). A total of 5721 direct-observation min (i.e., approximately 95 hrs) were collected across 28 classrooms, with approximately 200 observation min collected in each classroom. A significant difference between the number of observation minutes across grade levels was not found. The average number of observed minutes for each grade included 203.5 (kindergarten), 207.3 (first), 203.4 (second), 200.9 (third), 210.7 (fourth), and 191.0 (fifth). There were 314 total observations across the 28 classrooms and the average observation length was 18.2 min (range 2-58 min). Observation lengths varied because observers accommodated teachers' natural teaching styles (e.g., lecturing for 15 min, then having students work individually for 15 min, then returning to teacher-led instruction) and only collected data when teachers led class-wide instruction). Therefore, a set length

for observations was not established for the original study, which was done to minimize teachers' reactivity (Floress et al., under review).

Diverse Praise

Descriptive statistics were calculated to report the average number of TDP, GDP, and BSDP categories coded per observation and the average number of TDP, GDP, and BSDP categories coded per observation, per hour. Results were examined by grade level first and then early and late elementary.

The TDP, GDP, and BSDP categories coded, per observation, by grade level are presented in Table 3. Across all 28 classrooms, the average number of TDP categories coded per observation were 3.7 (range 1.8-5.3). Although the average number of GDP and BSDP categories coded per observation (2.2 and 1.5, respectively) were similar (i.e., teachers tended to use approximately 2 GDP and BSDP categories per observation); there were notable differences in variability. On average, the number of GDP categories coded per observation ranged from 1.6-2.6; whereas the average number of BSDP categories coded per observation ranged from 0.2-2.8

There are also notable differences between diverse use of praise when examining grade level (see Table 3). The fifth-grade classrooms had the lowest average TDP (1.8, range 1.3-2.2), followed by fourth grade which had similar averages (2.0, range 1.9-2.2). Kindergarten had the highest average TDP (5.3, range 5.2-5.4). This downward trend is apparent for both TDP and BSDP with the average number of categories coded per observation greatest in kindergarten (5.3 and 2.7, respectively) and fewest in fifth grade (1.8 and 0.2, respectively). Although there also appears to be a downward trend in GDP,

it is not as pronounced. The trend with GDP holds steady in kindergarten through third grade and then drops off in fourth and fifth-grade.

GDP Versus BSDP

To answer research question two, “Do teachers use more BSDP or GDP categories on average per observation,” a *t*-test for independent means was conducted using the average number of GDP and BSDP categories coded per observation per hour (see Table 4). Results indicated the average number of GDP categories coded per observation per hour ($M = 0.64$, $SD = 0.04$) was significantly statistically different, $t(28) = 1.68$, $p < 0.05$ (one tailed) from the average number of BSDP categories observed per observation per hour ($M = 0.44$, $SD = 0.14$). This was a large effect size (Cohen’s $d = 1.71$). A one-tail, unequal variance *t*-test was used as directionality was expected. The results of a one-tail, unequal variance *t*-test found a probability of $p = 0.02$, demonstrating that there was a significant difference in the average number of diverse praise categories coded per observation per hour. Furthermore, the one-tail *t*-test demonstrated directionality and supported the hypothesis that on average teachers in this study used more GDP categories per observation per hour.

TDP in Early Versus Late Elementary Classrooms

To answer research question 3, “Were there differences between early elementary and late elementary teachers’ use of diverse praise categories,” a one-way, unequal variance *t*-test was conducted using the average number of TDP categories coded per observation per hour for early and late elementary. A *t*-test was conducted using the average number of TDP categories coded per observation per hour for the two groups. At an alpha level of .05, results indicated that there was not a significant difference between

rates of early teachers' use of TDP ($M = 1.27$, $SD = 0.11$) and late teachers' use of TDP ($M = 1.06$, $SD = 0.45$), $t(28) = 1.72$, $p > .05$ (one-tailed). TDP This finding does not support the hypothesis that early elementary teachers utilize more diverse praise categories per observation per hour than late elementary teachers; however, it is important to note the effect size for this difference was 0.6, which indicates a medium effect. Possibly with a larger sample, a statistically significant difference would be achieved.

Differences in Teachers' Use of GDP Categories

Although not an original research question, the different types of GDP categories were further analyzed to determine if certain GDP categories were coded more than others. This was first calculated for each teacher by examining each observation and noting which of the eight categories were coded. For example, if a teacher had 10 observations, each observation would be examined to determine how many times category 1 was coded. If three of the observations were coded for category 1, then it was determined that category 1 was coded for 30% of that teachers' observations. This was repeated for each of the eight GDP categories. Then GDP categories were calculated across grade levels. For example, all kindergarten teachers' observations were examined to determine how many observations coded category 1. Then, this number was divided by the total number of observations for all kindergarten teachers. Finally, similar steps were taken to examine the number of times each category was coded for each observation across all teachers.

When all teacher observations were examined together, some GDP categories were coded (per observation) more frequently than others (see Figure 1). The three most

commonly used GDP categories were the adjective (i.e., good, etc.) (34%), compliance/appreciation (i.e., thank you, etc.) (29%), and work (i.e., good job, etc.) (25%) categories. The remaining categories included the effort (i.e., nice try, etc.) (3%), tangible (i.e., candy, etc.) (3%), gesture (i.e., thumbs up, etc.) (2%), physical (i.e., hi-five, etc.) (2%), and miscellaneous (i.e., You're on fire, etc.) (2%) categories which were used infrequently by all teachers. Apart from the effort category, the three categories coded most frequently (per observation) all included praise that was delivered verbally.

The percentage of GDP categories coded per observation are reported by grade level in Table 5. Kindergarten teachers used the job category (27%) most frequently; whereas first grade teachers used the compliance/appreciation category (32%) most frequently. Second grade used both the compliance/appreciation and adjective categories the most (30%). All other grades used the adjective category 34% (third), 45% (fourth), and 51% (fifth) most often. Kindergarten teachers used the tangible category (14%) the most, but this percentage was small in comparison to other categories. Fourth grade teachers used the miscellaneous category (6%) more than any other grade. Fifth grade teachers only used four GDP categories and were never coded to use gesture, tangible, physical, or miscellaneous categories.

Discussion

The current study re-analyzed data from a previous study (Floress et al., under review) that examined 28 teachers natural use of praise by collecting 5721 min of direct-observation data. This study examined the verbatim praise responses from that study to determine if diverse praise could be systematically measured. Findings demonstrated that diverse praise can be measured. Across 28 classrooms, the average number of TDP

categories coded per observation was 3.7. This means that, on average, elementary teachers used approximately four different praise categories. A downward trend in the number of TDP categories coded was noted where kindergarten teachers used the most (approximately five different praise categories) and fifth grade teachers used the least (approximately two different praise categories). Across all grades, teachers used more GDP compared to BSDP and this difference was statistically significant. No statistically significant difference was found between early and late elementary teachers' use of diverse praise; however, there was a medium effect size, suggesting that with a larger sample the difference may be statistically significant. Lastly, the three GDP categories coded most frequently (per observation) across all elementary teachers were the adjective, compliance/appreciation, and work categories. Each of these praise categories delivered praise verbally. Results from this study along with additional future research may help inform teacher praise intervention and possibly set a recommended standard for how teachers use diverse praise in the classroom.

Measuring Diverse Praise

First, this study provides a coding system for measuring teachers' diverse praise. Teachers' diverse use of praise has never been measured and doing so provides another avenue for praise to be studied. If future studies determine that teachers who use more diverse praise have more positive student and teacher outcomes (e.g., improved student behavior, decreased teacher stress), it could be introduced as another component of praise training to maximize the use of this teacher behavior management strategy.

This study also provides an average number of diverse praise categories coded per observation for elementary teachers, and found that the average number of TDP

categories ranged from 1.8-5.3, GDP categories ranged from 1.6-2.6, and BSDP ranged from 0.2-2.7. Because this is the first study to examine teachers' use of diverse praise, it is impossible to make direct comparisons to similar research; however, it appears that teachers are more variable in their use of BSDP compared to GDP. One reason for this may be that there is a fixed number of possible GDP categories (i.e., 8 categories), where there are an infinite number of BSDP categories. Additionally, it is possible that teachers who are more skilled in using BSP are also better at finding a variety of appropriate behaviors to praise and therefore express their approval in different ways (i.e., use more diverse praise categories).

A downward trend in diverse praise use was noted in this study. Teachers of early elementary grades had higher TDP (5.3 kindergarten, 4.3 first grade) than teachers who taught later elementary grades (2.0 fourth grade, 1.8 fifth grade). Previous research (Floress & Jenkins, 2015; White, 1975) has reported a downward trend in praise rates as grade level increases, which was observed with diverse praise in this study (except for third grade (4.8), which had the second highest average number of TDP categories per observation). Again, it is possible that teachers who use more BSP are also more likely to use diverse praise. In the original sample, third grade had the third highest rate of BSP (7.1 per hr, preceded by first grade with 7.2 per hr, and kindergarten with 10.3 per hr). Additionally, White (1975) hypothesized that higher rates of praise are observed in younger grades because praising students in younger grades is more reinforcing for teachers, in that teachers can readily see the effects of their approval on student learning. White noted a decrease in students' enthusiasm for school coinciding with teacher praise declines. She argued that learning occurs at a slower rate among older students and is

thought to depend on students' taking responsibility for their own achievements and/or due to prior knowledge obtained from earlier grades. Because of this, teachers who teach older students may find praising students' instructional behaviors less reinforcing because they cannot observe student outcomes as readily and cannot attribute these achievements to their immediate effectiveness as a teacher. This idea may also be applicable to the downward trend in teachers' diverse use of praise.

GDP versus BSDP

The current study also found that teachers utilize more GDP categories than BSDP categories, on average, and this difference was statistically significant. This was not surprising, considering previous research (Floress, Berlinghof, Rader, & Riedesel, in press; Floress et al., under review; Reinke et al., 2013) has demonstrated that teachers use more GP compared to BSP. If BSP is naturally used less frequently in the classroom, then it stands to reason that there were fewer opportunities to code BSP verbatim data for diversity.

Across kindergarten through fifth grade teachers, there appears to be a wider range in the average number of BSP (5.9 per hr) and GP (29.9 per hr; Floress et al., under review) than the average number of BSDP categories (0.4 per observation per hr) and GDP categories (0.6 per observation per hr; from the current study). One aim of studying praise diversity was to find a way to measure GP in a way that was more meaningful. For example, some teachers are observed to use high rates of GP, but the rate only includes one GP statement (e.g., 50 "good jobs" in an hour). It is likely inappropriate to conclude that this teacher is using praise strategically and effectively. On the other hand, if a teacher is using 50 GPs per hour that breaks down into five different diverse praise

categories; this may provide more meaningful information about the teachers' use of praise. In other words, measuring diverse praise may allow us to cut out meaningless praise (e.g., high rates of GP). This may also assist in achieving what Brophy warned in that many teachers use praise ineffectively because their use of praise is not tied to function. While, it does not make sense to assess function for teachers' use of praise class-wide, providing better guidance on the effective use of praise in general may be helpful. For instance, it may be most effective to train teachers to use BSDP because teachers are making their praise salient to students in the classroom not only in specificity, but also in the different ways they praise.

Early and Late Elementary Teachers' Use of Diverse Praise

There was not a statically significant difference between the early elementary and late elementary teachers' use of diverse praise; however, there was a medium effect size and it is possible that with a larger sample, there may be statistically significant differences. It is also possible that teachers (regardless of whether they teach early or later elementary), tend to use the same average number of diverse praise categories. Since this is the first study to examine teachers' diverse use of praise, it is likely that no study (or very few studies) have trained teachers to vary the way in which they use praise. The idea of giving children different types of attention is not a new idea and is likely more prevalent within the parent training literature (Eisenstadt et al., 1993; McDiarmid & Bagner, 2005). Therapists often encourage parents to provide their children with attention in different ways (e.g., pats on the back; hi-fives; specific and general praise).

Teachers Use of GDP Categories

There were eight different categories in which diverse praise could fall. Overall, teachers used the adjective and compliance/appreciation categories more frequently (per observation). One reason for this is that these two categories may be the easiest GDP categories to utilize. For example, the adjective category includes a single adjective that indicates approval, like “good.” Using a single word within the classroom may come easily and naturally (i.e., without much strategic thought) when a child completes a desired behavior. Additionally, the praise compliance/appreciation category was used more often when teachers used the phrase “thank you.” It is likely that teachers do not even realize how often they are using this phrase due to its use in social language as a pleasantry.

Differences in GDP categories were observed based on grade. Kindergarten teachers used the job category the most and fourth and fifth grade teachers used the praise adjective category the most. Fourth grade teachers also used the miscellaneous category the most of all the grades. The miscellaneous category was defined as a category that was used if the praise did not fit into any of the existing categories. For example, “You’re on fire” and “You guys are rocking!” Future research might examine teachers that have used the miscellaneous category to see if their praise is notable because it is so unique and therefore frequently does not fit into an existing category.

Across all grades, teachers used the GDP categories that delivered praise verbally most often. There may be a few reasons for this. First, verbal praise is free (i.e., does not cost money) and does not need to be prepared in advance (e.g., tickets). Verbal praise is also fluid and can be delivered naturally and with little effort in the classroom setting. Additionally, other types of praise (e.g., physical) may be less comfortable for teachers to

deliver. Some teachers are less comfortable giving students hugs and therefore may not consider other types of physical praise (e.g., hi-fives, pats on the back, touching a child's head) for this reason. Lastly, tangible praise may require advanced planning and may take a teacher more time and effort than verbal praise. Increasing teachers' use of gestural praise may be an area of future study, since this type of praise can be delivered quickly with minimal effort.

Limitations

This study holds promise in providing researchers a new way to think about and measure praise; however, there were limitations. First, the data utilized for this study were collected live by observers who recorded verbatim responses from teachers as a secondary method of data collection. For the original study, observers were primarily interested in quantifying the number of GPs and BSPs used by teachers. Therefore, observers may have missed some verbatim data that would have influenced the results of the current study. Also, the original study calculated inter-observer agreement for the frequency of GP and BSP, but not verbatim data. Additionally, this study analyzed pre-existing verbatim data that at times would have made more sense with a visual example (e.g., video and verbatim data) to ensure that the verbatim praise data were interpreted accurately. It is possible that some praises were incorrectly coded because of inaccurate interpretation.

Additionally, diverse praise was studied by measuring the number of praise categories coded per observation. Although, approximately 200 direct observation minutes were collected in each classroom, observation lengths varied. This poses a problem because the number of praise categories were coded per observation. It is

possible that the variability in the length of the observations influenced the number of praise categories observed within each observation. For example, a teacher who was observed for 5 min may have less opportunity to demonstrate his/her diverse praise use than a teacher who was observed for 20 min. Although this is a notable limitation, it is possible that because on average there were 11 (range of 7-17) observations per teacher that this offset this limitation. Furthermore, some of the very short observations were screened to see if very few or no praise categories were coded and this did not appear to be the case. Even for the shortest observation (i.e., 2 min), two different praise categories were coded. Nevertheless, future research should standardize the length of observations to determine if similar results are reported.

The results of this study are limited to the geographical region they were collected from, that is rural Central Illinois. While there is strength in that data were collected from five districts, and six elementary schools; all but one teacher was female and all teachers were Caucasian. Therefore, these results should be compared to geographically and demographically similar classrooms and future research should examine diverse praise among urban and demographically varied school settings.

Future Research

Now that there is evidence that diverse praise can be studied and quantified, future research should replicate these findings. In addition, it would be helpful to determine whether teachers who use more praise categories also have better behaved students classroom-wide. Another study idea would be to teach a teacher to increase his/her use of diverse praise to determine whether this intervention has an impact on a student identified with frequent disruptive behavior within the classroom. If training

teachers to increase their diverse praise has a positive impact on student behavior, additional research might examine whether an ideal number of diverse praise categories can be recommended. These findings have the potential to significantly influence how teachers are trained to use praise.

In conclusion, this study highlights the importance of measuring other facets of praise to improve our understanding of this important classroom management tool. Thus far, praise research has primarily identified and examined GP and BSP, but it is likely that (in combination with other characteristics) an even more effective use of praise can be discovered. Determining how to maximize the effective use of praise will lead to more informed teacher training and ultimately help consultants provide teachers with the best strategies on using praise in the classroom.

References

- Anderson, L., Evertson, C., & Brophy, J. (1979). An experimental study of effective teaching in first grade reading groups. *Elementary School Journal*, 79, 193–223.
doi:10.1086/461151
- Barrett, E. R., & Davis, S. (1995). Perceptions of beginning teachers' in-service needs in classroom management. *Teacher Education and Practice*, 11, 22-27.
- Bayat, M. (2011). Clarifying issues regarding the use of praise with young children. *Topics In Early Childhood Special Education*, 31, 121-128.
doi:10.1177/0271121410389339
- Blaze, J. T., Olmi, D. J., Mercer, S. H., Dufrene, B. A., & Tingstom, D. H. (2014). Loud versus quiet praise: A direct behavioral comparison in secondary classrooms. *Journal of school psychology*, 52, 349-360.
doi:10.1016/j.jsp.2014.05.006
- Bradshaw, C. P., Reinke, W. M., Brown, L. D., Bevans, K. B., & Leaf, P. J. (2008). Implementation of school-wide positive behavioral interventions and supports (PBIS) in elementary schools: Observations from a randomized trial. *Education and Treatment of Children*, 1-26.
- Briere, D. E., Simonsen, B., Sugai, G., & Myers, D. (2015). Increasing new teachers' specific praise using a within-school consultation intervention. *Journal Of Positive Behavior Interventions*, 17, 50-60. doi:10.1177/1098300713497098
- Brophy, J. (1981). Teacher praise: A functional analysis. *Review of Educational Research*, 51, 532. doi: 10.3102/00346543051001005

- Cavanaugh, B. (2013). Performance feedback and teachers' use of praise and opportunities to respond: A review of the literature. *Education & Treatment of Children, 36*, 111–137. doi:10.1353/etc.2013.0001
- Cooper, J. O., Heron, T. E., Heward, W. L. (2007). Applied behavior analysis (2nd ed.). Pearson Education, Inc., Upper Saddle River, NJ.
- Dufrene, B. A., Lestremau, L., & Zoder-Martell, K. (2014). Direct behavioral consultation: Effects on teachers' praise and student disruptive behavior. *Psychology In The Schools, 51*, 567-580. doi:10.1002/pits.21768
- Eisenstadt, T. H., Eyberg, S., McNeil, C. B., Newcomb, K., & Funderburk, B. (1993). Parent-child interaction therapy with behavior problem children: Relative effectiveness of two stages and overall treatment outcome. *Journal of Clinical Child Psychology, 22*, 42-51. doi:10.1207/s15374424jccp2201_4
- Floress, M.T., Beschta, S., Meyer, K, Reinke, W. (in press). Praise research trends and future direction: Characteristics and teacher training. *Behavioral Disorders*.
- Floress, M. T., Berlinghof, J., Rader, R., & Riedesel, E. (in press). Preschool teachers' natural use of praise in general, at-risk, and special education classrooms. *Psychology in the Schools*.
- Floress, M. T., & Jenkins, L. N. (2015). A preliminary investigation of kindergarten teachers' use of praise in general education classrooms. *Preventing School Failure: Alternative Education for Children and Youth, 59*, 253-262.
doi:10.1080/1045988X.2014.942834
- Floress, M. T., Jenkins, L. N., Reinke, W. M., & Baji, L. (under review) General education teachers' natural rates of praise and class-wide behavior.

- Fullerton, E. K., Conroy, M. A., & Correa, V. I. (2009). Early childhood teachers' use of specific praise statements with young children at risk for behavioral disorders. *Behavioral Disorders, 34*, 118-135.
- Gable, R. A., Hester, P. H., Rock, M. L., & Hughes, K. G. (2009). Back to basics: rules, praise, ignoring, and reprimands revisited. *Intervention in School and Clinic, 44*, 195-205. doi:10.1177/1053451208328831
- Hall, R. V., Lund, D., & Jackson, D. (1968). Effects of teacher attention on student behavior. *Journal of Applied Behavior Analysis, 1*, 1-12.
doi:10.1901/jaba.1968.1-1
- Hawkins, S. M., & Heflin, L. J. (2011). Increasing secondary teachers' BSP praise using a video self-modeling and visual performance feedback intervention. *Journal of Positive Behavior Interventions, 13*, 97-108.
doi:10.1177/1098300709358110
- Henderlong, J. and Lepper, M.R. (2002). The effects of praise on children's intrinsic motivation: a review and synthesis. *Psychological Bulletin, 128*, 774-795.
doi:10.1037/0033-2909.128.5.774
- Hester, P. P., Hendrickson, J. M., & Gable, R. A. (2009). Forty years later - The value of praise, ignoring, and rules for preschoolers at risk for behavior disorders. *Education & Treatment of Children, 32*, 513-535. doi:10.1353/etc.0.0067
- Jenkins, L. N., Floress, M. T., & Reinke, W. (2015). Rate and types of teacher praise: a review and future directions. *Psychology in the Schools, 52*, 463-476. doi:10.1002/pits.21835

- Mackintosh, N. J. (1975). A theory of attention: variations in the associability of stimuli with reinforcement. *Psychological Review*, 82, 276. doi:10.1037/h0076778
- Madaus, M. M., Kehle, T. J., Madaus, J., & Bray, M. A. (2003). Mystery motivator as an intervention to promote homework completion and accuracy. *School Psychology International*, 24, 369-377. doi:10.1177/01430343030244001
- Madsen Jr, C. H., Becker, W. C., & Thomas, D. R. (1968). Rules, praise, and ignoring: Elements of elementary classroom control. *Journal of Applied Behavior Analysis*, 1, 139-150. doi:10.1901/jaba.1968.1-139
- McDiarmid, M. D., & Bagner, D. M. (2005). Parent child interaction therapy for children with disruptive behavior and developmental disabilities. *Education and Treatment of Children*, 28, 130-141.
- McKay, J. (1992). Building self-esteem in children. In M. McKay & P. Fanning (Eds.), *Self-esteem* (2nd ed., pp. 239–271). Oakland, CA: New Harbinger.
- Miltenberger, R. G. (2001). *Behavior modification: Principles and procedures* (2nd ed.). Belmont, CA: Wadsworth
- Myers, D. M., Simonsen, B., & Sugai, G. (2011). Increasing teachers' use of praise with a response-to-intervention approach. *Education & Treatment of Children*, 34, 35-59. doi:10.1353/etc.2011.0004
- Nelson, J. R., Martella, R. M., & Marchand-Martella, N. (2002). Maximizing student learning: The effects of a comprehensive school-based program for preventing problem behaviors. *Journal of Emotional & Behavioral Disorders*, 10, 136. doi:10.1177/10634266020100030201
- O'Leary, K., & O'Leary, S. (Eds.). (1977). *Classroom management: The successful use*

of behavior modification (2nd ed.). New York, NY: Pergamon.

Partin, T. C. M., Robertson, R. E., Maggin, D. M., Oliver, R. M., & Wehby, J. H. (2009).

Using teacher praise and opportunities to respond to promote appropriate student behavior. *Preventing School Failure: Alternative Education for Children and Youth, 54*, 172-178. doi:10.1080/10459880903493179

Pas, E., & Bradshaw, C. (2012). Examining the association between implementation and

outcomes. *Journal of Behavioral Health Services & Research, 39*, 417-433.
doi:10.1007/s11414-012-9290-2

Powell, R., Honey, P., & Symbaluk, D. (2013). *Introduction to learning and behavior*.

Cengage Learning.

Reinke, W. M., Herman, K. C., & Stormont, M. (2013). Classroom-level positive

behavior supports in schools implementing SW-PBIS: Identifying areas for enhancement. *Journal of Positive Behavior Interventions, 15*, 39-50.

doi:10.1177/1098300712459079

Reinke, W. M., Lewis-Palmer, T., & Martin, E. (2007). The effect of visual performance

feedback on teacher use of behavior-specific praise. *Behavior Modification, 31*,
247-263. doi:10.1177/0145445506288967

Reinke, W. M., Lewis-Palmer, T., & Merrell, K. (2008). The classroom check-up: A

classwide teacher consultation model for increasing praise and decreasing disruptive behavior. *School Psychology Review, 37*, 315-332.

Schutte, R. C., & Hopkins, B. L. (1970). The effects of teacher attention on following

instructions in a kindergarten class. *Journal of Applied Behavior Analysis, 3*, 117-
122. doi:10.190/jaba.1970.3-117

- Shriver, M. D., & Allen, K. D. (2008). *Cultural issues in parent training*. American Psychological Association.
- Skinner, B. F. (1950). Are theories of learning necessary?. *Psychological Review*, *57*, 193. doi:10.1037/h0054367
- Sutherland, K. S. (2000). Promoting positive interactions between teachers and students with emotional/behavioral disorders. *Preventing School Failure*, *44*, 110. doi:10.1080/10459880009599792
- Sutherland, K. S., Copeland, S., & Wehby, J. H. (2001). Catch them while you can: Monitoring and increasing your use of effective praise. *Beyond Behavior*, *11*, 46-49.
- Sutherland, K. S., Wehby, J. H., & Copeland, S. R. (2000). Effect of varying rates of behavior specific praise on the on-task behavior of students with EBD. *Journal of Emotional & Behavioral Disorders*, *8*, 2-8. doi:10.1177/10634266000800101
- Thomas, D. R., Becker, W. C., & Armstrong, M. (1968). Production and elimination of disruptive classroom behavior by systematically varying teacher's behavior. *Journal of Applied Behavior Analysis*, *1*, 35-45. doi:10.1901/jaba.1968.1-35
- Thompson, R. F., & Spencer, W. A. (1966). Habituation: a model phenomenon for the study of neuronal substrates of behavior. *Psychological Review*, *73*, 16-43. doi:10.1037/h0022681
- White, M. A. (1975). Natural rates of teacher approval and disapproval in the classroom. *Journal of Applied Behavior Analysis*, *8*, 367-372. doi:10.1901/jaba.1975.8-367

Appendix A

Unique Praise Categories

GENERAL PRAISE CODING 1-7

<p>1-Praise of Work <i>Definition: Uses the terms "job" or "work". Refers to a task or something that the child has done or is working on. Provides approval of the task or (assumed) permanent product. *If emphasis is on both "job" and "you" – defer to Praise of Work category.</i></p> <p>1a-Good/great <u>job</u> 1b-Good/great <u>work</u> 1c-Nicely <u>done</u>; you <u>did</u> perfect</p>	<p>5-Praise Gesture <i>Definition: Praise gesture can be a verbal gesture (e.g., telling the child to perform a gesture on themselves – "give yourselves a thumbs up") or nonverbal gesture (e.g., giving a child the thumbs up sign) statement that communicates approval.</i></p> <p>5a-Round of applause 5b-Marshmallow clap 5c-Golf clap 5d-Kiss your brain 5e-Grass hopper clap</p>
<p>2-Praise Adjective <i>Definition: An adjective is used as the primary means to demonstrate approval. The adjective may be present with enhancements, but it does not place it in another subcategory. For example, good and very good are the same subcategory. "Very" does not enhance the adjective "good."</i></p> <p>2a-Good/Great, very good, that was good, looks great/good 2b-Super 2c-Excellent 2d-Wonderful 2e-Fantastic 2f-Perfect 2g-Like/love 2h-Nice, very nice, that was nice 2i-Awesome 2j-Absolutely 2k-Wow!</p>	<p>6-Praise Tangible <i>Definition: Praise tangible can be a verbal gesture (e.g., telling the child to give themselves a tangible "move your stick" or nonverbal tangible (e.g., teacher hands the child a sticker).</i></p> <p>6a-Gold slip 6b-Move bee 6c-Move stick 6d-Marbles in jar etc. 6e-Star 6f-Respect card 6g-Smile tally 6h-Ticket</p>
<p>3-Praise Effort <i>Definition: Uses the term "try" or a similar term to emphasize that the child is demonstrating or putting forth effort.</i></p> <p>3a-Good <u>try</u>, great <u>try</u> 3b-Good <u>start</u>, great <u>start</u> 3c-Good <u>idea</u>, <u>thinking</u> 3d-Good <u>guess</u> 3e-Good <u>question</u></p>	<p>7-Praise Physical <i>Definition: Praise physical can be a verbal gesture (e.g., telling the child to perform a physical praise on themselves – "give yourselves a pat on the back") or the teacher giving the child a pat on the back or hi-five.</i></p> <p>7a-Pat on the back 7b-Hi-five</p>

3f-Good <u>choice</u>	
<p>4-Praise Compliance/Appreciation <i>Definition: Uses the term “thank you” or “thanks” to communicate approval for compliance or appreciation in something the student did.</i></p> <p>4a-Thanks, thank you, gracias</p>	<p>M-Miscellaneous Praise <i>Definition: This category is used when a praise statement does not fit in any other category.</i></p>

BSP CODING

Directions: Read each of the BSPs and determine if there are any behavioral themes which can be consolidated. If a praise is more than general, but not quite BSP – count it as BSP or Miscellaneous (e.g., That was so much better – could be BSP). Count each instance of praised behavior one time.

*Ex. I like how Ella is sitting quietly. I like how Jack is sitting patiently. Sitting is the behavioral theme or behavior that is being identified with approval. **Combine into one category = 1.***

*Ex. This class is smart. That was a smart thing to say. In the first praise statement the class is described as smart (attribute), in the second praise statement what the child is saying is being encouraged. Therefore, two different behavioral themes are identified and should be kept separate. **Keep as two categories and count each = 2***

Extra Rules/Notes:

Praise statements are re-entered into excel to capture the exact praise statements observed during direct observation. Upon entering praise statements into excel, coders may determine that a praise statement previously coded as “General Praise” is in fact “BSP.” The coder will make the appropriate change, even if it differs from the original observer’s code.

Table 1.

School Demographics

	<i>Racial/ Ethnic Diversity</i>							<i>Participating Classrooms</i> <i>n = 28</i>
	<i>%</i>							
	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>American Indian</i>	<i>Two or More Races</i>	<i>Pacific Islander</i>	
<i>School 1</i>	89.9	2.0	2.0	0.9	0.1	5.0	0.0	6
<i>School 2</i>	85.7	3.6	5.6	0.3	0.0	4.8	0.0	8
<i>School 3</i>	93.0	1.0	0.0	0.0	0.0	5.0	0.0	4
<i>School 4</i>	94.6	1.0	2.0	0.0	0.0	2.4	0.0	1
<i>School 5</i>	84.7	4.9	3.5	2.1	0.6	4.1	0.2	2
<i>School 6</i>	56.3	0.4	33.1	1.0	0.0	9.2	0.0	7

Table 2.

Teacher Demographics

	<i>n</i> = 28	%
<i>Sex</i>		
Male	1	4
Female	27	96
<i>Racial Background</i>		
White/Caucasian	28	100
<i>Grade Taught</i>		
Kindergarten	2	7
First grade	6	21
Second grade	5	18
Third grade	9	32
Fourth grade	3	11
Fifth grade	3	11
<i>Years of Teaching Experience</i>		
1-5	11	39
6-10	5	18
11-15	6	22
16-20	2	7
20+	4	14
<i>Highest Educational Degree Obtained</i>		
Four Year College Degree	14	50
Master's Degree	13	46
No response	1	4
<i>Classroom Make-up</i>		
Only general ed. students	7	25
Mostly general ed. Students	21	75
<i>Classroom Difficulty Rating</i>		
Much less difficult	3	11
Somewhat less difficult	4	14
Average difficulty	11	39
Somewhat more difficult	6	21
Much more difficult	3	11
No response	1	4

Table 3.

<i>Average Number of Diverse Praise Categories per Observation by Grade Level</i>							
Grade	N	TDP		GDP		BSDP	
		Mean	Range	Mean	Range	Mean	Range
Kindergarten	2	5.3	(5.2-5.4)	2.6	(2.6-2.7)	2.7	(2.6-2.9)
1 st	6	4.3	(2.7-5.5)	2.4	(2.0-3.0)	1.9	(0.7-3.2)
2 nd	5	4.0	(3.1-6.3)	2.4	(1.8-2.9)	1.7	(0.5-3.4)
3 rd	9	4.8	(1.4-9.2)	2.5	(1.1-4.1)	2.2	(0.3-5.1)
4 th	3	2.0	(1.9-2.2)	1.6	(1.4-1.8)	0.4	(0.1-0.7)
5 th	3	1.8	(1.3-2.2)	1.6	(1.2-2.0)	0.2	(0.1-0.3)
Total	28	3.7	(1.8-5.3)	2.2	(1.6-2.6)	1.5	(0.2-2.8)

Note: TDP = Total Diverse Praise; GDP = General Diverse Praise; BSDP = Behavior Specific Diverse Praise

Table 4.

<i>Teachers' Mean and Range of Diverse Praise Rates per Observation per Hour</i>							
Grade	N	Mean	TDP	GDP		BSDP	
			Range	Mean	Range	Mean	Range
Kindergarten	2	1.58	(1.54-1.61)	0.78	(0.73-0.82)	0.81	(0.79-0.82)
1 st	6	1.23	(0.79-1.62)	0.68	(0.58-0.86)	0.54	(0.21-0.85)
2 nd	5	1.18	(0.88-1.92)	0.69	(0.54-0.88)	0.49	(0.13-1.04)
3 rd	9	1.39	(0.41-2.70)	0.75	(0.32-1.22)	0.64	(0.09-1.51)
4 th	3	0.58	(0.52-0.66)	0.46	(0.37-0.55)	0.12	(0.03-0.20)
5 th	3	0.53	(0.39-0.63)	0.47	(0.37-0.57)	0.06	(0.03-0.10)
Total	28	1.08	(0.53-1.58)	0.64	(0.46-0.78)	0.44	(0.06-0.81)

Note: TDP = Total Diverse Praise; GDP = General Diverse Praise; BSDP = Behavior Specific Diverse Praise

Table 5.

Teachers' use of GDP by Category

Grade	% of GDP Categories Used by Grade								
	N	1 Work	2 Adj	3 Effort	4 Comp/Appr	5 Gest	6 Tang	7 Phys	Misc
Kindergarten	2	27	24	2	25	2	13	0	5
1 st	6	30	31	1	32	0	2	3	1
2 nd	5	28	30	4	30	2	4	1	1
3 rd	9	24	34	5	27	4	1	2	3
4 th	3	16	45	0	29	4	0	0	6
5 th	3	20	51	2	27	0	0	0	0
Total	28	25	34	3	29	2	3	2	2

Note: GDP = General Diverse Praise, Adj = Adjective, Comp/Appr = Compliance/Appreciation, Gest = Gesture, Tang = Tangible, Phys = Physical, Misc = Miscellaneous

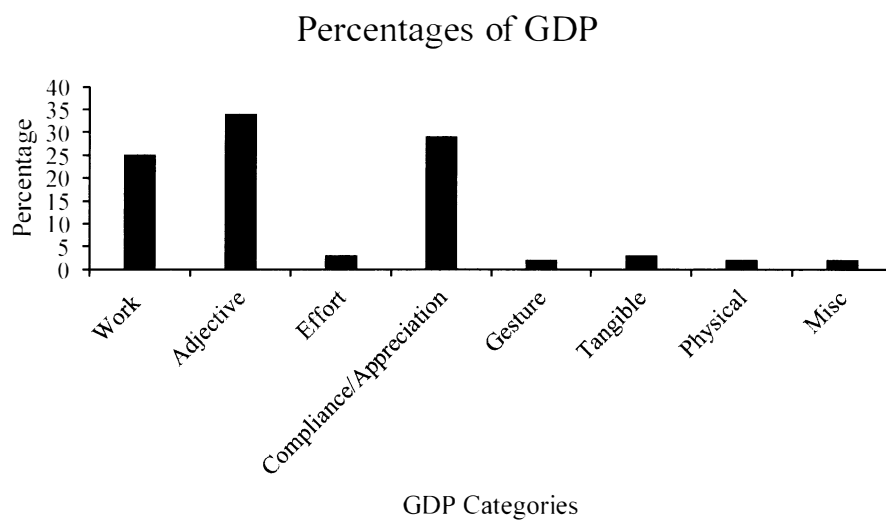


Figure 1. Total Teacher General Diverse Praise