

Teachers' Use of Specific, Contingent, and Varied Praise

Andrew Markelz, PhD¹, Benjamin Riden, PhD² ,
Margaret T. Floress, PhD³, Kinga Balint-Langel, PhD⁴,
Joshua Heath, MA¹ , and Shelby Pavelka, MA¹

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Abstract

Behavior-specific praise is a research-based classroom management strategy that promotes appropriate student behaviors. Praise specificity, however, may not be the only characteristic of praise that enhances efficacy. The current study examined teacher's natural use of specific, contingent, and varied praise to understand additional qualities of praise. Praise statements of inservice special education ($n = 12$), inservice general education ($n = 13$), and dual special education/general education preservice teachers ($n = 17$) were observed in natural elementary school settings. Statistical results did not indicate differences between teacher groups and praise characteristics; however, descriptive results demonstrate all teacher groups delivered low rates of general and specific praise. Percentages of praise contingency (average range = 59%–91.2%) suggest teachers did not deliver sufficient praise statements contingent on student behavior. Furthermore, percentages of praise variety (average range = 44.5%–57.7%) show use of repetitive praise statements that may reduce efficacy on student behaviors. These findings and other implications are discussed in the context of future praise research.

Keywords

general education, natural rates, special education, teacher praise

Having the knowledge and skills to implement evidence-based classroom management strategies is critical to teaching. Unfortunately, many teachers report receiving little instruction related to effectively managing student problem behaviors during their preservice training (Baker, 2005; Scott et al., 2011). Common problem behaviors include noncompliance, verbal disruptions, and off-task student behavior (Alter et al., 2013; Alter & Haydon, 2017). Continued management of these behaviors over time may be one of the contributing factors to teacher burnout and teachers' decision to leave the field (Evertson & Weinstein, 2006; Ingersoll, 2001). Considering this, it is important to examine easy-to-implement classroom management strategies, like praise. Studying how teachers use praise in the natural classroom setting may help guide universal recommendations and training standards.

teacher praise to prevent behavior problems, reduce existing inappropriate student behaviors, and increase student academic outcomes. For example, Simonsen et al. (2008) completed a systematic literature review and identified 20 evidence-based classroom management practices, one of which was specific and/or contingent praise. Epstein and colleagues (2008) also concluded that teacher praise was one of the five effective strategies used to promote appropriate student behavior. In a recent systematic review, Royer and colleagues (2019) applied the Council for Exceptional Children (CEC) quality indicators and standards to six articles which examined teachers' use of BSP in traditional (K–12th grade) settings on academic and/or behavioral student outcomes. The authors concluded that based on CEC guidelines, BSP can be considered a potentially evidence-based practice. Ennis and colleagues (2019) mapped the

Praise: A Research-Based Strategy

Teacher praise research is well established in the literature dating back to the 1960s, 70s, and 80s (Becker et al., 1967; Brophy, 1981; White, 1975). Behavior-specific praise (BSP; that is, explicitly linking teacher approval to a specific student behavior) is a key component in many positive behavioral interventions and supports (Royer et al., 2019), and research provides substantial evidence for use of

¹Ball State University, Muncie, IN, USA

²James Madison University, Harrisonburg, VA, USA

³Eastern Illinois University, Charleston, USA

⁴University of Minnesota Duluth, USA

Corresponding Author:

Andrew Markelz, Ball State University, 749 Teachers College, 2000 University Ave, Muncie, IN 47306-1022, USA.

Email: ammarkelz@bsu.edu

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past 50 years of teacher BSP literature by examining 57 school-based intervention studies to better understand for whom and under what conditions BSP has been effective. Ennis and colleagues concluded that teacher BSP has been used in a variety of school settings (e.g., cafeteria, playground) with students in general education, those at risk for behavior problems, and those receiving special education. Across the 57 studies, authors collectively reported positive teacher outcomes (i.e., improved BSP and positive impact on student behavior) and student outcomes (i.e., improved engagement and decreased disruptive behavior).

Although there is substantial support for the use of teacher praise, few studies have examined teacher praise in the absence of teacher training (Jenkins et al., 2015). Examining teachers' use of praise in the natural setting is likely to inform whether teachers commonly use praise and *how* teachers use praise, which can be used to guide practice and teacher preparation (Leko et al., 2015). White (1975) was one of the first to examine teachers' use of praise rates in the absence of intervention and found that as grades increased, teachers' use of praise decreased. More recently, teachers' natural use of praise has been examined in preschool (average of 14.4 BSP per hr; Floress, Berlinghof, et al., 2017), kindergarten (average of 8.8 BSP per hr; Floress & Jenkins, 2015), elementary (average of 5.9 BSP per hr; Floress et al., 2018), and secondary school settings (average of 2 BSP per hr; Floress et al., 2021). These more recent findings are consistent with White (1975) suggesting teachers' use of praise appears to decline as the grade level increases. Furthermore, teachers use more general praise (GP) compared with BSP and most teachers praise infrequently compared with recommended standards (3–5 BSP per 10 min or 18–30 BSP per hr; Floress et al., 2020; Floress & Jenkins, 2015). Other researchers have examined teachers' natural rates of praise (Burnett & Mandel, 2010; Reinke et al., 2013; Scott et al., 2011); however, in these studies, praise rates were compiled across multiple grades, so grade-level comparisons are not possible.

Throughout decades of research on praise, various praise characteristics have been emphasized in the literature. For example, Floress, Beschta, et al. (2017) completed a systematic review of the teacher praise literature spanning between 1981 and 2015 and found most studies measured praise that was behavior specific, delivered verbally, delivered contingently, and directed to individual students. Studies examining teachers' natural use of praise have largely focused on teachers' rate of praise use, but there may be other important characteristics to consider. Markelz et al. (2020) emphasized the importance of examining teachers' rates of praise, but also *how* teachers use praise. In other words, it is unclear to what extent teachers in the natural classroom setting use BSP, use praise contingently, and vary their adjectives of approval when delivering praise.

Praise Specificity

Brophy (1981) described teacher praise as approval or admiration that goes beyond feedback for a correct academic response. Praise is commonly categorized as either general or behavior specific. GP is approval that is nonspecific (e.g., Nice job!), whereas BSP explicitly identifies the behavior that was approved (e.g., I like the way you used the lesson resource list to finish that question, and your answer shows critical thinking, well done!; Floress et al., 2018; Reinke et al., 2007). Both types of praise can be directed to an individual, small groups, or large groups of students (e.g., Mark, nice job lining up quietly and quickly; Students at the red table lined up quietly and quickly, nice job!; Nice job lining up quietly and quickly, everyone; Floress, Berlinghof, et al., 2017; Floress & Jenkins, 2015). BSP is purported to be a superior form of praise because students can easily link teacher approval to the behavior performed (Brophy, 1981; Hirn & Scott, 2014), thereby strengthening the association between desirable behavior and positive consequences (Hawkins & Heflin, 2011). As reviewed above, the efficacy of BSP is well documented in the literature (Epstein et al., 2008; Simonsen et al., 2008).

Praise Contingency

Praise can be an antecedent-based strategy or a consequence-based strategy (Floress et al., 2020). When praise is delivered after a behavior is performed (e.g., a student complies with a teacher directive and then receives teacher praise), it is a consequence-based strategy (Kalis et al., 2007). When used as a consequence-based strategy, praise is expected to strengthen the likelihood that the approved behavior (i.e., compliance) will occur again in the future. In addition, student learning is more likely to occur when there is a clear contrast between what is approved and what is not; therefore, it is important for teachers to deliver praise immediately following approved behavior (Cooper et al., 2020; Hester et al., 2009).

It is also important for teachers to consider function or whether their use of targeted praise (over time) improves student behavior (Brophy, 1981; Markelz & Taylor, et al., 2019). Teachers are more likely to react (e.g., redirect or reprimand) to student inappropriate behavior than praise appropriate behavior (Reinke et al., 2013). However, when teachers readily attend to student misbehavior, they are likely to inadvertently strengthen or exacerbate student misbehavior (Downs et al., 2019). This is especially true if the student behavior serves to access social attention. Therefore, whether a teacher provides social attention (either praise or reprimand) following a student behavior (either deemed appropriate or inappropriate by the teacher), teacher attention is likely to strengthen the student's behavior (Gresham, 2004; Iwata et al., 1994).

When attention seeking is a function of student disruption, antecedent-based praise may be appropriate to prevent undesirable behaviors from occurring. Antecedent-based praise is when the teacher strategically provides a dense schedule of praise prior to student misbehavior (Floress et al., 2020). For example, a teacher using antecedent-based praise may deliver frequent BSP to a student (e.g., every 2 min) preventatively, so that the student will be less likely to misbehave because their need for attention/praise is satisfied. With antecedent-based praise, a teacher can manipulate the rate of praise to increase or maintain student appropriate behavior. When the rate of praise is delivered at a higher rate (i.e., denser schedule) than the students' naturally occurring inappropriate behavior rate, student inappropriate behavior is likely to decrease (Carr et al., 2000; Floress et al., 2020; Vollmer et al., 1993).

When teachers use antecedent- or consequence-based praise, it should be contingent meaning (a) the praise *correctly* identifies appropriate behavior and (b) the praise occurs in temporal proximity to appropriate behavior (Markelz et al., 2020). For example, a small group of students are supposed to be working on a science project. The students are not disruptive; however, they are off-task and not focused on the project. The teacher walks by to provide antecedent-based praise and says, "Great job working together quietly" not realizing the group was off-task. Although the teacher provided BSP, it was not correctly contingent on student productivity. Therefore, when teachers incorrectly link student behavior with teacher approval, praise may not effectively strengthen student appropriate behavior (i.e., productivity) as intended.

Praise Variety

Markelz et al. (2020) described praise variety as a topographical characteristic of effective praise that is grounded in research related to quality of reinforcers (Cooper et al., 2020). Floress and Beschta (2018) argued that teachers who praise in a variety of ways (e.g., use praise gestures, praise statements, praise notes) may create an environment where the teacher quickly becomes a salient, discriminative stimulus for the availability of praise. Discriminating between different stimuli helps predict consequences. As children learn which teachers are associated with reinforcement (e.g., praise), they are likely to repeatedly and/or frequently perform behaviors that in the past have led to teacher praise (Greer, 2002). Students may acutely attend to teachers who use a variety of praise, but over time habituate to teachers who use the same praise phrase repeatedly (e.g., "great job"; Thompson & Spencer, 1966). However, a teacher who uses a variety of praise statements (e.g., "I love how you are working, nice job cleaning up, great attention to detail") may capture students' attention better and increase

the likelihood that praise will be effective (Floress & Beschta, 2018; Markelz et al., 2020).

To date, two studies have measured variety of praise (Floress & Beschta, 2018; Hager, 2012). Floress and Beschta (2018) defined diverse praise as "the use of verbal statements or gestures of approval that are delivered in a variety of distinguishable ways in response to desired student behavior" (p. 1191). The authors examined 28 teachers' verbatim praise statements and gestures from 5,721 min of archival direct observation data ($M = 18.2$ min per observation). Verbatim GP data were coded into eight categories, and BSP data were coded into categories based on the variety of behaviors targeted. For example, if the teacher said, "Nice job lining up quickly" and "Good job lining up quickly when I asked," within the same observation, one diverse BSP category was counted because both BSP statements targeted lining up. On average, teachers used 3.7 total diverse praise categories per observation and more general diverse praise (2.2) compared with specific diverse praise (1.5; Floress & Beschta, 2018, p. 1197). A strength in examining the variety of approved behaviors directly translates to teacher praise training. When increasing teachers' use of praise, it is important to help teachers identify a variety of appropriate behaviors to praise. This can be especially challenging when the target child displays high rates of inappropriate behavior. Then again, it is important to note measuring praise in this way is somewhat cumbersome because it requires taking into account the teacher's collective use of praise across the observation and then quantifying verbatim praise data into categories.

In a study examining methods to increase student teachers' use of effective teaching strategies, Hager (2012) measured praise variety. Hager (2012) specifically looked at the adjective used in the praise statement when measuring praise variety. For example, if a teacher said, "Good job coloring" and "Nice work coloring," praise variety was counted twice (i.e., once for "good" and once for "nice"). How praise variety is measured may depend on specific goals. For instance, if a student's behavior support plan identifies a specific behavior for improvement (e.g., keeping hands to self), it may be important to identify the extent to which the teacher varies their use of praise adjectives (e.g., "Great job keeping your hands to yourself during circle time, Matt" or "Matt, I like how you kept your hands to yourself while we stood in line"). In contrast, if teacher professional development goals include training teachers to universally implement praise class wide as a Tier 1 preventive strategy, it may be important to identify the extent to which teacher praise varies across appropriate student behaviors. Regardless, research examining teachers' use of varied praise is extremely limited (Markelz et al., 2020). Furthermore, this topographical characteristic has the potential to greatly contribute to our understanding of teachers'

effective use of praise, and for this reason, it is important to fill this much needed gap in the literature.

Purpose of Study

The present study examined preservice special education, inservice special education, and inservice general education teachers' natural use of praise in kindergarten through fifth grade classrooms. Although previous research has documented rates of specific praise versus GP among teachers (e.g., Floress et al., 2018; Floress & Jenkins, 2015; Jenkins et al., 2015), additional characteristics should be considered and quantitatively evaluated when studying praise. This study adds to the literature by measuring teachers' use of specific, contingent, and varied praise. To expand researchers' understanding of praise efficacy, the following research questions guided our analysis:

Research Questions

Research Question 1: What are inservice and preservice teachers' natural rates and percentages of specific, contingent, and varied praise?

Research Question 2: Are there differences in the rates and percentages of specific, contingent, and varied praise between inservice special education teachers and inservice general education teachers?

Method

Participants and Setting

Forty-two teachers were observed: 12 special education, 13 general education, and 17 preservice teachers in a dual (special education/general education) certification program. Special education and general education teachers were observed at a school district in a mid-sized, mid-western city. Preservice teachers were observed at a separate school district in a mid-sized, north-western city. No known school-wide positive behavior intervention and support programs were implemented in the schools during data collection. All preservice teachers were from the same university and in their final undergraduate year (student teaching) before graduation. Preservice teachers had completed one course on classroom management prior to student teaching. Teacher and classroom characteristics are reported in Table 1.

Data Collection

To measure specific, contingent, and varied praise statements, data collectors used the behavior-specific praise observation tool (BSP-OT; Markelz et al., 2020). The BSP-OT uses a direct observation, frequency within interval technique for data collection. The total length of an

observation is divided into smaller intervals (e.g., 20 s), and the data collector records the number of praise statements as well as the characteristics of those statements within each interval. The BSP-OT allows observers to collect data and quantify three characteristics of praise: specificity, contingency, and variety.

The BSP-OT allows for percentage quantifications of praise characteristics and interobserver agreement (IOA) calculations. During an observation, when the teacher delivers a praise statement, the observer marks whether the statement was BSP or GP in the "specificity" row with a tally mark. The observer immediately moves down to the "contingency" row and records with another tally mark whether the statement was contingent on student behavior. If not, the observer leaves the contingency block blank. Then, the observer immediately writes the adjective or descriptive word of the praise statement in the "variety" row (e.g., "awesome"; Markelz et al., 2020). Following an observation, the data collector divides the number of specific praise statements by the total number of praise statements to report a percentage of specificity. For percentage of contingency, the number of contingent praise statements is divided by the total number of praise statements. To report praise variety, the number of different adjectives or descriptive words used (e.g., great, like, love) is divided by the total number of praise statements.

The BSP-OT can decrease reliance on subjective opinions concerning the observation of praise (Markelz et al., 2020). See Online Supplemental Materials for a complete BSP-OT coding manual with definitions, descriptions, and example data sheets. In previous research, the BSP-OT was analyzed for reliability using intraclass correlational (ICC) statistics and Cohen's kappa agreement (Markelz et al., 2020). For ICC statistics, values between .75 and 1.0 represent excellent agreement (Cicchetti, 1994). For kappa agreement, values between .80 and 1.00 signify almost perfect agreement (Gisev et al., 2013). The BSP-OT reliability assessment indicated strong reliability with ICC statistics of .80 and a kappa value of .91 (Markelz et al., 2020).

Observation Training

The first and second authors trained two additional members of the research team on using the BSP-OT to collect specific, contingent, and varied praise data. The training lasted approximately 90 min and followed a procedural training checklist to ensure a complete training (see Supplemental Materials). First, the trainers explained the purpose of the BSP-OT. Second, the BSP-OT training manual was reviewed, including a discussion on operational definitions and data collection procedures (see Supplemental Materials). Third, trainees watched a 15-min video of a teacher in an authentic classroom delivering praise. The trainees used the BSP-OT to collect data. Trainee data were

Table 1. Teacher and Classroom Characteristics.

Characteristics	Special education		General education		Preservice	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Years of experience						
Preservice	0	0	0	0	17	100
1–5 years	5	41.7	4	30.8	0	0
6–14 years	5	41.7	5	38.5	0	0
15+ years	2	16.7	4	30.8	0	0
Licensure area						
Early childhood/elementary	0	0	4	30.8	0	0
Elementary	0	0	9	69.2	0	0
Emergency-SPED	2	16.7	0	0	0	0
SPED—mild int.	6	50	0	0	0	0
SPED—mild/severe int.	2	16.7	0	0	0	0
Dual SPED/Gen. Ed.	2	16.7	0	0	17	100
Highest degree obtained						
Bachelor's	7	58.3	9	69.2	n/a	n/a
Master's	5	41.7	4	30.8	n/a	n/a
Age (years)						
20–25	2	16.7	2	15.4	17	100
26–35	6	50	4	30.8	0	0
36–45	1	8.3	3	23.1	0	0
45+	3	25	4	20.8	0	0
Sex						
Female	12	100	13	100	16	94.1
Male	0	0	0	0	1	5.9
Grade						
Kindergarten	1	8.3	4	30.8	2	11.8
1st	0	0	3	23.1	2	11.8
2nd	0	0	2	15.4	3	17.6
3rd	1	8.3	2	15.4	3	17.6
4th	1	8.3	0	0	5	29.4
5th	0	0	2	15.4	1	5.9
K–2 combined	4	33.3	0	0	1	5.9
3–5 combined	3	25	0	0	0	0
Number of students in classroom						
1–10	11	91.7	0	0	8	47.1
11–20	1	8.3	5	28.5	1	5.9
21–30	0	0	8	61.5	8	47.1
Type of instruction observed						
Whole group	3	25	13	100	15	88.2
Small group	9	75	0	0	0	0
One-on-one	0	0	0	0	2	11.8
Total	12		13		17	

Note. Gen. Ed. = general education; int. = interventions; n/a = not applicable; SPED = special education.

compared with an accurate BSP-OT data master copy of the training video in which kappa reliability was calculated and data discrepancies discussed. A priori criterion kappa reliability was set at .80, which signifies almost perfect agreement (Gisev et al., 2013). Trainees needed to score at least two 15-min videos and obtain an average kappa score of .80 or greater for proficiency. Following the first training video,

one trainee scored kappa reliability of .94 and the other scored .89. The trainees then watched and collected data with a second 15-min video. Following the second training video, the trainees scored kappa reliability of .78 and .66. During the discrepancy discussion, it became apparent that both trainees forgot to collect data with “thank you” as a praise statement. The trainees were retrained on the

inclusion of “thank you” as a praise statement and watched a third video. The kappa reliability score improved with both trainees to 1.00. Throughout the trainings, 100% training procedural fidelity was obtained.

Procedures

We obtained institutional review board and school administrator approval prior to recruiting teacher participants. For recruitment, school administrators sent out an email to all teachers asking for volunteers for an observational study. Teachers were never told that the purpose of the study was to measure praise, nor was the BSP-OT shared with participants. Rather, recruitment materials stated “classroom management strategies” as the purpose of study to reduce any effect our observations had on praise rates. To qualify and participate in the study, teachers needed to be a preservice special education teacher, an inservice special education teacher, or an inservice general education teacher in an elementary classroom.

All observations took place during teacher-led instruction to increase the uniformity of observations, which is consistent with past research (Floress et al., 2018; Floress & Jenkins, 2015). In previous research, Gage et al. (2014) identified two 10-min observations as sufficient for the generalizability of teachers’ positive feedback. Within their research, Gage et al. used *D*-study statistics to identify changes in reliability (Ep^2) and dependability (f) as a function of the number of 5-min observations. With a 0.70 criterion, two 10-min observations established minimum reliability ($Ep^2 = .71$) as well as minimum dependability ($f = 0.71$). Based on these results, we planned on conducting and combining for data analysis two 15-min observations per teacher to establish reliable and dependable rates of praise per teacher participant. Due to a disruption in data collection (i.e., COVID-19 school closures), two observations were conducted for special education and general education teachers; however, only one 15-min observation was conducted for preservice teachers. Rather than eliminating these data, we included them for a descriptive comparative analysis. Our rationale for including these data is further explained in the *Data Analysis* section.

To collect data, observers entered each classroom quietly and sat in a discrete location to reduce disruption. Teacher reactivity was kept to a minimum based on the fact that teachers were never informed that praise was the observed behavior. Following each observation session, the observer quietly left the classroom. Either prior to scheduling the first observation session or after the second observation, each teacher participant was asked in person, or via email, to provide demographic information.

IOA

To ensure observers remained reliable using the BSP-OT, we gathered IOA data across 13.4% ($n = 9$) of total observation

sessions ($n = 67$). We planned to collect a minimum of 20% IOA across session based on research recommendations (Kratochwill et al., 2010); however, school closures prevented the completion of data collection for preservice teachers. Therefore, only two IOA sessions were conducted for preservice teacher data. To obtain IOA, a second observer attended an observation session and collected BSP-OT data. One member of the research team collected IOA data for general education and special education teachers. Another member of the research team collected IOA data for preservice teachers. Observers conducting IOA were the same people due to data collection taking place in separate geographical locations. Observers’ scores were calculated with kappa for reliability. Similar to observer trainings, a priori criterion of acceptable kappa reliability was .80. Across all IOA sessions, the average kappa score was .905 (range = .662–1.00). One IOA session resulted in a kappa score below the criterion of acceptable reliability. Following that observation session, the observers compared data sheets and determined that one GP statement was missed by an observer. Given the teacher’s low rates of praise during that observation, three errors for one missed praise statement (e.g., specificity, contingency, and variety) resulted in a low kappa score. All other IOA sessions had acceptable IOA scores.

Data Analysis

Two separate analyses were conducted to answer the research questions. First, means and ranges were compiled between special education, general education, and preservice teachers to illuminate the distributions and frequencies within the data. This analysis allowed us to examine teachers’ rates and percentages of specific, contingent, and varied praise.

To validate the inclusion of preservice teacher data in this analysis, we ran a paired *t* test between the first and second observations of special education and general education teachers. Given that there were no significant differences between observational data (see Table 2), we concluded that a second preservice teacher observation would not significantly skew preservice teacher descriptive data. We contend that reporting preservice teacher data outweighs the limitation of only one observation; however, we further explain this limitation in the *Limitations* section of the article.

We compared differences between teacher groups to answer our second research question. When conducting these analyses, the assumptions of normality and equality of variances must be assessed. After employing Levene’s test and a Shapiro–Wilk test, the results revealed that normality was violated with all variables. To account for the small sample size and assumption violations, a nonparametric Mann–Whitney *U* test was conducted to determine whether there were any significant differences in praise characteristics (specificity,

Table 2. Paired Samples *T* Test Results Between First and Second Observations for Special Education and General Education Teachers.

Praise characteristic	Statistic	df	<i>p</i> value
BSP total	-1.0929	24.0	.285
BSP cont. %	-0.0339	24.0	.973
BSP variety %	0.6428	24.0	.526
GP total	-0.1997	24.0	.843
GP cont. %	1.0556	24.0	.302
GP variety %	0.8779	24.0	.389

Note. Special education teachers ($n = 12$); general education teachers ($n = 13$). BSP = behavior-specific praise; cont. = contingency; GP = general praise.

contingency, and variety) between special education and general education teachers. Preservice teachers were excluded from this analysis, given the limited data from only conducting one observation.

Results

Descriptive Results

Descriptive statistics for the observational rates and percentages can be found in Table 3. Each teacher group delivered low BSP rates per 15-min observation. On average, general education teachers delivered 1.73 BSP statements per 15-min observation, equating to a 6.92 BSP per hr; special education teachers delivered 1.71 BSP statements (6.84 per hr); and preservice teachers delivered the lowest frequency of BSP statements with 1.35 per observation, or on average 5.4 per hr.

The percentage of BSP statements that were contingent on student behavior was similar across teacher groups. Preservice teachers had the highest contingency percentage with 70.6%, special education teachers delivered 65.6%, and general education teachers' BSP statements were 59% contingent. Variability of BSP statements was also similar with 51.5% among preservice teachers, 44.9% among special education teachers, and 44.5% among general education teachers.

GP statements were higher than BSP statements across teacher groups. Special education teachers, on average, provided the most frequent GP statements at 10.5 per 15-min observation (42 per hr). Preservice teachers delivered 6.18 on average (24.72 per hr). General education teachers stated the fewest GP statements on average at 4.92 per observation (19.68 per hr).

Contingent GP statements across teacher groups were higher than contingent BSP statements. Preservice teachers' GP statements were contingent on behavior 91.2% of the time, while general education teachers' statements were 88% contingent, and special education teachers' statements

were 85.1% contingent. The percentage of GP statements that were varied was only slightly higher in comparison with BSP statements. Preservice teachers varied GP statements 57.7%, general education teachers 51.5%, and special education teachers 48.6%.

Statistical Results

Multiple Mann-Whitney *U* tests were conducted to examine statistical differences in praise characteristics between special education and general education teachers. Results from Mann-Whitney *U* tests indicated no significant differences across praise characteristics: BSP ($U = 75.5$, $p = .912$); BSP contingency ($U = 70.5$, $p = .687$); BSP variety ($U = 76.0$, $p = .934$); GP ($U = 50.0$, $p = .133$); GP contingency ($U = 63.5$, $p = .439$); GP variety ($U = 69.0$, $p = .643$).

Discussion

The purpose of this investigation was to explore preservice, special education, and general education teachers' natural use of specific, contingent, and varied praise. To do so, we asked two research questions: (a) What are inservice and preservice teachers' natural rates and percentages of specific, contingent, and varied praise? and (b) Are there differences in the rates and percentages of specific, contingent, and varied praise between inservice special education teachers and inservice general education teachers? Answering our second research question first, there was no statistical difference between groups. Descriptive statistics of rates and percentages, however, provide important insight into teachers' use of praise characteristics.

Praise Specificity

Of the three praise characteristics identified in this study, praise specificity has been the most commonly researched characteristic (e.g., Brophy, 1981; Reinke et al., 2013; White, 1975). Findings from this study are consistent with those of previous studies in that teachers naturally deliver higher rates of GP than BSP (Floress et al., 2018; Jenkins et al., 2015). Furthermore, it is interesting to note that natural BSP rates among K-5th grade general education teachers in the current study (e.g., 6.92) were similar to those of previous findings among K-5th grade general education teachers (5.9 BSP per hour; Floress et al., 2018). Replicating these findings is important because it emphasizes that in the absence of explicit training, teachers' use of BSP within the natural setting falls well below the recommended standards (18-30 BSP per hour; Floress et al., 2020; Floress & Jenkins, 2015). Although past research has suggested that praise rates are lower in special education classrooms (Jenkins et al., 2015), this was not the case in the current

Table 3. Praise Characteristics per Teacher Group.

Praise characteristic	Special education (<i>n</i> = 12)			General education (<i>n</i> = 13)			Preservice ^a (<i>n</i> = 17)		
	<i>M</i> (<i>SD</i>)	Range	Rate	<i>M</i> (<i>SD</i>)	Range	Rate	<i>M</i> (<i>SD</i>)	Range	Rate
BSP total	1.71 (1.5)	0–6	6.84	1.73 (1.73)	0–6	6.92	1.35 (1.32)	0–5	5.40
BSP cont. %	65.6 (43.7)	0–100		59 (42.1)	0–100		70.6 (47)	0–100	
BSP variety %	44.9 (35.3)	0–100		44.5 (32)	0–100		51.5 (39.8)	0–100	
GP total	10.5 (9.74)	1–31	42.0	4.92 (4.36)	0–15	19.68	6.18 (5.32)	0–18	24.72
GP cont. %	85.1 (14.4)	50–100		88 (15.4)	0–100		91.2 (26.4)	0–100	
GP variety %	48.6 (24.8)	12–100		51.5 (25.1)	0–100		57.7 (19.6)	0–100	

Note. BSP = behavior-specific praise; cont. = contingency; GP = general praise; *M* = average per 15-min observation; range = lowest and highest observed data across participants per 15-min observation; rate = per hr.

^aResults from one observation.

study. Both general education teachers and special education teachers used similar rates of BSP.

Additional Characteristics

Research has, and will likely continue to, measure and analyze praise specificity (Floress et al., 2018, 2020; Markelz et al., 2020). Praise contingency and variety have been topics within praise literature; however, only recently have these characteristics been identified for quantitative analysis in the natural classroom (Floress, Beschta, et al., 2017; Markelz et al., 2020). Findings in the present study are the first steps in establishing baselines for teachers' natural percentages of praise contingency and variety. Percentages of contingency and variety were similar across teacher groups, for both BSP and GP. Preservice teachers did deliver the highest percentages of BSP contingency (70.6%) and variety (51.5%) and GP contingency (91.2%) and variety (57.7%), yet, without statistical differences, and the limitation of one observation, it is challenging to draw conclusions about this population's higher percentages.

Praise contingency. It is clear that GP contingency was the highest characteristic across teacher groups (range = 85.1%–91.2%). We hypothesize that higher GP contingency than BSP contingency involves the ambiguous nature of antecedent-based GP. For example, a student is sitting quietly at her desk and the teachers walks by and says, “nice job, Ashley.” As observers, we would look at the student, determine that the student appears to be on-task, and record the GP statement as contingent. Now, that same student is sitting quietly at her desk and the teacher walks by and says, “nice job working with your partner, Ashley, to complete the worksheet.” As observers, we would look at the student and determine that the student appears to be on-task; however, she is not working with her partner. Therefore, the antecedent-based BSP statement delivered by the teacher was noncontingent on her partner-working behavior. Because BSP identifies a specific behavior, it allows for a

more accurate assessment of whether the antecedent-based praise statements were contingent on student behavior.

We contend that not only does BSP allow for more accurate measurements of contingency, it also conveys a more explicit message to the student who is receiving the praise. Ambiguous GP statements for trained data collectors to assess are likely ambiguous to students as well. “Great job, everyone” communicates very little to a classroom of students. Many students may not know what they did to receive a “great job” accolade. Knowing the specific behavior that was worthy of acknowledgment and approval increases the likelihood that the same behavior will be repeated in the future.

Although the saliency of praise specificity has been identified (Gage & MacSuga-Gage, 2017), medium-level percentages of BSP contingency suggest teachers need to carefully identify student behaviors and deliver antecedent- and consequence-based praise contingently. It was noted during observations that teachers gave a directive, and then said “thank you” before the student completed the directive. For example, “Please go sit down, thank you.” In this example, the teacher is providing praise before completion of the directive. A more effective way to deliver consequence-based praise is to give the directive, “please go sit down”; wait for the student to comply; and then deliver the praise statement immediately after compliance has occurred, “thank you for following directions quickly” (Floress et al., 2020).

Praise variety. Across teacher groups and between GP and BSP, praise variety was around 50%. Teacher participants in this study tended to deliver familiar and repetitive language for both GP and BSP. Two phrases most commonly used as GP statements, or in BSP statements, were “good job” and “great job.” It appears teacher may habituate to delivering repetitive statements. Limited research has studied praise variety (Markelz et al., 2020), yet one explanation for the tendency of teachers to deliver repetitive praise statements is cognitive overload (Markelz & Scheeler, et al., 2019). For

instance, classrooms are dynamic environments with competing stimuli. As a result, teachers become focused on their pedagogy, curricular content, and reacting to classroom management issues (Maag, 2001; Swanson et al., 1990). Saying “good job” may be a default way of delivering praise because it is easiest, meaning it requires few cognitive resources. Even when teachers have knowledge that BSP is preferred over GP, it may not translate into practice because teaching and delivering potentially evidence-based strategies (like BSP) at the same time is difficult (Stormont & Reinke, 2009). For a teacher to think of a varied praise statement that is behavior specific, such as, “I appreciate how you are working so quietly and on-task with your partner!” requires more cognitive effort. However, if teachers are taught to overlearn how to implement BSP, this strategy may become fluent (Floress et al., 2020). Learning to deliver specific and varied praise automatically while teaching is likely worth the extra effort.

Students who hear repetitive praise statements might habituate to those statements, thus decreasing the efficacy of the praise (Floress & Beschta, 2018; Markelz et al., 2020; Thompson & Spencer, 1966). Previous research has suggested praise should be sincere (Bayat, 2011; Brophy, 1981; Henderlong & Lepper, 2002; McKay, 1992), yet sincerity is a subjective term that is difficult to quantitatively measure. Praise variety, however, may reduce student habituation and increase perceived sincerity. Quantification of praise variety with the BSP-OT now allows measurement and manipulation of this characteristic. Based on the present study, the saliency of praise variety as a reinforcer warrants further investigation.

Normative Guides

Evaluating the effects of praise contingency and variety percentages was beyond the scope of this study. Do 90% contingent praise statements affect student behavior more effectively than 20% contingency? Do students respond more positively to praise variety in the 80% range than 50% range? The reported percentages in this study, however, provide baseline levels for future researchers to begin formulating normative guides at recommended levels. Previous research suggests BSP rates of 18 to 30 BSP per hour (Floress et al., 2020; Floress & Jenkins, 2015). Although evidence suggests BSP is an effective, efficient, low-intensity strategy to support student success (Ennis et al., 2018), efficacy may increase with greater contingency and variety percentages. Future research, therefore, should use the BSP-OT and manipulate contingency and variety percentages while measuring student outcomes. Systematic measurement of these characteristics will contribute to the field by identifying praise characteristic guidelines that may increase the efficacy of praise as a classroom management strategy.

Limitations

There are at least four limitations to this study that require discussion and may provide guidance for future praise research. First, we relied on generalizability of praise guidelines from a study conducted by Gage et al. (2014). Within their study, only praise specificity (i.e., BSP) was measured and calculated for generalizability, not praise contingency or variety. Therefore, we should take the generalizability of our findings concerning praise contingency and variety with caution. Future research should conduct generalizability analyses of all praise characteristics to have greater confidence that two 15-min observations accurately represent teachers’ praise contingency and variety percentages.

The second limitation in this study is the limited sample size. A power analysis conducted in G*Power suggests that the appropriate sample size for a *t* test or the nonparametric Mann–Whitney *U* test ranges between 210 and 220 individuals. Obtaining in-classroom participants available for observations is always a challenge. In addition, the disruption of data collection reduced the available number of observation comparison between time points. As a result, the planned analyses needed to be converted and resulted in a loss of power. Future research on praise characteristics would benefit from more participants across demographic variables to increase power and the generalizability of findings.

Third, nearly 100% of participants were female and in elementary grade settings. Future studies should consider the intentional recruitment of male teachers to investigate their natural rates and characteristics of praise to determine whether significant differences occur between male and female gender. Furthermore, future research should expand on our findings and explore natural rates and characteristics of praise in middle and secondary settings.

The fourth limitation that requires discussion was the low percentage of IOA measurement across observations. Best practice suggests measuring IOA across a minimum of 20% of total observations (Kratochwill et al., 2010). COVID-19 school closures disrupted our plan to achieve 20% IOA across sessions. A low percentage of IOA measurement (13.4%) may affect the believability that the data are trustworthy. High and stable kappa coefficients from this study ($\kappa = .905$), however, are similar to those of previous reporting on the reliability of the BSP-OT ($\kappa = .91$; Markelz et al., 2020). Similar reliability results across studies help mitigate this threat to believability, yet future research with the BSP-OT should conduct IOA across a minimum of 20% of observation sessions.

Implications

To our knowledge, this study is the first to report natural rates of teachers’ praise contingency and variety as

percentages. Our findings support previous research that teachers are not delivering BSP at recommended levels (Floress et al., 2020). Furthermore, preservice, special education, and general education teachers are not delivering high percentages of contingent and varied praise statements. We hypothesize that the observed levels of contingent and varied praise are not optimal; however, future research will need to determine ideal guidelines.

The second implication of this study is that it further validates the BSP-OT as a tool to measure and quantify praise specificity, contingency, and variety. Previous research established the validity and reliability of the BSP-OT which was designed for both research and practitioner intervention purposes in mind (Markelz et al., 2020). This study demonstrates the feasibility of the BSP-OT as an observation tool in natural environments. For researchers, the BSP-OT employs a frequency within interval observation technique for easy IOA calculations. For practitioners, the tool attempts to quantify and present praise specificity, contingency, and variety in easily calculable procedures. Interventions on teacher praise quality can use the BSP-OT to measure praise characteristics and progress monitor data over time.

Finally, an important implication of this study is that it establishes a foundation for future research to study praise characteristic quantifications and affect student outcomes. Understanding additional characteristics beyond praise specificity is valuable to the field of praise research. Future researchers should, therefore, apply our findings when developing empirical studies that address teacher praise and student outcomes.

Conclusion

The purpose of this study was to add to the literature by measuring teachers' use of specific, contingent, and varied praise. Results show that dual certificate preservice, inservice special education, and inservice general education teachers delivered low rates of GP and BSP. Teacher groups delivered medium levels of contingent and varied BSP, as well as medium to higher levels of contingent and varied GP. Although praise has been the subject of research for decades (Moore et al., 2019), our findings suggest additional research is warranted. Any effort to enhance praise as a classroom management strategy and positively affect student behaviors is a worthwhile endeavor.

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ORCID iDs

Benjamin Riden  <https://orcid.org/0000-0002-6733-1942>

Joshua Heath  <https://orcid.org/0000-0001-6654-2732>

Supplemental Material

Supplemental material for this article is available online.

References

- Alter, P. J., & Haydon, T. (2017). Characteristics of effective classroom rules: A review of the literature. *Teacher Education and Special Education, 40*(2), 114–127. <https://doi.org/10.1177/02F0888406417700962>
- Alter, P. J., Walker, J., & Landers, E. (2013). Teacher perceptions of students' challenging behavior. *Education and Treatment of Children, 36*(4), 51–69. <https://doi.org/10.1353/etc.2013.0040>
- Baker, P. H. (2005). Managing student behavior: How ready are teachers to meet the challenge? *American Secondary Education, 33*(3), 51–64. <https://www.jstor.org/stable/41064554>
- Bayat, M. (2011). Clarifying issues regarding the use of praise with young children. *Topics in Early Childhood Special Education, 31*(2), 121–128. <https://doi.org/10.1177/0271121410389339>
- Becker, W. C., Madsen, C. H., Arnold, C. R., & Thomas, D. R. (1967). The contingent use of teacher attention and praise in reducing classroom behavior problems. *The Journal of Special Education, 1*(3), 287–307. <https://doi.org/10.1177/02F002246696700100307>
- Brophy, J. (1981). Teacher praise: A functional analysis. *Review of Educational Research, 51*(1), 532–532. <https://doi.org/10.3102/00346543051001005>
- Burnett, P. C., & Mandel, V. (2010). Praise and feedback in the primary classroom: Teachers' and students' perspectives. *Australian Journal of Educational & Developmental Psychology, 10*, 145–154.
- Carr, J. E., Coriaty, S., Wilder, D. A., Gaunt, B. T., Dozier, C. L., Britton, L. N., Avina, C., & Reed, C. L. (2000). A review of "noncontingent" reinforcement as treatment for the aberrant behavior of individuals with developmental disabilities. *Research in Developmental Disabilities, 21*(5), 377–391. [https://doi.org/10.1016/S0891-4222\(00\)00050-0](https://doi.org/10.1016/S0891-4222(00)00050-0)
- Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment, 6*(4), 284–290. <https://psycnet.apa.org/doi/10.1037/1040-3590.6.4.284>
- Cooper, J. O., Heron, T. E., & Heward, W. L. (2020). *Applied behavior analysis* (3rd ed.). Pearson/Merrill-Prentice Hall.
- Downs, K. R., Caldarella, P., Larsen, R. A. A., Charlton, C. T., Wills, H. P., Kamps, D. M., & Wehby, J. H. (2019). Teacher praise and reprimands: The differential response of students at risk of emotional and behavioral disorders. *Journal of Positive Behavior Interventions, 21*(3), 135–147. <https://doi.org/10.1177/02F1098300718800824>
- Ennis, R. P., Royer, D. J., Lane, K. L., & Dunlap, K. D. (2019). Behavior-specific praise in PK-12 settings: Mapping the 50-year knowledge base. *Behavioral Disorders, 45*(3), 1–17. <https://doi.org/10.1177/02F0198742919843075>

- Ennis, R. P., Royer, D. J., Lane, K. L., Menzies, H. M., Oakes, W. P., & Schellman, L. E. (2018). Behavior-specific praise: An effective, efficient, low-intensity strategy to support student success. *Beyond Behavior*, 27(3), 134–139. <https://doi.org/10.1177%2F1074295618798587>
- Epstein, M., Atkins, M., Cullinan, D., Kutash, K., & Weaver, R. (2008). *Reducing behavior problems in the elementary school classroom: A practice guide* (NCEE No. 2008-012). National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Evertson, C. M., & Weinstein, C. S. (2006). Classroom management as a field of inquiry. In C. M. Evertson & C. S. Weinstein (Eds.), *Handbook of classroom management: Research, practice, and contemporary issues* (pp. 3–16). Lawrence Erlbaum.
- Floress, M. T., Beaudoin, M., & Bernas, R. (2021). *Exploring secondary teachers' actual and perceived praise and reprimand use*. Manuscript submitted for publication.
- Floress, M. T., Berlinghof, J., Rader, R., & Riedesel, E. (2017). Preschool teachers' natural use of praise in general, at-risk, and special education classrooms. *Psychology in the Schools*, 54(5), 519–531. <https://doi.org/10.1002/pits.22014>
- Floress, M. T., & Beschta, S. L. (2018). An analysis of general education teachers' use of diverse praise. *Psychology in the Schools*, 55(10), 1188–1204. <https://doi.org/10.1002/pits.22187>
- Floress, M. T., Beschta, S. L., Meyer, K. L., & Reinke, W. M. (2017). Praise research trends and future direction: Characteristics and teacher training. *Behavioral Disorders*, 43(1), 227–243. <https://doi.org/10.1177/0198742917704648>
- Floress, M. T., Cates, G., Poroit, K., & Estrada, N. (2020). Conceptualizing fixed-interval praise delivery. *Intervention in School and Clinic. Published On-line May*, 1, 2020. <https://doi.org/10.1177/1053451220914889>
- 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(4), 253–262. <https://doi.org/10.1080/1045988X.2014.942834>
- Floress, M. T., Jenkins, L. N., Reinke, W. M., & McKown, L. (2018). General education teachers' natural rates of praise: A preliminary investigation. *Behavioral Disorders*, 43(4), 411–422. <https://doi.org/10.1177%2F0198742917709472>
- Gage, N. A., & MacSuga-Gage, A. S. (2017). Salient classroom management skills: Finding the most effective skills to increase student engagement and decrease disruptions. *Report on Emotional & Behavioral Disorders in Youth*, 17(1), 19–24. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6345407/>
- Gage, N. A., Prykanowski, D., & Hirn, R. (2014). Increasing reliability of direct observation measurement approaches in emotional and/or behavioral disorders research using generalizability theory. *Behavioral Disorders*, 39(4), 228–244. <https://doi.org/10.1177%2F019874291303900407>
- Gisev, N., Bell, J. S., & Chen, T. F. (2013). Interrater agreement and interrater reliability: Key concepts, approaches, and applications. *Research in Social and Administrative Pharmacy*, 9(3), 330–338. <https://doi.org/10.1016/j.sapharm.2012.04.004>
- Greer, R. D. (2002). *Designing teaching strategies: An applied behavior analysis systems approach*. Academic Press.
- Gresham, F. M. (2004). Current status and future directions of school-based behavioral interventions. *School Psychology Review*, 33(3), 326–343.
- Hager, K. D. (2012). Self-monitoring as a strategy to increase student teachers' use of effective teaching practices. *Rural Special Education Quarterly*, 31(4), 9–17. <https://doi.org/10.1177%2F875687051203100403>
- Hawkins, S. M., & Heflin, L. J. (2011). Increasing secondary teachers' behavior-specific praise using a video self-modeling and visual performance feedback intervention. *Journal of Positive Behavior Interventions*, 13(2), 97–108. <https://doi.org/10.1177%2F1098300709358110>
- Henderlong, J., & Lepper, M. R. (2002). The effects of praise on children's intrinsic motivation: A review and synthesis. *Psychological Bulletin*, 128(5), 774–795. <https://doi.org/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 and Treatment of Children*, 32(4), 513–535. <https://doi.org/10.1353/etc.0.0067>
- Hirn, R. G., & Scott, T. M. (2014). Descriptive analysis of teacher instructional practices and student engagement among adolescents with and without challenging behavior. *Education and Treatment of Children*, 37(4), 589–610. <https://doi.org/10.1353/etc.2014.0037>
- Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 28(3), 499–534. <https://doi.org/10.3102%2F00028312038003499>
- Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1994). Toward a functional analysis of self-injury. *Journal of Applied Behavior Analysis*, 27(2), 197–209. <https://doi.org/10.1901/jaba.1994.27-197>
- Jenkins, L. N., Floress, M. T., & Reinke, W. (2015). Rates and types of teacher praise: A review and future directions. *Psychology in the Schools*, 52(5), 463–476. <https://doi.org/10.1002/pits.21835>
- Kalis, T. M., Vannest, K. J., & Parker, R. (2007). Praise counts: Using self-monitoring to increase effective teaching practices. *Preventing School Failure*, 51(3), 20–27. <https://doi.org/10.3200/PSFL.51.3.20-27>
- Kratochwill, T. R., Hitchcock, J., Horner, R. H., Levin, J. R., Odom, S. L., Rindskopf, D. M., & Shadish, W. R. (2010). *Single-case designs technical documentation*. What Works Clearinghouse. <https://files.eric.ed.gov/fulltext/ED510743.pdf>
- Leko, M. M., Brownell, M. T., Sindelar, P. T., & Kiely, M. T. (2015). Envisioning the future of special education personnel preparation in a standards-based era. *Exceptional Children*, 82(1), 25–42. <https://doi.org/10.1177%2F0014402915598782>
- Maag, J. W. (2001). Rewarded by punishment: Reflections on the disuse of positive reinforcement in schools. *Exceptional Children*, 67(2), 173–186. <https://doi.org/10.1177%2F001440290106700203>
- Markelz, A. M., Riden, B. S., Zoder-Martell, K., Miller, J. E., & Bolinger, S. J. (2020). Reliability assessment of an observation tool to measure praise characteristics. *Journal of Positive Behavior Interventions*. <https://doi.org/10.1177%2F10983007200907988>

- Markelz, A. M., Scheeler, M. C., Riccomini, P., & Taylor, J. C. (2019). A systematic review of tactile prompting in teacher education. *Teacher Education and Special Education*, 43(4), 296–313. <https://doi.org/10.1177%2F0888406419877500>
- Markelz, A. M., Taylor, J. C., Kitchen, T., Riccomini, P. J., Scheeler, M. C., & McNaughton, D. B. (2019). Effects of tactile prompting and self-monitoring on teachers' use of behavior specific praise. *Exceptional Children*, 85(4), 471–489. <https://doi.org/10.1177%2F0014402919846500>
- McKay, J. (1992). Building self-esteem in children. In M. McKay & P. Fanning (Eds.), *Self-esteem* (2nd ed, pp. 239–271). New Harbinger.
- Moore, T. C., Maggin, D. M., Thompson, K. M., Gordon, J. R., Daniels, S., & Lang, L. E. (2019). Evidence review for teacher praise to improve students' classroom behavior. *Journal of Positive Behavior Interventions*, 21(1), 3–18. <https://doi.org/10.1177%2F1098300718766657>
- Reinke, W. M., Herman, C., & Stormont, M. (2013). Classroom-level positive behavior supports in schools implementing SW-PBIS: Identifying areas for enhancement. *Journal of Positive Behavior Interventions*, 5(1), 39–50. <https://doi.org/10.1177%2F1098300712459079>
- 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(3), 247–263. <https://doi.org/10.1177/0145445506288967>
- Royer, D. J., Lane, K. L., Dunlap, K. D., & Ennis, R. P. (2019). A systematic review of teacher-delivered behavior-specific praise on K–12 student performance. *Remedial and Special Education*, 40(2), 112–128. <https://doi.org/10.1177%2F0741932517751054>
- Scott, T. M., Alter, P. J., & Hirn, R. G. (2011). An examination of typical classroom context and instruction for students with and without behavioral disorders. *Education and Treatment of Children*, 34, 619–641. <https://doi.org/10.1354/etc.2011.0039>
- Simonsen, B., Fairbanks, S., Briesch, A., Myers, D., & Sugai, G. (2008). Evidence-based practices in classroom management: Considerations for research to practice. *Education and Treatment of Children*, 31, 351–380. <https://doi.org/10.1353/etc.0.0007>
- Stormont, M., & Reinke, W. (2009). The importance of precorrection and specific behavioral praise and strategies to increase their use. *Beyond Behavior*, 18(3), 26–32. <https://eric.ed.gov/?id=EJ869687>
- Swanson, H. L., O'Connor, J. E., & Cooney, J. B. (1990). An information processing analysis of expert and novice teachers' problem solving. *American Educational Research Journal*, 27(3), 533–556. <https://doi.org/10.2307/1162935>
- Thompson, R. F., & Spencer, W. A. (1966). Habituation: A model phenomenon for the study of neuronal substrates of behavior. *Psychological Review*, 73(1), 16–43. <https://doi.org/10.1037/h0022681>
- Vollmer, T. R., Iwata, B. A., Zarcone, J. R., Smith, R. G., & Mazaleski, J. L. (1993). The role of attention in the treatment of attention-maintained self-injurious behavior: Noncontingent reinforcement and differential reinforcement of other behavior. *Journal of Applied Behavior Analysis*, 26(1), 9–21. <https://doi.org/10.1901/jaba.1993.26-9>
- White, M. A. (1975). Natural rates of teacher approval and disapproval in the classroom. *Journal of Applied Behavior Analysis*, 8(4), 367–372. <https://doi.org/10.1901/jaba.1975.8-367>