

Increasing Pre-service Teachers' Use of Differential Reinforcement: Effects of Performance Feedback on Consequences for Student Behavior

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Abstract Significant dollars are spent each school year on professional development programs to improve teachers' effectiveness in the classroom. The usefulness of these programs can be measured by the consistent application (i.e., implementation integrity) of skills which were taught in the training sessions. This study assessed the integrity with which pre-service teachers used a differential reinforcement of alternate behavior (DRA) strategy taught to them during their student teaching experience. Seven student teachers in general education settings participated. Teaching assignments ranged from early elementary through high school in urban, suburban, and rural settings. Intervention consisted of a 1-h workshop and individual feedback meetings following direct classroom observation. Results showed that (a) student teachers increased their number of correct DRA responses as measured by accurate teacher feedback to students, and (b) students showed increased hand-raising and decreased talk-outs. Implications for helping pre-service general education teachers to teach more consistently and effectively in inclusive settings are discussed.

Keywords Pre-service teachers · Treatment integrity · Performance feedback · Differential reinforcement of alternative behavior

Introduction

The student teaching experience is a critically important time in pre-service teachers' professional development. During student teaching, pre-service teachers come to terms with their ability to manage multiple issues competing for their time,

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and habits formed early on persist throughout their professional careers. One critical area in pre-service teacher training is instruction and training in classroom management, specifically how to implement these new skills and procedures with integrity (Auld et al. 2007).

Belfiore et al. (2008) defined procedural integrity as the measure of whether intervention procedures were delivered as prescribed. McBride and Schwartz (2003) stress that understanding the instructional sequence can increase the amount of instruction teachers present to students. In this study, teachers were exposed to a training package consisting of written information, practice and coaching, and individual feedback in the classroom setting on activity-based instruction. Results suggested that consistency in the delivery of instructional sequences was an important criterion for the successful application of educational interventions. Educational interventions cannot be considered effective unless they can first be documented as being delivered as defined on a repeated basis (Belfiore et al. 2008).

Providing performance feedback to pre-service teachers is one way to establish effective instructional and managerial practices (Scheeler 2008; Scheeler and Lee 2002). Performance feedback, defined as monitoring a behavior that is the focus of concern and providing timely, specific feedback about that behavior (DiGennaro et al. 2007; Lane et al. 2004), has been used successfully to initiate and sustain the integrity of a variety of procedures. For example, Slider et al. (2006) targeted specific classroom management skills by providing teachers with performance feedback in the form of an instructional package designed to teach new behaviors. In this study, teachers were trained in instruction-giving, praise, and time-out procedures. The results of this study suggested a strong measurable change in treatment integrity by teachers as a result of a relatively brief intervention package.

To date, research on teachers' implementation integrity has been primarily focused on the percentage of steps implemented correctly from a multi-step protocol (DiGennaro et al. 2005; Gresham et al. 1993). One such study by Noell et al. (2005) measured teachers' implementation integrity of treatment plans as written following consultation. The teachers' implementation of individual intervention plans as designed by school-based behavior teams was measured by reviewing permanent products over a 3-week period. This study which took place across six urban elementary schools suggested that performance feedback, as a follow-up procedure, successfully improved treatment integrity. The results of the performance feedback condition were significantly higher than the consultation alone condition, indicating that performance feedback may be an essential element in sustaining levels of treatment integrity (Noell et al. 2005).

DiGennaro et al. (2005) observed four dyads of general education teachers and their identified students and calculated the percentage of treatment steps implemented by the teachers across all phases of the study. These researchers attempted to increase treatment integrity by using a negative reinforcement contingency. Specifically, when teachers implemented intervention plans with high levels of integrity, they were able to avoid meeting with a consultant. Results indicated reduced levels of student off-task behaviors when higher levels of treatment integrity were demonstrated by the teachers. In a similar, more recent study, DiGennaro et al. (2007) evaluated the effects of performance feedback with four special education

teachers using a similar contingency. Results again indicated that higher levels of treatment integrity were correlated with lower levels of student problem behaviors.

As a means of introducing multi-step reinforcement procedures to beginning teachers, the current study trained pre-service teachers in the fundamentals of differential reinforcement of alternative behavior (DRA), defined as placing one behavior on extinction while another behavior is reinforced (Vollmer and Iwata 1992). This practice is commonly used in educational settings as a behavior management tool when applied in a consistent manner. Providing direct instruction and performance feedback to pre-service teachers in the use of DRA can help reduce problem behaviors in the classroom. As such, DRA procedures offer teachers an essential component for successful school-based intervention (Lane et al. 2004). Using DRA to manage problem behaviors can provide a resource to pre-service teachers at a time when they are trying to establish effective practices. Wright-Gallo et al. (2006) conducted a study in which classroom teachers used DRA with students displaying aberrant behaviors to teach more appropriate behaviors. The teachers saw significant decreases in both escape-maintained and attention-maintained behaviors while more appropriate, functional behaviors were used as replacements.

Vollmer et al. (1999) showed that the integrity with which DRA procedures are implemented can influence their effectiveness at changing student behavior. Contrary to previous research, Vollmer et al. (1999) measured integrity as the percentage of target student behaviors consequated. This study measured the effects of DRA implemented with varying levels of integrity on problem behavior in three students. Levels of integrity ranged from 100% reinforcement (with strong effects) to 25% reinforcement of appropriate behaviors. Results indicated that partial implementation reduced treatment effects, but students still showed a bias in favor of appropriate responding. Implications suggest that partial treatment implementation can be effective following full treatment implementation. Wickstrom et al. (1998) measured three dimensions of treatment integrity during consultation; (a) teachers' record-keeping (54%) (b) the presence of intervention products (62%), and (c) the mean percentage of target behaviors followed by a programmed consequence (4%). The results of this study suggested that teachers' implementation integrity decreased as the methodological rigor of the measures increased.

The purpose of the present study was to extend research on teachers' implementation integrity by applying performance feedback to a relatively novel dimension of treatment integrity as in the Vollmer et al. (1999) study (i.e., the percentage of target behaviors followed by a programmed consequence). Although the primary goal of the study was to increase teachers' use of a DRA procedure, we also monitored changes in student behavior. Once new teaching behaviors (e.g., use of DRA) are acquired, pre-service teachers must work at increasing consistent delivery of those behaviors. Educational practices are not likely to be effective unless they can be documented as being delivered as they have been operationally defined on a repeated basis (Belfiore et al. 2008). There are many such strategies used by beginning teachers, but few data have been gathered to document beginning teachers' ability to consistently apply such strategies. This study explored pre-service teachers' consistent application of a DRA strategy to manage minor disruptive behaviors in their classrooms.

Methods

Participants and Setting

Seven traditional-aged (20–22 years of age) undergraduate pre-service teachers placed in general education classrooms for their student teaching experience participated in this study during the second 6-week placement of their 12-week student teaching requirement. The study took place in urban and suburban settings in three school districts in a small city located in the northeastern United States. Classroom settings ranged in structure, but all were traditional settings following a state-mandated curriculum. The instructional strategies used during this study varied from direct instruction or lecture to unstructured arrangements such as cooperative learning groups, silent seat work, and interactive group work across both baseline and intervention phases. Although the opportunities for students to respond varied, each 20 min session had a minimum of 8–10 opportunities to respond during the observation. Placements for student teaching were in elementary or high school general education classrooms with an average class size of 25 students as follows: Regina, high school senior English classroom, Serena, mixed level high school math classroom, Theresa, junior high school Social Studies classroom, Charlotte, high school senior English classroom, Phyllis, self-contained 5th grade classroom, Mina, self-contained 4th grade classroom, and Lauren, self-contained 3rd grade classroom. The first author was not in a supervisory role with any of the participants, all of whom had volunteered for the study. Prior to this study, pre-service teachers had received less than 5 h of instruction in the use of planned ignoring or any other differential reinforcement strategies or inclusive practice in their teacher-preparation program.

Definition of Target Behavior

The primary dependent variable was the pre-service teacher's responses to student behaviors. Two responses were counted as correct on the observational data sheet: (a) pre-service teacher ignoring problem behavior for 10 s, followed by corrective feedback, (e.g., when a student talks out of turn, after a 10 s delay teacher says, "Jim, I need you to raise your hand, then I will call on you.") and (b) pre-service teacher verbally calling on students whose hands are raised. All other combinations were scored as incorrect (e.g., if a student raised hand, and the teacher ignored the behavior, or if a student engaged in problem behavior and the teacher attended to the behavior). The percentage of correct teacher responses was calculated by dividing the total number of opportunities to respond by the number of correct responses. If a student talked out, a 10 s delay was counted, and then the teacher responded to the student. (Please see the Observational Data Sheet in "[Appendix A](#)" for more detail.)

The secondary dependent variable was the percentage of student hand-raises during baseline and intervention phases. Student's targeted problem behavior was defined as talking-out without permission. The alternate student behavior was defined as the student raising his/her hand silently and waiting until the pre-service teacher called upon him/her before speaking (see [Table 1](#)). Student behaviors were defined as follows: Using the Observational data Sheet, student behaviors were

Table 1 Mean frequency and range of hand-raising and talk-out behaviors by students of pre-service teachers

	Hand-raising				Talk-outs			
	Baseline		Intervention		Baseline		Intervention	
	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Regina	1	0–1	7	0–16	5	4–22	8	4–18
Serena	7	2–11	4	0–11	4	11–26	6	2–17
Theresa	5	3–15	8	12–20	19	5–54	9	2–22
Charlotte	3	1–9	13	3–29	13	7–19	9	5–16
Phyllis	16	3–46	18	5–30	21	5–36	5	2–10
Mina	8	1–17	15	2–34	25	6–45	7	3–11
Lauren	8	2–21	15	3–28	11	1–32	7	0–20

scored as “hand-raised” when a student raises hand in air to attract teacher’s attention without saying anything. Student behavior was counted as “talked-out” when a student said something or made noise to attract teacher’s attention. Frequency counts of both talk outs and hand raises were collected and averaged on a class-wide basis; no individual students were identified. Frequencies were then converted to percentages of hand raises by taking the number of hand raises and dividing by the number of hand raises plus talk outs. If a student raised a hand and talked out, this was not counted as a correct response, since the correct response was raising hand to wait to be called upon as the talk out nullified the raised hand.

Experimental Design

A multiple baseline design across pairs of participants was used to evaluate the effects of performance feedback on teachers’ ability to use DRA to decrease the number of problem behavior incidents in the classroom. The use of a multiple baseline design provides a strong design for instructional interventions since comparisons can be made within each participant (baseline to intervention) and across participants as intervention is introduced sequentially across baselines.

Procedure

Baseline. Baseline data were collected during 20 min sessions. The first author entered the classroom, took a seat in the back of the classroom, noted the start time for the session, made observations and left the classroom after the 20 min session.

Intervention. After a stable baseline was established, intervention began with the first pair of pre-service teachers, Regina and Serena. Intervention included two components; (a) 1-h direct instruction workshop following baseline and prior to the first session of intervention, and (b) individual weekly meetings following direct classroom observation. Intervention began as a direct instruction workshop where pairs of participants received direct instruction in the use of DRA intervention strategies. Procedures of the direct instruction workshop for each pair of pre-service

teachers included discussion on the following topics by the first author: (a) explanation of the functional behavioral assessment process including a brief introduction to the use of a motivational assessment scale (MAS; Durand & Crimmins, 1988), (b) behavioral consequences, (c) the Individuals with Disabilities Education Act (IDEA) and positive behavioral supports (PBS), (d) reinforcing patterns of behavior, (e) function of behaviors, (f) need to teach alternate behaviors, (g) least restrictive environment and its implications for general education teachers, (h) positive reinforcements for behaviors, both problem (target) behaviors and alternate behaviors, (i) observational data sheet, instruction in the use of DRA, (j) suggestions for specific incidental occurrences in the classroom, and (k) direction during role playing.

Pre-service teachers also (a) discussed techniques in direct instruction, modeling, giving attention, and planned ignoring, (b) discussed using corrective feedback, and (c) role played the procedures that were discussed (e.g., “When Joe talks out, pre-service teacher ignores Joe, then provides corrective feedback to Joe [after a 10-s latency] by acknowledging his appropriate behavior. When Joe raises his hand, pre-service teacher verbally reinforces Joe by stating, “Good job raising your hand, Joe.”). The workshop was conducted by the first author until pre-service teachers could demonstrate these skills with 90% accuracy during role plays with each other. All pre-service teachers demonstrated accuracy in implementing the DRA procedures during the 1-h workshop.

Following the initial 1-h workshop, weekly meetings (15–30 min in length) were held with individual pre-service teachers to provide performance feedback. Specific concerns with the use of DRA were addressed in the individual sessions held at a suitable time for the pre-service teachers (e.g., if a pre-service teacher was experiencing difficulty ignoring attention-seeking behaviors such as talking while raising a hand, the pre-service teacher was coached to identify another student whose hand was raised by name and commenting to that student how pleased she was that he had raised his hand).

In addition to sharing performance data during each performance feedback meeting, discussion included the following topics: (a) specific use of behavioral consequences, (b) function of behaviors, (c) need to teach alternate behaviors, (d) positive reinforcements for behaviors, both problem (target) behaviors and alternate behaviors, (e) discuss observational data sheet results, (f) suggestions for specific incidental occurrences in the classroom. Following the discussion, participants were invited to ask questions.

Interobserver Agreement and Procedural Integrity

Data were collected by the researcher and two graduate students trained to use the observational data sheet. Prior to formal data collection, the graduate assistants were trained to criteria by scoring a video recording of classroom behaviors. Training in reliability for the data collection continued until each graduate student's scores reached 90% agreement with the researcher's scores for three consecutive video observations. Each co-observer used the same observational data sheet for all 20-min observations, recording both teacher behaviors and student behaviors

throughout baseline and intervention phases. Observational data sheets were scored separately, and then compared for interobserver agreement. Thirty-three percent of the sessions had simultaneous observations which were calculated to establish a mean coefficient of interobserver agreement of 96% for teacher behavior (range = 84–100%). Interobserver agreement was calculated by dividing the smaller number by the larger number, and multiplying by 100. Interobserver agreement for student behavior ranged between 88–100% with a mean of 97% and was assessed at the end of each session.

Procedural integrity data were collected on 30% of sessions for the 1-hr direct instruction workshops and weekly meetings by a trained observer who attended those sessions. Procedural integrity was 100% across all workshop sessions. (Please see [Appendix B](#) for a procedural integrity checklist of variables assessed.)

Social Validity

Data were also collected on social validity after the end of the study. Participants were sent an electronic 5-question survey created by the first author and asked to return it in paper form anonymously. Each item was rated on a 5-point scale with 1 = strongly disagree and 5 = strongly agree. The results collectively suggested that pre-service teachers found the strategies to be meaningful and useful to them at a time when they could readily apply the information. A summary of pre-service teachers’ responses to the survey is provided in [Table 2](#). Generally, pre-service teachers indicated they gained skill in managing student behaviors as a result of participation in the study. Question 2, which asked if the pre-service teacher found it difficult to remember to ignore the problem behavior while reinforcing the desired behavior, showed the broadest range across pre-service teachers. Question 2 had a mean of 3 (range 2–5), indicating this may have been the most challenging aspect of the study for the pre-service teachers. Other responses seemed to indicate the

Table 2 Social validity survey results

Participant	Question 1 Are you comfortable reinforcing a student’s appropriate behavior while ignoring the target behavior?	Question 2 Did you find it was difficult to remember to focus on the behavior you want to increase?	Question 3 Do you feel you have gained a better understanding of why some students act out?	Question 4 Do you think you might use this technique in a classroom of your own?	Question 5 Overall, did you find students responded to your corrective feedback favorably?
Regina	5	4	4	5	4
Serena	4	3	5	5	4
Theresa	5	5	5	5	4
Charlotte	4	2	3	5	4
Phyllis	5	3	5	5	4
Mina	5	2	5	5	4
Average	4.5	3	4.5	5	4

preservice teachers' increased in their use of DRA and their intentions to use what they learned in their own classrooms.

Results

Pre-service Teacher Behavior

Figure 1 shows the percentage of correct responses to student behaviors by each pre-service teacher. As shown in the figure, 5 of the 7 teachers showed low and stable levels of correct responding at baseline, with means ranging from 2% for Regina to 19% for Serena and Mina. Baseline data for Phyllis and Lauren were more variable with means of 32% and 31%, respectively. After the intervention workshop, all 7 teachers showed an increase in correct responding (i.e., use of the DRA procedure). These increases were immediate for Regina, Charlotte, Phyllis, and Lauren with means of 52, 63, 32 and 78%, respectively. The other three teachers (Serena, Theresa, and Mina) showed an increasing trend in DRA use throughout the intervention condition. Mean levels following intervention for these teachers were Serena, 50%, Theresa, 52%, and Mina, 70%. Regina, Theresa, Charlotte and Mina demonstrated no overlapping data points between baseline and intervention phases. An asterisk appears in Fig. 1 to denote performance feedback sessions during intervention. Performance feedback sessions typically included review of data and discussion of the pre-service teacher's responses to specific behavioral challenges during the observation indicated. Except for Serena, no consistent increases in implementation integrity were observed the session after feedback was provided. Following the intervention workshop and performance feedback sessions, all participating pre-service teachers demonstrated implementation integrity of the new DRA procedure in that they were better able to ignore talk-outs and deliver positive reinforcement effectively for hand-raising.

Student Behavior

Table 1 provides the mean frequency and range for hand-raising and talk-outs within each pre-service teacher's classroom. Figure 2 shows the percentage of student hand raise responses per pre-service teacher. Students in classes taught by Regina, Theresa, Charlotte and Mina demonstrated low percentages of hand-raising during baseline, with means of 2, 18, 22, and 28%, respectively. During the intervention phase, increases in student hand-raising were observed with means of 57% (Regina), 54% (Theresa), 59% (Charlotte) and 68% (Mina). Students in the classes taught by Serena, Phyllis, and Lauren demonstrated moderately higher hand-raising behaviors during baseline with means of 28, 45 and 61%. During the intervention phase, students in Serena's class showed an increase in hand-raising to 51%, Phyllis (80%), and Lauren (75%). With the possible exception of students in Regina's class, all students showed an increasing trend in the percentage of hand raises during the intervention phase.

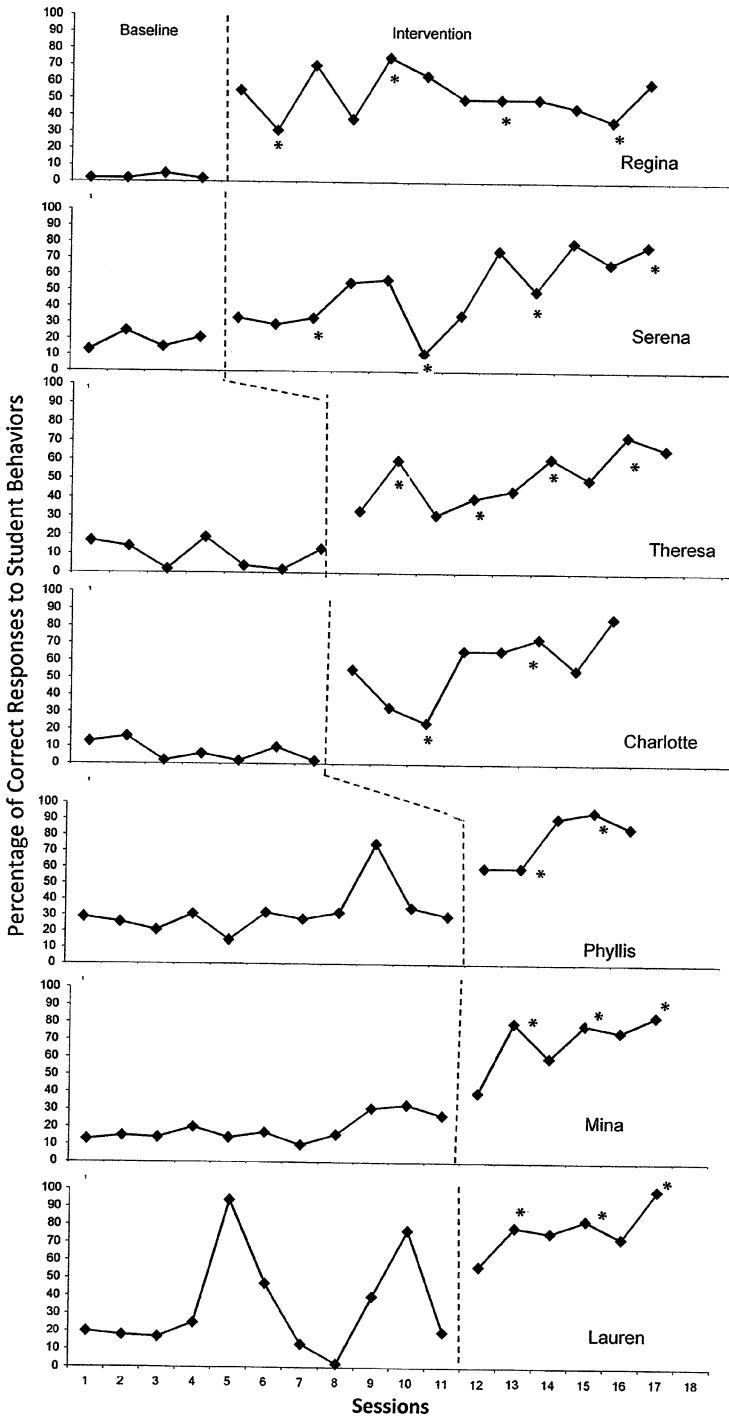


Fig. 1 Percentage of pre-service teachers’ correct responses to student behaviors (*denotes performance feedback discussion)

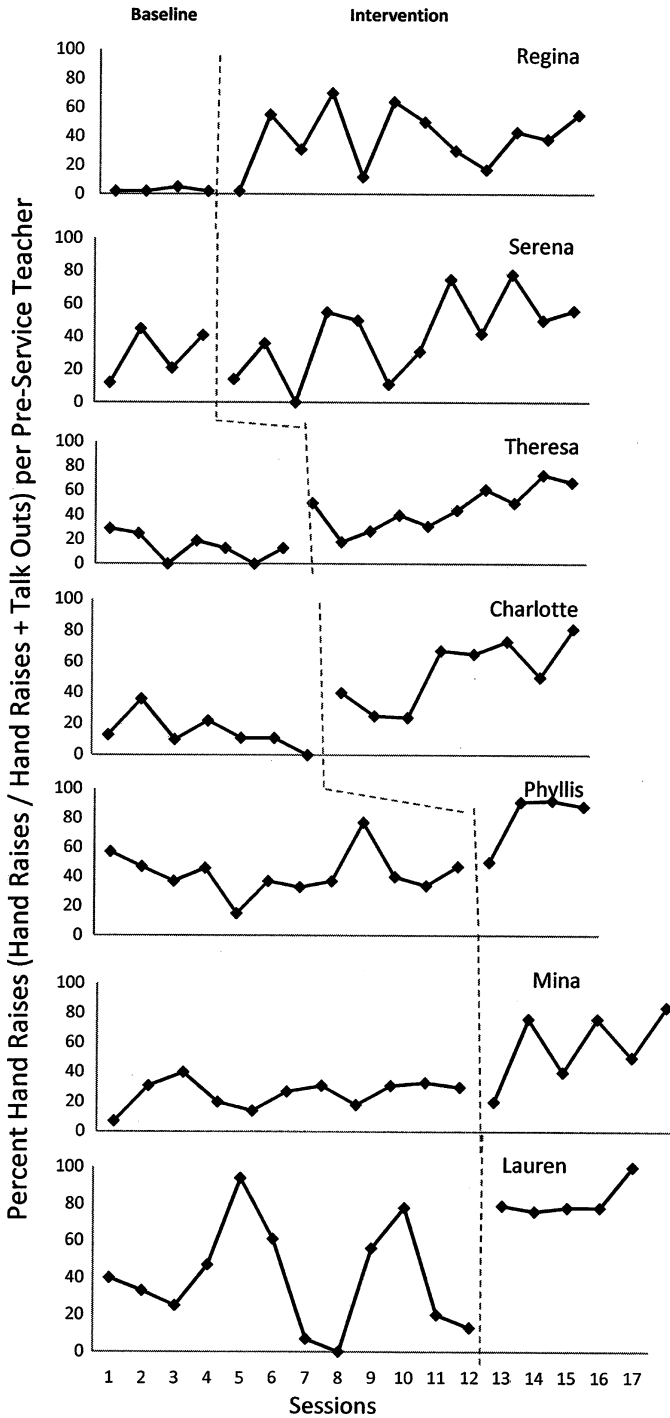


Fig. 2 Percentage of student hand-raises (hand raises/hand raises + talk-outs) per pre-service teacher

Discussion

The primary purpose of this study was to extend research by applying performance feedback to a relatively novel dimension of treatment integrity as in the Vollmer et al. (1999) study. By evaluating the percentage of target behaviors consequated, pre-service teachers were given feedback on their integrity of instruction involving the use of DRA techniques during student teaching. As in the Slider et al. (2006) study on professional development of classroom management strategies, the present study also found that pre-service teachers responded well to the intervention workshop and the regular performance feedback addressing their ability to apply instructional techniques. During baseline, pre-service teachers responded to students' talk-outs and hand-raising without discernment. They were equally ineffective at differentiating and attending to desired behaviors and ignoring problem behaviors, therein providing inconsistent reinforcement in the form of attention to both behaviors. After baseline, pairs of pre-service teachers met in a 1-h direct instruction workshop to (a) discuss these patterns, (b) recognize the laws governing special education, (c) identify specific strategies they could use to help students learn more appropriate ways of responding, and (d) practice using those strategies. In addition, each pre-service teacher met individually with the first author regularly after the initial workshop for performance feedback. Those sessions included a review of the observational data sheets and specific discussion of student behaviors within their classroom. The results of the intervention showed a measurable improvement in implementation integrity for each individual pre-service teacher's ability to deliver DRA procedures consistently as taught in the workshop. Unlike the Vollmer et al. (1999) study, this study showed a marked impact of increased implementation integrity on student behavior.

Providing accurate performance feedback to pre-service teachers can establish effective management strategies during the acquisition phase of student teaching and can help student teachers becoming more proficient (Scheeler 2008; Scheeler and Lee 2002). The weekly performance feedback provided data to each pre-service teacher on how consistently they were managing minor problems in the classroom. For educational practices to be successful, they must be implemented consistently as defined over time (DiGennaro et al. 2005; Gresham et al. 1993).

After the 1-hr direct instruction workshop, data indicated that students in all classrooms responded to the pre-service teacher's differential attention to student hand-raising. Consequently, student talk-outs declined as pre-service teachers used planned ignoring. Using performance feedback seemed to help maintain high levels of effective pre-service teacher behavior (implementation integrity). The result was improved classroom management techniques during student teaching, which has both immediate and potentially long term effects for pre-service teachers.

Limitations and Future Directions

There were several limitations of this study which should be considered when reviewing the results. First, this brief study was conducted during the second 6-week placement for student teachers resulting in an abrupt end to the data

collection on implementation integrity. The brevity of the student teaching term disallowed opportunities for maintenance as the students completed the student teaching placement and were no longer in the classrooms. No post-intervention data were able to be collected on pre-service teachers' maintenance of acquired behaviors. However, even with this limitation, all pre-service teachers did demonstrate marked improvements from baseline to intervention phases regarding their consistent use of the DRA strategy. Workshops and trainings were conducted in small groups of two or three, which can also be viewed as a limitation because this low ratio of pre-service teachers to instructors is not common in most student teaching experiences.

Lastly, some of the pre-service teachers faced philosophical differences in classroom management styles with their cooperating teacher who was evaluating them. Consequently, they expressed that their attempts to implement some of the strategies were stifled. Future research directions might include conducting the study in a classroom environment with regular, in-service teachers to measure changes in teacher behavior over a longer period of time. Methods from the current study might be adapted to include a full student teaching placement to allow for the evaluation of maintenance.

There is a large body of research addressing changes in pre-service teacher training. Inclusive educational practices continue to beckon changes in teacher education programs. Future research could focus on treatment integrity of other professional development workshops in the classrooms of novice general education teachers. Future studies might also include measuring student academic performance as suggested by Greenwood and Maheady (1997). Such a study would overcome the time constraints of student teaching, and would provide further data on the needs of teachers in general education settings where inclusive practices are utilized.

Implications for Teacher Preparation

Given the current trend in education toward inclusion, and the federal laws mandating and regulating effective educational practices, this study identified classroom management strategies these pre-service teachers did not possess in their skill set. The results of this study present a potentially viable avenue for developing treatment integrity of useful, practical management strategies such as DRA during pre-service teacher training.

Lane et al. (2004) suggest the need for improvements in training general education teachers through increased attention to treatment integrity. This initial investigation suggests that student teaching is an opportune occasion to teach general education pre-service teachers some of the techniques that have been successfully employed by special education. Through assessment and identification of specific skills, pre-service teachers recognized their need to develop skills and experience to manage classrooms effectively. Through specific performance feedback, they were able to increase their ability to effectively respond to appropriate student behaviors, while ignoring inappropriate student behaviors. The results suggest an increase in both appropriate student behaviors and more effective teacher behaviors. The preparation of pre-service teachers might be an opportunity

to develop integrity within the vast array of professional development of teachers. What potential impact might there be if educators focused on implementation integrity, or the delivery of intervention procedure as prescribed? This study suggests that the student teaching experience may provide opportunity for essential training necessary to gain those improvements.

Appendix A

Teacher Use of Positive Behavior Support

Observational Data Sheet

Teacher name: _____ Date of observation: _____
 Length of observation: _____

Directions: Circle the observed student behavior in the appropriate column

Student behavior	Hand raised	Talked out	Teacher response	Student behavior	Hand raised	Talked out	Teacher response
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Incident	HR	TO		Incident	HR	TO	
Totals	/	/	/	Totals	/	/	/

In the teacher response columns, mark (+) or (–) to indicate teacher’s response to student behavior

Definition of student behaviors:

Hand Raised: Student raises hand in air to attract teacher's attention without saying anything.

Talked Out: Student says something or makes noises to attract teacher's attention.

Definition of teacher behaviors:

Attending: Teacher responds to student behavior (+).

Ignoring: Teacher ignores student behavior, waits 10 s before acknowledging student (-).

Appendix B

Procedural Integrity Checklist for Conducting Individual Workshops with Pairs of Pre-service Teachers

Discussion of the following topics:

- Explanation of Functional Behavioral Assessment process
- Discuss behavioral consequences
- Discussion of Positive Behavior Supports and IDEA
 - discussion of reinforcing patterns of behavior
 - discussion of function of behaviors
 - discussion of need to teach alternate behaviors
- Discussion of Gaskins et al. Settlement and its implications for general education teachers
- Discuss positive reinforcements for behaviors, both problem (target) behaviors and alternate behaviors
- Discuss data collection sheet
- Instruction in the use of Differential Reinforcer of Alternate behaviors
- Suggestions for specific incidental occurrences in the classroom
- Practice appropriate responses to reinforce appropriate behaviors
- Questions?

Completed by: _____ Date: _____

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