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Cost effective and sequential methods for teaching educational paraprofessionals to implement behavior management strategies in preschool classrooms

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COST EFFECTIVE AND SEQUENTIAL METHODS FOR TEACHING EDUCATIONAL
PARAPROFESSIONALS TO IMPLEMENT BEHAVIOR MANAGEMENT STRATEGIES
IN PRESCHOOL CLASSROOMS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
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requirements for the degree of
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in

The Department of Psychology

by

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Table of Contents

Acknowledgements.....	ii
List of Tables	v
List of Figures.....	vi
Abstract.....	vii
Introduction.....	1
Teacher Training Literature Review	1
Staff Training Literature Review	18
Parent Training Literature Review.....	27
Rationale and Purpose for the Current Study	33
Method.....	37
Participants and Setting.....	37
Classroom One and Two.....	38
Classroom Three.....	38
Classroom Four.....	38
Materials	39
Response Definitions	40
Paraprofessional Behaviors.....	40
Student Behaviors	43
Data Collection Procedures.....	44
Inter-observer Agreement (IOA)	46
Experimental Design and Data Analysis	48
Procedure	48
Teacher Interview and Parent Consent	48
Paraprofessional Interview and Consent.....	49
Baseline.....	49
Written Take-home Manual and Summary Card.....	50
Modeling Videotape.....	50
Performance Feedback.....	51
Results.....	53
Written Test	53
Paraprofessional Behavior Data.....	54
Student Behavior Data	61
Discussion.....	66
Limitations and Directions for Future Research.....	71
References.....	74

Appendix A: Written Test.....	81
Appendix B: Paraprofessional Coding Form and Student Coding Form	83
Appendix C: Parent Consent Form.....	88
Appendix D: Paraprofessional Consent Form	89
Appendix E: Time Out Role-playing Scripts.....	90
Appendix F: Performance Feedback Steps	96
Vita.....	97

List of Tables

1. Instruction-giving.....	41
2. Praise.....	41
3. Time Out.....	42

List of Figures

1. Percentage of Steps Correct for Paraprofessional Instruction-giving Behavior during Baseline (BL), Written Manual and Summary Card (M), and Modeling Videotape (V), and Performance Feedback (Pfb) Conditions58
2. Percentage of Steps Correct for Paraprofessional Praise Behavior during Baseline (BL), Written Manual and Summary Card (M), and Modeling Videotape (V), and Performance Feedback (Pfb) Conditions59
3. Percentage of Steps Correct for Paraprofessional Time Out Behavior during Baseline (BL),. Written Manual and Summary Card (M), and Modeling Videotape (V) Conditions60
4. Jan's Percentage of Steps Correct for Instruction-giving and Praise (top panel). Percentage of Intervals for Off-task, Disruption, Noncompliance, and Appropriate Behavior for the Teacher Nominated Students in Jan's Classroom.....62
5. Kim's Percentage of Steps Correct for Instruction-giving and Praise (top panel). Percentage of Intervals for Off-task, Disruption, Noncompliance, and Appropriate Behavior for the Teacher Nominated Students in Kim's Classroom.....63
6. Ellen's Percentage of Steps Correct for Instruction-giving and Praise (top panel). Percentage of Intervals for Disruption, Noncompliance, and Appropriate Behavior for the Teacher Nominated Students in Ellen's Classroom.....64
7. Linda's Percentage of Steps Correct for Instruction-giving and Praise (top panel). Percentage of Intervals for Disruption, Noncompliance, and Appropriate Behavior for the Teacher Nominated Students in Linda's Classroom.....65

Abstract

This study examined the efficacy of cost effective and sequential training methods for teaching educational paraprofessionals to implement behavior management strategies in preschool classrooms. Investigation of the effects of increasingly complex and time consuming methods of training on both paraprofessional and student behaviors were evaluated. Training methods employed included written take-home manuals and summary cards, modeling videotapes, and performance feedback. Training materials included three behavior management strategies (e.g., instruction-giving, praise, and time out) that have shown to have extensive support in the empirical literature (Brophy, 1981; Budd, Riner, & Brockman, 1983; Flanagan, Adams, & Forehand, 1979; O'Dell, Krug, Patterson, & Faustman, 1980; O'Leary & O'Leary, 1977; Rickert, Sottolano, Parrish, Riley, Hunt, Pelco, 1988; Wahler, 1969; Walker, 1993). The efficacy of the training methods was assessed by observations of the paraprofessional's percentage of steps correct for each paraprofessional behavior and by the percentage of intervals for each student behavior. Participants included 4 female undergraduate students who were majoring in Communication Disorders and who were employed as paraprofessionals at a preschool facility for children with speech and language delays. Results indicated that paraprofessionals could be taught to implement behavior management techniques, but that the intensity of training efforts required varied across participants and behaviors. Overall, the paraprofessionals exhibited increases in the percentage of steps correctly implemented after the implementation of varying training conditions. Changes in students' behaviors could not be determined due to a possible ceiling effect for desirable behaviors. The results suggest that paraprofessionals are likely heterogeneous regarding what

form of training is likely to be effective both among themselves and within individuals, but across behaviors. Future directions and limitations of the study are discussed.

Introduction

Paraprofessionals are commonly employed in educational and child development settings. In these settings, they may have substantial responsibilities that frequently include classroom management. However, unlike teachers, paraprofessionals may have little or no preparation in how to implement behavior management techniques or generally manage children's behavior. Moreover, very little literature has been published regarding the most effective ways to train paraprofessionals who work in traditional or nearly traditional school settings such as preschools. Because the behavioral techniques for managing classroom behavior are general rather than unique to individuals who implement them, examination of the teacher training literature may suggest which training methods will work best for paraprofessionals.

Teacher Training Literature Review

Based on the teacher training literature review compiled by Allen and Forman (1984), numerous studies have demonstrated several different teacher training methods that have led to behavior change in children. In fact, many studies have demonstrated that with the use of these methods, they have contributed to substantial success in decreasing classroom disruption (Barrish, Saunders, & Wolf, 1969; Becker, Madsen, Arnold, & Thomas, 1967; Madsen, Becker, & Thomas, 1968; O'Leary & O'Leary, 1977; Thomas, Becker, & Armstrong, 1968). Despite these findings, the use of behavioral techniques in schools is quite limited (Baer & Bushell, 1981; Kennedy, 1997; Wolery, 1997). In addition, Witt (1986) has pointed out that even though there is a multitude of effective behavioral techniques in the literature, these techniques involving classroom management are hardly ever implemented by teachers. Witt (1986) suggests that teachers don't implement or even consider using behavioral techniques because of the time and resources required to implement them. Moreover, the teacher training literature is primarily focused on

demonstrating the effectiveness of the training employed, rather than the time and resources required to train and implement the procedures in the classroom. Because teachers and paraprofessionals will be the ones responsible for implementing the behavioral techniques, time and resources should be considered.

Even though time and resources are important in determining whether or not teachers choose to implement behavioral techniques in their classroom, effectiveness also plays an important role (Noell & Gresham, 1993; Witt, 1986). Some of the most effective teacher training techniques noted in the literature include didactic instruction, modeling, role-playing, feedback, in-class direct training, and a combination of these methods. However, as each training method becomes more labor intensive, the time and resources (i.e., materials and personnel) required become more costly.

One of the most common training methods involves didactic instruction either alone or in combination with other methods (Allen & Forman, 1984). Didactic training includes instruction in the form of lectures, written materials, workshops, or discussions. Unfortunately, didactic instruction alone has repeatedly been shown to be ineffective when teaching novel skills (Ziarnik & Bernstein, 1982). Moreover, didactic instruction alone has also been shown to be ineffective for insuring the usage of behavioral techniques in the classroom (Bowles & Nelson, 1976; Crow & Snyder, 1998; Johnson & Sloat, 1980; Sloat, Tharp, & Gallimore, 1977). Despite this finding, a few studies have found that didactic training alone may be an effective method when the goal of the training is for the trainee to acquire basic behavioral principles (Anderson & Kratochwill, 1988).

Additionally, didactic training alone has been shown in a few studies to change teachers' practices in the classroom. For example, Brown, Frankel, Berkimer, and Gamboa (1976)

demonstrated that didactic training alone was an effective means of changing teacher performance. In their study, teacher training involved the distribution of handouts and two 2-½ hour workshops. The handouts included written instruction on how to define behavior problems and how to record data correctly. Results of the training indicated a reduction of behavior problems in children of the trained teachers (N=30) who received the handouts and the workshop training. However, the children of teachers (N=25) who received only the handouts did not indicate similar changes. This study suggests that teachers can be taught by way of a large group or workshop format to produce reductions in problematic behavior in the classroom. Nonetheless, in this study, student behavior was only measured by the teacher. Moreover, inter-observer agreement and teacher behavior were not assessed. As a result, this study contains substantial threats to internal validity and should be interpreted with caution.

Another teacher training method often used is modeling. Anderson and Kratchowill (1988) define modeling as including “the demonstration of the skills by someone already competent in their application” (p. 220). According to Gladstone and Spencer (1977), modeling is dissimilar from didactic training in that modeling “can provide topographical discriminative cues for desired trainee responses that cannot easily or conveniently be presented through written or verbal instructions” (p. 76). Most importantly, modeling has repeatedly been shown to be a more effective training method, and it has been demonstrated to contribute to behavior change (Anderson & Kratchowill, 1988; Bernstein, 1982).

In a study by Ringer (1973), for instance, Ringer demonstrated that a fourth grade teacher could be trained to use token and verbal reinforcement in her classroom. In the study, the teacher was trained via modeling by an experimenter in the teacher’s classroom. After two modeling sessions, the teacher and experimenter handed out tokens together for 5 days. After that, the

teacher gave out tokens by herself for the next 5 days. Teacher and student behaviors were observed and observer reliability was assessed in this study. Results indicated that not only was the token system transferable to the teacher, but significant decreases in the disruptive behavior of all 10 target students were examined. However, significant increases in verbal reinforcement to appropriate behavior did not occur.

Nagle and Gresham (1979) investigated modeling alone and modeling with informational feedback to see which would be more effective in leading to teacher behavior change. In an A-B-C time series design, this study included seven 5-8 yr old children with mental retardation and 1 teacher as the participants. Dependent measures included length of teacher commands (i.e., number of words) and student compliance rate as a function of the commands. After baseline data was obtained, modeling was used in an attempt to demonstrate the use of shorter commands during 10-15 minute periods before each of the next four sessions. After four sessions of modeling alone were conducted, the informational feedback was introduced. Informational feedback involved the experimenter first modeling the correct procedure and then providing comments about the performance of the teacher after the next four class periods. Results of this study indicated that modeling alone dramatically reduced teacher command length. However, informational feedback added nothing to the effects achieved by modeling. Another one of the study's findings was that teacher behavior changes resulted in higher compliance rates in the children. Overall, the authors concluded that modeling must have provided sufficient information to change teacher behavior. However, the authors noted some threats to internal and external validity in their study. Some examples include reactive effects of experimental arrangements and multiple treatment interference by the use of the A-B-C time series design. Both of these could possibly play a role in the results. Nonetheless, having both the teacher and student behaviors

change dramatically in favorable directions and be attributable to chance factors is highly unlikely.

Training has also been conducted in analogue settings to help teachers develop and implement new skills. Some of the training techniques used in analogue settings include role-playing, feedback, or a combination of these components with didactic instruction and/or modeling. However, this listing of training methods follows a progression of increasing time and resources needed to perform these training techniques. The following descriptions of analogue studies will demonstrate this progression.

The first training method, role-playing, has been shown to be effective in the literature along with the component of didactic training (Allen & Forman, 1984; Anderson & Kratochwill, 1988; Bernstein, 1982). Role-playing involves the trainee's opportunity to rehearse the skills learned during training before an individual who is competent in that skill.

Jones and Eimers (1975) demonstrated the effectiveness of didactic training and role-playing to train two teachers to use a classroom management social skills package using a multiple baseline design. The first part of the training package consisted of setting limits. These skills were used to help in maximizing the enforcement of the rules by teacher disapproval within the context of a group discussion. Some examples of these skills included early identification of potentially disruptive behavior, quickness of responding following the onset of disruption so that disruptive behavior was interrupted, and time out procedures. The second part of the training package consisted of prompting and differential reinforcement of on-task behavior during seatwork. Teacher training first involved explaining the components of the skill package (i.e., didactic training) by a trainer. Next, the trainer modeled the skills. Last, role-playing was initiated and was considered the primary training tool in the study. Role-playing included all of

the participants playing the roles of “good” and “bad” students in a mock classroom while one of the participants played the role of teacher. During this process, feedback was given to the teacher. Results of the study indicated that after six to seven 40-minute training sessions, the teachers were able to reduce disruptive student behavior during seatwork and classroom discussions in their own classrooms. In addition, academic productivity increased in each of the classrooms.

Unfortunately, because of the design of the study, the individual skills were not analyzed as to their effectiveness to produce such student behavior changes. Moreover, teacher behavior was not monitored during this study. Without recording teacher behavior, any link between teacher behavior change and student outcome is unknown.

McKeown, Adams, and Forehand (1975) compared several training strategies for training teachers in behavioral methods. In this study, there were four groups of five teachers. The first group was given a manual to read on how to implement behavioral modification techniques in the classroom. This group also participated in six, 1 ½-hour meetings during which the techniques were demonstrated via modeling and role-played. The second group was involved in the meetings only. The third group only read the manual. The fourth group was the control group. The effects of the different methods of training were evaluated by comparing pre-post scores on two measures: an observation of disruptive behavior in each teacher’s classroom and a 20-question multiple-choice examination on behavioral techniques. Results indicated that those teachers who participated in the meetings received significantly higher scores on the multiple-choice exam than those who did not participate. Furthermore, only the teachers who had participated in the meetings were able to generalize their training skills to their classrooms as suggested by a reduction in disruptive behavior after training in their classrooms.

Another training method used often in training individuals such as teachers is feedback (Allen & Forman, 1984). Feedback involves providing trainees with verbal, written, videotaped, or graphically displayed information about their performance. Although feedback has been shown to be an effective training method in several studies (Anderson & Kratochwill, 1988), an important limitation of feedback has been the maintenance of its effects. To illustrate this, Johnson and Sloat (1980) conducted a study in which 13 teachers were enrolled in a 16-week university training course on behavioral techniques to be used in the classroom. Training included five successive phases: information, instructions to practice, guided practice, coding practice, which required the teachers to obtain satisfactory reliability while coding teacher and student behaviors, and performance feedback. Throughout the progression of the phases, several teacher behaviors were coded in the teachers' classrooms after each phase and again after the course at 5 and 12 months. During these observations, teacher behaviors coded included positive behaviors (e.g., management praise, academic praise, and nonverbal positives) and negative behaviors (e.g., verbal negatives and nonverbal negatives). The goal of the training was for teachers to increase positive behaviors and decrease negative behaviors displayed in the classroom. The training effects were evaluated using a repeated-measures ANOVA. The significant F-tests were then followed by the Newman-Keuls Test. Results of the study indicated that teacher performance increased the most with performance feedback. However, this study did not examine student behavior. In addition, it is unclear what each of the individual training components contributed to the final results. Because of the experimental design employed, sequence effects may be the reason teachers performed so well with feedback. Additional problems arose at the 5-month and 12-month follow-ups. Results from the follow-ups indicated that all of the teacher behaviors returned to

baseline levels. Even after reinstating the performance feedback component after the 12-month follow-up, teacher behaviors remained unchanged.

Another problem found with the use of feedback is the lack of generalization in its effects. To illustrate this, Horton (1975) investigated the effect of training on the rate of behavior specific praise by two 4th grade teachers. During Experimental Period 1, training included videotaped examples and instructions on how to properly distribute praise in the classroom. The teachers then were asked to watch a child-teacher interaction during reading class and indicate at the end of each example whether or not the teacher saw an instance of behavior specific praise. Later, the teachers were trained to identify instances in which he/she produced behavior specific praise in his/her own classroom during reading. First, the teachers were instructed to record his/her own behavior via a cassette recorder. Then, after the recording, the teachers were required to listen to the tape and identify and graph the number of instances he/she produced behavior specific praise. This served as feedback for the participants. Later, Experimental Period 2 was introduced where each teacher was to go through the same training sequence again. However, this time the videotaped examples and the identification procedure were initiated during reading, language arts, and mathematics. Results of the study from the ABAC design indicated that behavior specific praise dramatically increased in the subject areas once training was conducted. However, the training effects were only found to those specific subject areas. Thus, the study did not demonstrate generalization to other subject areas such as science, health, and social studies where the target behavior was not trained or where the teachers were not provided with feedback.

In an earlier study, Cooper, Thomson, and Baer (1970) attempted to teach two preschool teachers working in a Head Start program to give positive attention to appropriate child behaviors. After observational baseline data were collected, the first teacher received feedback which

included definitions of appropriate child responses, the teacher's frequency of attending to appropriate behavior, the teacher's total percentage of attending to appropriate behavior, and the teacher's frequency of failing to attend to appropriate behavior. The second teacher was then trained later with the same feedback. Results of the training indicated an increase in attending to appropriate behavior displayed by the children. However, generalization of these skills was not demonstrated. That is, the training increased those specific behaviors that were trained only. In addition, maintenance of these results was not demonstrated.

Despite these findings, Koegel, Russo, and Rincover (1977) found generalization effects in the use of a component package consisting of a written manual, modeling videotape, and performance feedback. The written manual and modeling videotape illustrated correct and incorrect examples on how to implement five categories of behavior modification techniques selected for individual target children (i.e., the target behaviors were selected independently for each target child). Once the teachers read the manual and viewed the videotape, the teachers were then asked to teach a child a new target behavior. While the teacher attempted to do this, the trainer would interrupt every 5 minutes and provide feedback on the teacher's performance. If the teacher were teaching a target behavior incorrectly, the trainer would respond by modeling the procedure for the teacher. Due to the brevity of the feedback and the trainer did not want to disrupt the session too much, the trainer would provide more elaborate feedback once every half hour. Effects of the training were evaluated with a modified multiresponse baseline design across participants. Results of the training indicated that all 11 teachers who participated were rapidly trained and used the behavioral techniques correctly. Student behavior was also modified to show increases in correct responding. In addition, the teachers generalized the skills obtained through training with a variety of children and target behaviors. However, since the training entailed a

combination of training methods, it is not evident which methods contributed more effectively than the others to produce such results.

In a more recent study, Watson and Kramer (1995) taught problem solving skills to teachers-in-training with different instructional methods. Three instructional methods, didactic training, didactic and modeling training, and didactic, modeling, and rehearsal/feedback were compared along with a fourth condition, a control. Participants included 112 undergraduates who were enrolled in an introductory educational psychology course for future teachers. Participants were randomly assigned to one of the four conditions. Two dependent measures were collected after the first day of training and the last day. These dependent measures included the Problem Identification Questionnaire, which asked participants to identify in writing the primary problem and develop a goal statement after viewing a videotape of a child exhibiting problem behavior, and the Problem Analysis Questionnaire, which asked participants to identify in writing the antecedents and consequences of the teacher's, peers', and the child's behavior. By way of a MANOVA followed by a Post-hoc Tukey, the results indicated that all of the treatment conditions were superior to the control condition. When comparing the various treatment conditions, there was not a significant difference between the didactic and modeling condition and the didactic, modeling, and rehearsal/feedback condition. Thus, the rehearsal/feedback condition added nothing to the participants' performance. The authors suggest that perhaps the modeling condition was a powerful enough condition to teach problem identification and problem analysis skills. However, one important limitation of this study should be noted. Because the participants were able to identify and analyze problems from taped vignettes does not necessarily mean that the participants would be able to do this in applied settings.

A systematic measurement of the effects of instructions, feedback, and feedback plus social praise on the amount of praise given by three teachers for student attending behavior was conducted by Cossairt, Hall, and Hopkins (1973). For this study, observational data were collected when teachers gave instructions to the students in their classroom. The dependent variables included the percent of intervals that students attended to the teacher, the number of intervals of teacher praise for attending, and the number of intervals of teacher attention to non-attending. In a multiple baseline design, the first two teachers went through the experimental conditions in a successive fashion with instructions first, feedback second, and then feedback with social praise. During the feedback condition, the teachers were given verbal feedback consisting of the number of intervals during which the students attended to the teacher's instructions and the number of intervals of teacher praise for student attending behavior. The third condition included the element of the second condition plus the teachers were given social praise for their praise of student behavior. Results for the first two teachers indicated that the third condition yielded more teacher praise for student attending behavior. For the third teacher, the entire package of instructions, feedback, and feedback plus social praise was introduced at once. The entire package produced again substantially more teacher praise for student attending behavior relative to baseline levels. Due to the findings, the authors suggest that social praise was a necessary ingredient in changing teacher praise behavior. However, during the two post-checks made a few weeks after the termination of continuous observation, only the third teacher continued to have high rates of teacher praise and high rates of intervals of student attending.

Sloat, Tharp, and Gallimore (1977) examined individual components of training sequentially in order to see which would be responsible for the most behavior change in teachers. Moreover, this study was designed to exemplify the steady increase of the amount of information needed in

training and a steady increase of the cost (i.e., time and money) of the components in order to produce such a change. In this study, 5 female elementary school teachers participated. Training occurred during six 1-hour in-service workshops over a period of 16 weeks. The six components included were didactic instruction, modeling and role-playing, videotape feedback, direct coaching, graph feedback, and graph feedback with goals. The purpose of the study was to identify the point at which teacher's use of praise would be maximized. Effects of training were evaluated by daily direct observation during regular teaching activities. Not surprisingly, the first component, didactic training, resulted in no change of teacher performance. The second component, modeling and role-playing increased teachers' performance substantially. Videotape feedback helped further increase 3 teachers' performance. However, the next 2 components (i.e., direct coaching and graph feedback) decreased teacher performance. The last component, graph feedback with goals, dramatically increased performance.

Results from this study would suggest that feedback with graphing and goals would be an excellent teacher training method. However, since this study involved a sequential components design, the effect of feedback alone is difficult to determine. In other words, the last components were implemented so late in the training, that its effects independent of the preceding elements is unknown (Allen & Forman, 1984). Another limitation of this study was that the effects of the teacher training were not assessed on student behavior. Despite these limitations, the most interesting finding was the training effectiveness of just modeling and role-playing. With the addition of this component to didactic training, teacher performance of praise delivery increased markedly. Considering the time and resources needed to train teachers effectively, this finding could be considered promising.

The last teacher training method often used is in-class training. This type of training involves a teacher being directly coached in his or her classroom by an individual who is competent in the skills to be trained. In-class training is often administered with some form of feedback. One substantial limitation of in-class training is the fact that it is the most labor intensive in terms of time and resources as compared to the previous methods reviewed here.

Cueing by way of the bug-in-the-ear (BIE) technique is one example of in-class training. Bowles and Nelson (1976) demonstrated the effectiveness of the BIE technique with four teachers. During Phase I, 13 teachers participated in the experimental condition and were first given didactic training that included lectures and discussion, modeling, videotape examples, and practice in classroom behavior management in a workshop setting. Training lasted for approximately 12 hours. Six other teachers were in the control condition. An ANOVA was conducted to compare the two groups on their performance on a paper-and-pencil test of behavior modification principles. In addition, selected in-class behaviors were also observed. Results of the ANOVA indicated that the experimental group scored higher on the test. However, there were no differences between the groups when observations of in-class behaviors were compared. During Phase II, four randomly assigned teachers from the experimental group were trained in the BIE technique to increase prompting, social reinforcement, and contingency statements in their classrooms. The teachers in this group received a total of 2 hours of BIE training. These four teachers were compared to four other teachers who only received the didactic training and to four other teachers who were in the control group in Phase I and remained in the control group. Results indicated that the four BIE trained teachers used significantly more praise and contingency statements than the group who only received didactic training and the no-treatment control group. However, limitations of this study included that student behavior was not observed directly and

was not reported by the teacher's impression of any student behavior change as a result of the training. Another limitation of this study was the fact that a very small n was used and analyzed with an ANOVA. In addition, follow-up and generalization data were not collected (Allen & Forman, 1984).

Wolery, Anthony, Snyder, Werts, and Katzenmeyer (1997) demonstrated another effective example of in-class training that involved even more time and resources to implement. Participants in the study included 3 teachers and 3 students with disabilities. The dependent variables evaluated were the teacher's correct implementation of the constant time delay procedure during teacher-lead activities and learning by children when their teacher used the time delay procedure. Prior to training, an investigator asked each teacher to identify a specific goal for each student. Training first included the distribution of an 8-page manual. Next, a 30- to 45-min individual didactic training session was initiated followed by feedback for five days on how to implant instructional trials using the constant time delay procedure. Direct observations of teacher and student behavior were conducted in the classroom before, during, and after the training. The effects on the teachers' use of the procedure and on student learning were evaluated with a multiple probe design. Results of this study indicated that 2 out of the 3 teachers maintained using the constant time delay procedure correctly after feedback was withdrawn. Students' learning also increased markedly after the teachers used the instructional procedures. One substantial limitation of this study is that in order to implement such an intensive intervention, teacher behavior has to be monitored and specific goals have to be established (Wolery et al., 1997).

Moore, Edwards, Sterling-Turner, Riley, DuBard, and McGeorge (2002) recently examined the effects of training teachers to use functional analysis methods under simulated and live

classroom conditions. Participants included 3 teachers and 3 students. Each of the 3 students was referred for yelling out inappropriately during class time. During training, teachers implemented attention and demand conditions with a graduate student portraying the target student. Teacher behaviors were recorded as the percentage of correct teacher responses based on their occurrence or nonoccurrence in relation to the scripted student behavior. A multiple baseline design was used to evaluate the effects of training. Phase I of the study involved providing the teachers with written and verbal information regarding the conditions. After the teachers looked over the materials, the experimenter asked questions to ensure understanding of the materials. Each teacher answered the questions with 100% accuracy. The teachers then practiced the procedures under simulated conditions. However, the teachers were not provided any information about their performance. Phase II of the study involved presenting the data from Phase I to each teacher along with performance feedback. During this, the experimenter provided praise for correct implementation and reviewed the protocol with the teacher for components that the teacher did not implement correctly. The experimenter then randomly selected one demand and attention scenario and modeled each step of both analysis protocols while a graduate student role-played as the target student. Each teacher then practiced the conditions and received feedback on their performance. The last phase of the study involved applying the functional analysis conditions to the 3 students during the most problematic times. During this phase, the teachers continued to receive performance feedback after each session. The results of the study indicated that performance during Phase I was generally low. However, after Phase II, each teacher's performance increased markedly. During the in-class analysis, all 3 teachers implemented the procedures with integrity.

Ward, Johnson, and Konukman (1998) investigated the use of feedback and directed rehearsal to improve teaching behaviors during a teaching practicum for four elementary physical education teachers. Dependent variables included three teaching behaviors (e.g., transitioning students, lesson introduction, and task presentations) involving fitness exercises and ball handling skills. Each of the behaviors was task analyzed and divided into components. Data collection of the behaviors included a checklist of the behaviors and their corresponding components. A multiple baseline design was used to assess the effects of the training. After baseline was collected, each teacher was presented with the baseline data for a target behavior. The components of the teaching behaviors were reviewed and the investigators then provided multiple examples. Next, the teachers were given written instructional scenarios and were informed that they were required to meet a criterion of 10 consecutively correct performances of the teaching behavior. The teachers were then informed that they would receive written feedback about each of their performances after each session and would be asked to rehearse the procedures 10 times if a specific behavior was performed incorrectly during that session. Results of the training indicated that direct rehearsal was effective in improving teacher behaviors to 100% accuracy. The training was also socially acceptable as indicated by an 8-item Likert questionnaire that assessed the acceptability of the procedures. However, one important limitation of this study included that the effects of the teaching behaviors on pupil behavior was not assessed. Moreover, all three of the last studies reviewed here required that each teacher be provided an individual trainer to help in the process of implementing the procedures. Although highly effective, requiring each teacher to have his or her own trainer would not frequently be feasible or practical in terms of time and resources.

Hiralall and Martens (1998) investigated the training effects of scripted instructional sequences as a means of changing teacher and student behavior. The design used in this study was a direct instructional sequence in a counterbalanced multiple baseline single subject design. The instructional sequence included demanded eye contact, step-by-step directions, modeling, praise, redirectives to students who are off-task, and monitoring behavior by circulating around the room and providing praise and redirectives where needed. Participants in the study were 4 preschool teachers and 14 children. The five instructional sequence elements for teacher behavior and three child behaviors (e.g., attending to instruction, appropriate play/on-task, and off-task) were the dependent variables. Training took place in each of the teacher's classrooms and lasted approximately 2 hours for the initial session. During this session, the investigator described and modeled the instructional sequence. Teachers were then provided with written descriptions of each strategy along with the research to support each strategy. After training, each teacher was placed into role-play situations where they were provided with feedback for their performance. After each teacher obtained 100% accuracy for the role-play situations, each teacher was observed in the classroom. Each observation was then followed by more feedback. These feedback sessions continued until the teacher reached 100% accuracy in implementing the entire managerial sequence. Scripts were also introduced in either an ABC sequence (i.e., baseline, training, training plus script use) or an ACB sequence (i.e., baseline, training plus script use, training). The script provided the specific steps to follow and examples of each strategy. The teacher was instructed to use the script when implementing each strategy. Once the teacher completed one of the strategies, the teacher was then instructed to check that strategy off on the script. Results of the study indicated that all four of the teachers implemented the instructional sequence correctly and engaged in more instructional statements, modeling, and praise compared to baseline levels.

The 14 students' appropriate behavior also increased markedly. Follow-up observations conducted one month later indicated that two of the four teachers continued to produce the instructional sequence correctly.

Limitations of this study include that the sample did not include children with special needs who may benefit from a behavioral intervention and the utility of the intervention was only investigated during art activities (Hiralall & Martens, 1998). No other activities or settings were investigated. In addition, the training involved a relatively complex, time-consuming, and resource intensive intervention. These intensive resource demands will inevitably limit the use of these procedures.

Staff Training Literature Review

Because much of the research on training behavior change agents consists of training institutional staff, some of those studies will be reviewed here. However, the overall results of these studies are consistent with studies on the effectiveness of various techniques used to train teachers. In fact, Hersen, Bellack, and Harris (1993) point out that the findings of training in behavioral methodology seem exactly the same regardless of what group is being trained.

Again, one of the most consistent findings reported is that instructions in the form of memos and didactic workshops are not sufficient when applied skills are to be taught (Gardner, 1975; Kazdin & Moyer, 1976; Sepler & Myers, 1978). However, Martin and Pear (1983) suggest that instructions can be effective if they are within the understanding of the training agent, specify the behavior to be trained, are comprised of systematic steps, are delivered courteously, and are sequenced from easy to difficult.

Some support for the efficacy of instructions alone may contribute to staff behavior change has stemmed from a study conducted by Fielding, Errickson, and Bettin (1971). Their study

investigated the use of instructions printed and posted on a chart on a work unit wall in order to reduce staff's use of physical coercion while moving residents with severe handicaps from one area to another. The staff first received in-service training on behavior modification techniques on how to move residents. Although staff behavior improved during the training sessions, staff behavior did not improve in the work setting. However, after a poster that compared physical coercion of residents to moving them with a tow truck was placed in the ward, the staff began to escort the residents properly.

Although the Fielding et al. (1971) study may have support for the use of instructions alone when training staff, most researchers who have reviewed the topic agree that instructions may contribute knowledge of behavioral skills but they do not insure that the training agent will apply those skills in the appropriate setting (Bernstein, 1982; Demchak, 1987; Feldman & Dalrymple, 1984; Reid & Whitman, 1983). Despite this pitfall, these researchers agree that instructions may be important for gaining knowledge and thus should be part of a training agent's program.

In contrast to the Fielding et al. investigation, Pommer and Streedbeck (1974) demonstrated that instructions provided short-lived change in staff performance in a residential child-treatment facility. Staff performance was measured by counting the number of jobs completed and the number of new procedures implemented within one week of their assignment. The authors first posted public notices on a bulletin board itemizing each staff member's duties. Although the postings resulted in an immediate increase in staff performance, the increase quickly diminished. Staff members were then given reinforcement in the form of tokens worth \$1.00 each for performing jobs and implementing procedures within one week of their assignment. The tokens along with the public notices regained and sustained

levels of performance well above baseline levels. The authors then discontinued posting the public notices, which resulted in a reduction of staff performance from the previous condition of both tokens and public notices. Thus, the use of public notices alone and tokens alone did not result in sustained levels of high staff performance. The combination of the two, however, did result in maintained levels of high staff performance as demonstrated once again after the combination was reinstated.

In another study, Quilitch (1975) used two types of instructions with staff of an institution for individuals with mental retardation and found that instructions had no effect on staff behavior. In this study, staff members were sent a memo telling them to direct recreational activities for the residents. Three weeks later, the staff attended a workshop teaching staff to lead such activities. Several days later, activities were posted on the ward wall. The names of the mental health technicians responsible for leading the activities were also posted. In addition, a feedback poster that gave the name of the activity leader for the previous day and the daily average number of active residents for the ward was posted. This information was presented in the form of a graph. In a multiple-baseline experimental design, the three staff-management procedures were compared. Results indicated that neither the memo nor the workshop motivated the staff to lead the activities. Once the staff were scheduled to lead the activities and given performance feedback, the average number of residents engaged in activities increased from 7 to 32.

Similar to the teacher training literature, other training techniques such as modeling, role-playing, and feedback have shown to be more promising when training behavioral staff as well. For example, Gladstone and Spencer (1977) demonstrated that a modeling procedure could be used to change the frequency of praise statements of five counselors while they conducted

toothbrushing and hand-and-face washing with four children with severe retardation. However, no modeling occurred during the hand-and-face washing sessions. A multiple-baseline design across counselors was used to evaluate the effects of the modeling procedure on the frequency of contingent praise made by the counselors. Once the counselors received modeling training for toothbrushing, the levels of response-contingent praise increased dramatically for four of the five counselors. Subsequent increases in praise were also found during the hand-and-face washing sessions. Thus, generalization of the training was demonstrated. In addition, a two-week follow-up indicated that the improved use of contingent praise was maintained.

In another study, Panyan and Patterson (1974) compared several methods of teaching behavior management techniques to paraprofessional institutional staff. During Experiment I, three paraprofessionals participated. Each was asked to give one child a list of commands until the child complied with it. Using a multiple baseline, the paraprofessionals were introduced to each treatment phase. The first treatment condition consisted of a list of instructions that was given to each paraprofessional. The second condition consisted of a videotape playback of the paraprofessional watching himself in the training session immediately after the live session. The third condition consisted of videotape modeling where the tape showed an experienced trainer teaching the commands to a child and illustrated the delivery of physical, social, and edible reinforcement for compliance. Results of Experiment I indicated that the videotape modeling was a more effective training technique than the others. During Experiment II, the authors compared live modeling to videotape modeling. Fifteen paraprofessionals participated and were randomly assigned to either the treatment group or a control group. An ANOVA indicated that both modeling procedures were about equally effective in establishing proper reinforcement procedures, and both were more effective than the control group.

Gardner (1972) compared role-playing and lecturing with 20 female institutional attendants who performed behavior modifications techniques. The 20 attendants were matched in pairs according to a number of demographic variables (e.g., nursing skill knowledge, knowledge of mental retardation, attitude toward people with mental retardation, and socioeconomic status) and then randomly assigned to role-playing groups and then lecture groups, or lecture groups and then role-playing groups (i.e., a crossover design). Pre- and Post-test measures were collected on the knowledge of behavior modification principles and ratings of ability to apply the behavior modification techniques. The results of the study indicated that there were no order effects for the treatments. However, role-playing was more effective in improving actual staff performance; whereas, lecturing was more effective for improving knowledge.

With respect to feedback, two similar findings to the previously mentioned Cossairt et al. study have been found; although, follow-up data were not collected during either of these studies (Brown, Willis, & Reid, 1981; Realon, Lewallen & Wheeler, 1983). The Brown et al. study investigated the effects of supervisor verbal feedback and verbal feedback with approval statements on the performance of staff in an institution for multi-handicapped individuals with mental retardation. However, the effects of training on the residents were not obtained. The Realon et al. study investigated the effects of verbal feedback alone and verbal feedback paired with praise. The investigators used a behavioral checklist to determine that training sessions conducted by direct care staff included all items identified as being crucial for quality training. Both studies used a multiple-baseline across staff members design. Results of these studies indicated that the verbal feedback with approval statements or with praise was more effective than feedback alone.

In another feedback study, Parsonson, Baer, and Baer (1974) investigated the use of observer feedback to two teacher's aides who operated a kindergarten program for institutionalized children with mental retardation in a multiple baseline design. Observational data were collected on negative and positive teacher attention to a specific child's behavior. When the teacher attended, her attention was recorded, and the child's behavior immediately preceding the teacher's attention was coded as falling in one of the 10 categories of possible child behaviors (e.g., compliance, disruptive, self-help: toileting, self-help: clothing, language, etc.). Once baseline data were collected, the feedback phase began. It consisted of the teachers receiving a slip of paper indicating the proportion of the teacher's last 15 attentions given to appropriate child behaviors and inappropriate child behaviors. Feedback was given in this fashion usually every 3 to 5 minutes during the observation. Results of this training indicated a substantial increase in both of the teachers attending behavior to appropriate child behaviors. Follow-up data were also collected and indicated that the effects of training were maintained.

Similar to the teacher training studies, some of the most effective staff training procedures typically involve all or a combination of the various training techniques (Kazdin & Moyer, 1976). Ivancic, Reid, Iwata, Faw, and Page (1981) note that combining management procedures appears to enhance the probability of improving staff performance and subsequent client behavior relative to using only one training technique alone. In fact, a similar finding has been noted from the management and organizational psychology literature as well (Babb & Kopp, 1978; Lawler, 1977; Schneier, 1974).

In the Ivancic et al. study, instructions, modeling, public postings, and verbal feedback were combined into a systematic supervision program. Participants included 7 direct care staff and 5 children with profound retardation of a state retardation facility. The study examined a

program to teach and maintain language training interactions between the two groups during routine baths on weeknights. Data were also collected during another routine care task, dressing, to observe generalization effects of the training. During all of these observations, data were collected on four staff behaviors. These included antecedent vocalizations, descriptive praise, sound imitations, and sound prompts. Residents' appropriate vocalizations were also recorded. The three sets of supervisory procedures were implemented in the following order in a multiple baseline design across staff members: in-service meeting, prompting, and then feedback. The in-service meeting consisted of the supervisor describing the specific language training behavior and providing a rationale followed by the supervisor modeling examples of the target behavior. After the in-service meeting, procedures designed to prompt language training behaviors were conducted. These included public postings, instructions, and modeling. Last, the feedback procedure was implemented. This included the supervisor giving vocal feedback individually and in a group format. Vocal feedback was dependent on the correctness of the staff members' behavior. If the supervisor observed a staff member correctly displaying a behavior, then the supervisor delivered positive feedback. If the supervisor observed a staff member incorrectly displaying a behavior, then the staff member received instructive feedback. In addition, written feedback was publicly posted in two formats. The first format recognized exceptional staff behavior by describing and praising the event on a feedback sheet posted on a bulletin board. The second type consisted of graphs of the occurrences of child vocalizations. A maintenance phase was also added to the study. It differed from the previous condition in that there was less individual supervision and more group supervision. Results of the study indicated that the training techniques effectively

increased the number of interactions staff initiated with the residents during both routine care tasks observed. Thus, generalization of the training was demonstrated.

Another example of a training package that has shown to be effective was conducted by Gladstone and Sherman (1975). In their study, the authors used videotaped modeling, rehearsal, corrective feedback with praise, and graphic feedback to teach 7 high school students who worked with children with mental retardation to deliver a simple instruction, "Bring ball." Data were collected for the trainees on correct verbal instructions, contingent reinforcement, noncontingent reinforcement, physical prompts, and ignoring. As for the child behaviors, correct responses to the instructions and inappropriate/disruptive behavior was collected. By using a multiple-baseline across trainees design, results indicated that four of the seven trainees successively taught their child to respond correctly to the instruction, "Bring ball." More importantly, trainees were observed with another child while the trainee was trying to get the child to follow the instructions, "Sit down" and "Come here." However, training did not occur for these instructions. Results of the initial training indicated that all trainees were able to teach novel children to follow these instructions. Thus, generalization of the training was also demonstrated in this study.

More recently, Delamater, Connors, and Wells, (1984) examined the efficacy of several different training methods for eight staff members of a psychiatric unit. The authors compared in-service training, direct feedback of staff performance, and role-playing. Observational data were collected on the following staff behaviors in response to a child's behavior during free play periods: positive rewards, attending, punishment, redirection, ignoring or no response, and vocalization. Child behaviors such as adaptive and maladaptive behaviors were also recorded. The phases of the study included: baseline 1, in-service training, in-service plus

direct feedback which was administered sequentially across the participants, baseline 2, and role-playing. The in-service training involved a multi-media presentation of tapes, slides, workbooks, and discussions on ways to observe and record behavior, on how to increase adaptive behavior, and on how to decrease maladaptive behavior. The feedback condition involved the staff members individually receiving information about the percentages of time the staff member engaged in the various behaviors along with reinforcement. The role-playing condition only occurred for three of the staff members due to time constraints. This condition involved instruction, modeling, behavioral rehearsal, feedback, and reinforcement for attending responses and later for reward responses. Results of the training conditions indicated that in-service training had little effect on staff behavior. The feedback condition resulted in three of the eight staff members' behaviors increasing for positive responding and vocalizations. However, this effect was not maintained over time. The greatest gains in staff behavior occurred during the role-playing condition. The authors hypothesize that the reason the feedback condition was effective in producing behavioral change with some of the staff members but not with the others was possibly because the staff members perceived the feedback condition as an evaluation of their performance; whereas, the role-playing condition might have been perceived as an opportunity to learn and play at the same time. In addition, the authors propose that because the feedback was delivered to the staff members by a research assistant instead of a supervisor, the effect of the feedback may vary dependent on who delivers the feedback.

Support for using classroom-based verbal and video instruction, practice, role-playing, feedback, and homework assignments followed by on-the-job feedback have also been demonstrated with residential, paraprofessional service staff (Parsons, Reid, & Green, 1993)

and teacher's aides (Parsons, Reid, & Green, 1996; Schepis, Ownbey, Parsons, & Reid, 2000). Although the latter two studies demonstrated training on basic teaching skills in one day, the authors note that the staff would routinely need ongoing feedback in order to maintain the results. Despite the promising results of these studies, this type of combination of training techniques would not be cost effective if ongoing feedback is needed to maintain the results.

Last, staff training has recently progressed into a newer model of training. A trend in training staff has been conducting an indirect pyramidal model of training with institutional direct care staff (Page, Iwata, & Reid, 1982), childcare providers (Demchak, Kontos, & Neisworth, 1992) and elementary school teachers (Jones, Fremouw, & Carples, 1977). However, this type of training has been criticized as demonstrating the "whisper effect" (Cullen, 1992, p. 235). That is, messages undergo some degradation and change when they are passed down from one trainer to another trainee (Demchak & Browder, 1990). It is for this reason that pyramidal training, although cost-efficient, is still in its infancy.

Parent Training Literature Review

The behavioral principles for managing children's behavior are general rather than unique. It is for this reason that examination of the parent training literature will be reviewed here. In fact, the parent training literature may contribute to the understanding of how to help care providers positively influence children's behavior. In particular, the parent training literature provides some strong examples of observational systems, training methods, measurement of training effects, and specific task analyses to be used as management training skills.

Budd, Riner, and Brockman (1983) examined the effects of a clinic-based parent-training program by assessing the program through a direct observational system. According to the authors, they attempted to develop a direct observational system that behavioral training

professionals could use to evaluate their services. The authors described their study as deriving from the work of Forehand and King (1974; 1977) and Peed, Roberts, and Forehand (1977). These researchers developed a recording procedure that could demonstrate the effectiveness of a training program by recording parent responses directly linked to the training. However, the structured observational system did not include enough components that would assess the majority of parents' concerns with problematic children (Budd et al., 1983). As a result, the authors produced a skill series to encompass more of the parents' concerns. Selection of the skills included was decided by a review of what has been shown to be successful in the parent training literature.

In Budd, Riner, and Brockman's (1983) study, 14 parents participated. The parents were exposed to 10 weekly training sessions lasting approximately 2 ½ hours per session. Training included readings, didactic presentations, videotaped illustrations, written exercises, practicing and self-recording at home and in the clinic, and implementing a home project. The first seven sessions were devoted to didactic presentations but the last three included practice sessions. The practice sessions entailed the parents practicing the skills they acquired with their children while at the clinic followed by performance feedback.

The observational system consisted of five structured activities (Budd et al., 1983). The structured activities were instruction-giving, differential reinforcement, use of a token system, teaching new skills, and time out. These specific skills were included in the observational system based on a task analysis developed by the authors. These activities, lasting 5 –12 minutes, were also designed specifically for focusing on child management skills. Each training skill was introduced sequentially in a multiple baseline design. The observations were conducted in the parent's home approximately 6-7 times across three of the training skills. All participants were

exposed to the differential attention and instruction-giving structured activities. The third activity depended on the nature of the parent's concern on their child's behavior. Results of the study indicated substantial increases in the parents' correct performance on the management skills. In addition, the results indicated a highly reliable observational system. Paper and pencil measures (i.e., the Parent-Child Behavior Inventory) corroborated these findings by showing that the parents' knowledge of the skill procedures also increased markedly as compared to the beginning of training. Last, the parent's perception of appropriate and inappropriate behavior at home indicated that the parents' rating of their children improved considerably as evaluated by the Child Management Questionnaire.

In a later study, Rickert, Sottolano, Parrish, Riley, Hunt, and Pelco (1988) used the instruction-giving and time out skills task analyses developed by Budd et al. (1983) to compare didactic training to competency-based training in parents. Competency-based training entailed setting a criterion that the parents had to master in order to complete training. Training included six weekly 2-hour sessions. During the first three days, an oral presentation of each skill was initiated for 45- to 60-minutes per skill. Thus, each presentation was devoted to one of the skills (i.e., instruction-giving or time out). The parents also received three handouts that explained how to word requests, provide rewards contingently, and how to implement time out correctly. However, the parents were not given copies of the task analyses. The purpose of the oral presentations was to provide a rationale and description of each behavior and provide examples of the procedures through modeling. Competency-based training then occurred for the last three sessions. It was the same as the didactic training except performance feedback was provided immediately by the trainers when the parents divided up into pairs and were asked to role-play. The parents were required to demonstrate mastery (i.e., 90% correct task completion for each

skill) before moving on to videotaped role-play simulation probes with a confederate. The simulation probes included one parent demonstrating the skills and a confederate serving as the noncompliant child. In addition, parents were videotaped with their own children at the training facility to assess the parent's performance on the skills. Videotaped sessions occurred three times: prior to training, at the conclusion of didactic training, and at the end of competency-based training. Follow-up sessions also occurred after 6 and 12 weeks. To evaluate the effects of the training, a multiple baseline across the skills was used. Percentages of task analyses completed correctly under actual and simulated probes in the training facility were collected as data. Results of the training indicated that six out of seven of the participants attained mastery only once competency-based training was implemented. During the follow-up sessions, skill acquisition was still maintained.

Although the results of this study are encouraging, some limitations did exist. For example, a true comparison of didactic training versus competency-based training was never assessed due to the design of the study. The effects of competency-based training could not be assessed in its own right since didactic training preceded competency-based training. Also, generalizations of the positive effects to the home, school, or community settings were never evaluated. Last, although parent reports (i.e., the Parent's Attitude Test (Cowen, Huser, Beach, & Rappaport, 1970), the Home/Neighborhood Scale, the Behavior Rating Scale, and the Adjective Checklist Scale) indicated that their child's problematic behavior improved, no direct observation in the home environment was conducted.

Using parent reports as a means of evaluating child behavior is present in both of the two studies just reviewed. Although both studies revealed that parent reports indicated substantial increases in their perception of child behavior, child behavior was never observed by an objective

recording procedure. In fact, previous research has found poor correspondence between the reports of caregivers and the direct observation of treatment implementation (Wickstrom, Jones, LaFleur, & Witt, 1998). Research has also demonstrated that direct observations and verbal reports may even yield dissimilar results across both parents and teachers (Coie & Dodge, 1988; Fagot, 1995). Moreover, a basic premise of behavior analysis has been an emphasis on directly measuring important outcomes rather than accepting verbal reports of those outcomes (Baer, Wolf, & Risley, 1968). It is for these reasons that evaluation of treatment outcomes based on parent report alone should be regarded with extreme caution.

An additional potential problem with all of the studies discussed thus far is that each of the training methods only permitted the trainee (i.e., teacher, staff member, or parent) to review the training materials during the days of training. If the trainees had take-home materials such as written packets or videotapes to review at their leisure, they could review the materials whenever they needed. O'Dell, Krug, Patterson, and Faustman (1980) investigated this type of training method while examining three parent training techniques that explained how to implement time out correctly. Participants included 24 parents who were randomly assigned to one of three training packages. Five parents were assigned to a control group. The first training package included a seven page written manual only that contained step-by-step instructions on how to implement time out. The manual also provided correct and incorrect examples. Every participant received the manual except for the control group. The participants were allowed to take the manual home for future reference and were encouraged to read the manual at home when needed. The second training package included a 20-minute film and the manual. The videotape consisted of a review of what was contained in the manual and illustrated examples of parents modeling time out correctly. The third training package included role-playing and the manual. This group

was independently trained by a therapist who would model how to implement time out correctly. The parent would then rehearse the procedure while the therapist acted out the role of the child. Assessment of the training methods was conducted by a multiple-choice exam and by a home observational assessment of the performance of the parent implementing time out correctly. During the home observational assessment, parents applied time out to a child who was trained by a script to play the role of the problematic child rather than their child. Results of this study indicated that all three training methods were substantially better than the control group. In addition, all three methods were not significantly different from one another as indicated by the outcome measures. The authors propose that the reason for this finding may be due to the addition of the take-home manual. Further, the authors speculate that perhaps the training information provided in a typical training setting may be quickly forgotten by the time assessment is to be conducted. However, with the inclusion of a take-home manual, perhaps the manual which was the most recent available information given to the parents may be the reason for a positive finding.

In a later study, O'Dell, Quin, Alford, O'Briant, Bradlyn, and Giebenhain (1982) investigated four training methods designed to improve parents' acquisition of reinforcement skills. In addition, the experimenters looked at the relationship between acquisition of the skills and parent characteristics such as sex, race, age, marital status, SES, highest grade, income, and reading level. The four training methods compared were a written manual, an audiotaped manual, a videotape, and live individual modeling with rehearsal. Participants included 100 parents. All of the parents were randomly assigned to one of the four training methods or the control group whom received minimal instructions. Training was evaluated by direct observations of the parent's conducting the reinforcement skills with his/her child at home. Results indicated that all groups

were superior to the control group. As for the four training methods, the audiotaped manual was significantly less effective than the written manual or the live modeling with rehearsal. Moreover, no significant differences were found among the written, videotaped, or live modeling with rehearsal training methods. Of more significance was the outcome data of the training videotape. The authors observed that the videotape was the most effective training method across a range of parent characteristics. The authors hypothesize that the majority of the parents may have considered that the videotape was more important than the other training methods simply because the videotape was presented in the most efficient manner.

Rationale and Purpose for the Current Study

In a previous study (Slider, 2001) the effects of a teacher management training method comprised of written take-home packets and modeling videotapes on teacher and student behavior was evaluated. The training materials consisted of three behavior management skills that have shown to be effective in the literature. In that study, three teachers with master's degrees in speech therapy and certification in preschool education were the participants. Data collection consisted of calculating the percentage of steps correctly completed during teacher's implementation of the behavior management skills. The effects of the training method were evaluated using a multiple baseline design across participants on each behavior management skill. The effects of training were also evaluated on classroom student behavior. Results indicated substantial increases in the teachers' use of the targeted behavior management procedures following training. Student behaviors, however, did not reveal any substantial differences due to training. A possible reason for this finding is that the students' behaviors observed in the classrooms were near a ceiling for desirable behaviors. As a result, conclusive evidence for the effects of teacher training on student behavior could not be determined.

Some of the limitations of the study included failure to find student behavior effects, questionable external validity, and which components of training were the most cost effective could not be determined. As previously mentioned, student behavior effects on teacher training could not be determined due to possible ceiling effects. The external validity may be questioned due to the unusual educational level and certification status of all of the participants who participated. Last, the study examined a comprehensive method (i.e., written take-home packets and modeling videotapes) rather than its individual components. If the least costly method, the written take-home packets, was effective enough for the teacher to implement the behavior management skills by itself, this could have important ramifications for future training efforts. As a result, all of these limitations should be investigated.

As was highlighted at the outset, modest empirical literature exists examining what are effective methods to train paraprofessionals in using behavior management strategies in the classroom. The teacher, staff, and parent training literature may contribute to identifying what are the most effective and cost effective training methods employed for use by paraprofessionals.

This review suggests that the most consistently effective training methods require relatively high levels of time and resources. For example, some of the most labor intense training programs involve in-service training or live training. Less labor-intensive training methods that can be used effectively with a variety of paraprofessionals (i.e., paraprofessionals with differing characteristics) could greatly increase the availability of services. In addition, the paraprofessional training method needs to be inexpensive and flexible as well as paraprofessional directed so that the paraprofessionals could review the materials at their leisure. Lastly, the effective training method needs to look at both student and paraprofessional outcomes as a result of the training. As a result, this study explored all of these elements within a behavior

management training package that included a progression through training methods that have been shown to be effective in the literature. The training methods consisted of a written take-home manual and summary card, modeling videotapes, and performance feedback. The summary card included the steps or elements for each skill as well as the operational definitions for each step or element. The progression through these methods reflected an increasing amount of time and resources required for acquisition and implementation of the behavioral techniques.

First, these training materials (i.e., the take-home written manuals and modeling videotapes) were developed so that a wide range of paraprofessionals could use them. O'Dell and colleagues (1982) found that a videotape was the most effective means of training parents in their study. Essentially, one of the main reasons to train paraprofessionals in effective management strategies is to disseminate those strategies to a large number of paraprofessionals who would benefit from their use (Kazdin, 1981; Stolz, 1981). Second, the training materials were designed to be as time and resource efficient as possible so that they would be more cost effective relative to many of the training methods currently employed. Additionally, the skills taught through the training materials did not involve excessive time or new personnel to implement the procedures in the classroom. They simply were modifications or refinements of naturally occurring student-paraprofessional interactions. Third, with the inclusion of the written take-home manuals and summary cards and modeling videotapes, paraprofessionals had the liberty to review the materials at their leisure. As shown with a take-home manual, this advantage could contribute to positive results (O'Dell et al., 1980). Thus, the materials were flexible and paraprofessional directed in that the training was independently implemented at a time of the paraprofessionals choosing.

Last, by examining paraprofessional and student behavior, this study was able to determine the effects of the training. The research procedures included recording paraprofessional and

student behaviors that were directly related to the training implemented. In addition, by taking data on teacher-nominated students, effects of training were evaluated on students who regularly displayed problem behaviors. In other words, the study evaluated whether the paraprofessional training helped to improve student behavior. Thus, a relatively complete evaluation on the training itself and its effectiveness on classroom student behavior was evaluated.

The training materials included three classroom management techniques. Many skills could have been chosen to be included in the training materials including many of the proactive or reactive management methods discussed by Gettinger (1988). The behavior management skills included in this study were selected based on common use in education and their extensive support in the empirical literature. The three chosen skills to be examined in this study were instruction-giving (Budd et al., 1983; Rickert et al., 1988; Walker, 1993), praise (Brophy, 1981; O'Leary & O'Leary, 1977), and time out (Flanagan, Adams, & Forehand, 1979; O'Dell et al., 1980; Wahler, 1969).

Overall, the purpose of this study was to extend the work relevant to the dissemination of effective behavior management techniques to paraprofessionals. The study examined whether or not paraprofessionals' behavior changes in the classroom as a result of the different methods of training. The dependent variables included the paraprofessional's percentage of steps correct for instruction-giving, praise, and time out. The independent variables were the different methods of training (i.e., the written take-home manuals and summary cards, modeling videotapes, and performance feedback). Secondly, this study also examined the effects of paraprofessional training on student behavior descriptively.

Method

Participants and Setting

The participants included four female paraprofessionals who were employed as paraprofessionals at a preschool facility for children with speech and language delays. All four paraprofessionals were undergraduate students majoring in Communication Disorders at a local university. Two of the paraprofessionals, Jan and Linda, were Caucasian. Kim, another paraprofessional, was Indian, and the other paraprofessional, Ellen, was Asian. None of the participants had previous behavior management training.

Sessions were conducted in the regular classrooms at the preschool facility. Each classroom consisted of one teacher, a graduate student in speech pathology from a local university, one to two paraprofessionals (i.e., teacher aides), and between 4 to 8 students per day between the ages of 2 and 5. All of the students in the preschool classrooms were previously diagnosed with mild to moderate language/speech delay.

Every session took place either during instructional art time, structured snack time followed by individual puzzle and reading time, or during structured independent playtime followed by whole group instructional time (i.e., circle time) in the morning at the preschool facility for speech-delayed children. However, the observational setting was predetermined by each of the classroom teachers prior to data collection. Once the observational setting was selected, data collection was only conducted in that setting. As a result, observational data were collected in the same setting from session to session. All of these activities required the paraprofessional to interact with the children. In other words, these activities involved asking the students to respond to directions and questions posed by the paraprofessionals. All of the activities were also part of the regular routine of the preschool facility. They were specifically

chosen so that the paraprofessionals were the primary individuals in charge of the students as well as the primary individuals instructing the students.

Classroom One and Two. Sessions were conducted in both Jan and Kim's classrooms during instructional art time. Art time took place in the regular classroom with a circular table and chairs. Art activities included painting, coloring, drawing, molding with play-doh, etc.

Classroom Three. Sessions were conducted in Ellen's classroom during structured snack time followed by individual puzzle and reading time. Snack time took place in the regular classroom with a circular table and chairs. Snack time involved each child being asked to choose which cookie, chip, etc. and drink the child would like for the day followed by more opportunities to ask for the individual snack items. Thus, for instance, only a few chips were given to the student who asked for them. If the student wanted more chips, then the paraprofessional would request that the student ask for the item by name. Structured snack time was followed by individual puzzle and reading time. Individual puzzle and reading time took place on a square piece of carpet in the classroom. The child was required to choose a puzzle or book and come to the carpet independently. Once the child reached the carpet, he/she was required to either work on the puzzle or read the book to himself/herself individually.

Classroom Four. Sessions were conducted in Linda's classroom during structured independent playtime followed by whole group instructional time. Structured independent playtime occurred in the classroom. Structured independent playtime activities included playing hopscotch or playing with interactive toys with the paraprofessionals. Whole group instruction occurred on a carpeted area of the classroom with chairs. Whole group instruction activities were interactive and included a song, a story, and a speech-based activity.

Materials

The behavior management training materials presented three behavior management skills that have been shown to be effective in the literature as well as the rationale and examples for each skill. The skills included instruction-giving, praise, and time out procedures. Included in the written training materials for each skill were the steps or elements shown to be useful for managing children as well as the operational definitions for each step or element. This was provided at the end of each package as a summary guide for each skill. In addition, a summary card was delivered to the paraprofessionals with the steps or elements and operational definitions included. The summary card was the size of an index card (i.e., 3" x 5").

A modeling videotape was also provided in the second treatment phase to reiterate the rationale and provide role-play examples. The role-play examples included both correct and incorrect examples as well as the explanations for the examples. Participants in the role-play examples included the experimenter and a confederate posing as the child. At the end of each video, a self-test was provided. The self-test consisted of questions read by the commentator of the video. The self-test reflected on missing steps or elements, if any, that were shown during additional role-play examples. Answers to these questions were provided at the close of the self-test. The video for each skill was approximately 15-25 minutes in length.

In addition, a written test consisting of questions pertaining to the knowledge of each management skill was administered before and after each training condition. Once the paraprofessional received all of the questions correct on one of the management skills, she was not required to retake the test again. Therefore, if the paraprofessional received a score of 100% of the questions correct that pertained to instruction-giving after the first training condition (i.e., the written take-home manual and summary card condition), then she was not

required to retake the test later. The written test served as a basis of knowledge gained by the implementation of each training condition. The written test is presented in Appendix A.

The behavior management training materials served as a tool for managing and preventing the continuance of overall problematic behaviors in the classroom. The training materials may be obtained from the author.

Response Definitions

Paraprofessional Behaviors. Three paraprofessional behaviors were recorded.

Paraprofessional behaviors coded were instruction-giving, praise, and time out steps completed correctly.

Instruction-giving was defined as a paraprofessional delivery of a request of the entire class or specifically requesting a child to respond. The four steps and definitions for effective instruction-giving included a modified version based on Budd et al. (1983) and Rickert et al. (1988). The only significant modification involved the waiting period for compliance to occur before any further intervention was to occur. Roberts, McMahon, Forehand, and Humphreys (1978) demonstrated in a child compliance study that after distributing single and specific instructions followed by a 5-sec waiting period that included the parent not intervening with the child verbally or physically, the child's compliance rate increased. As a result, the waiting period in this study was a compromise between the Roberts et al. (1978) study and the Budd et al. (1983) study where the authors used a waiting period of 10 s. Table 1 presents the steps to instruction-giving and the relevant operational definitions for each step.

Praise was defined as positive verbal responses to a student's or group of students' desirable behavior or academic performance. The elements and the definitions for praise were

adapted from O’Leary and O’Leary (1977). Table 2 displays the three elements and their operational definitions for each element.

Table 1
Instruction-giving

<u>Steps</u>	<u>Operational Definition</u>
1. Get child's attention, provide a clear instruction, and wait 5-10 seconds	1. The paraprofessional states the child’s name prior to issuing a request and/or the child’s face is oriented toward the paraprofessional. The paraprofessional then states one request and waits without talking, helping the child, or threatening the child
2. Model or provide a prompt and wait 5-10 seconds	2. The paraprofessional models the appropriate response or provides a prompt and waits for the child to respond
3. Guidance	3. The paraprofessional physically guides the child to comply with the request
4. Feedback	4. The paraprofessional provides feedback by verbal or motor communication that follows a student’s response to a paraprofessional’s request. The feedback clearly communicates whether or not the student’s response was correct or acceptable

Table 2
Praise

<u>Elements</u>	<u>Operational Definition</u>
1. Contingent	1. Must be contingent upon performance of the behavior to be reinforced
2. Specific	2. Must specify the particulars of the behavior to be reinforced (e.g., “I like the way Sally is sitting in her chair.”)
3. Sincere/Variety	3. Must sound sincere (i.e., without frowning, grimacing, etc.) and must contain variety for every third response (i.e., the paraprofessional can not use one stock phrase for every third correct response)

Time out was defined as removing a child from the opportunity to earn reinforcement. Time out included both exclusionary and nonexclusionary time out and was at the discretion of the paraprofessional on which to use in the classroom. The six steps and definitions for time out procedures included a modified version based on Budd et al. (1983) and Rickert et al. (1988). Table 3 displays the steps and their relevant operational definitions below. Note that each of the behavior management training methods for time out included the precaution that if after using time out, the child appeared to get worse rather than better, then seeking consultation was recommended.

Table 3

Time out

<u>Steps</u>	<u>Operational Definition</u>
1. Get child's attention and state misbehavior	1. The paraprofessional states the child's name and/or the child's face is oriented toward the paraprofessional. The paraprofessional then states a one-sentence statement describing the child's misbehavior. The paraprofessional is not to use any other verbal cues (e.g., lecture, threaten, scold, plead)
2. Say "Time out" and guide the child to time out within 15 seconds if necessary	2. The paraprofessional announces time out and points or physically helps the child if necessary to time out without talking within 15 seconds of announcing time out
3. Set the timer for 3 minutes	3. The paraprofessional sets a timer immediately after placing the child into time out for 3 minutes
4. Give no attention during time out and if the child leaves the time out area, redirect the child by guiding the child back to time out	4. The paraprofessional does not interact verbally with the child during time out or gives attention by direct observation or physical proximity for more than 2 seconds at a time except when redirecting the child
5. Announce end of time out	5. The paraprofessional says, "Time in" 2-4 minutes after time out has been served
6. No comments regarding misbehavior	6. The paraprofessional does not engage in talking about the child's misbehavior after time out has been served

Student Behaviors. Three to four student behaviors were recorded exclusively for the two to three teacher nominated students in each classroom. The student behaviors that were recorded in Jan and Kim's classrooms (i.e., during instructional art time) included off-task, disruption, noncompliance, and appropriate behavior. All student behaviors except off-task were recorded in Ellen and Linda's classrooms (i.e., during structured snack time followed by individual puzzle and reading time and structured independent playtime followed by whole group instructional time, respectively). Off-task was defined as looking away from the instructional task, book, puzzle, teacher or paraprofessional for more than 3 seconds. Disruption was defined as screaming (i.e., talking louder than in a conversational volume), kicking, biting, crying, whining, pushing, spitting, hitting, tantruming, touching a peer, teacher, or paraprofessional without permission, touching instructional materials or another's snack, napkin, or drink without permission, destroying or throwing objects, getting out of seat for more than 3 seconds without permission, or taking objects from a peer, teacher, or paraprofessional without permission. Noncompliance was defined as failure to attempt a requested action made by the paraprofessional within 5 seconds. Appropriate behavior was defined as the absence of off-task, disruptive, or noncompliance behavior for the entire 10-s interval when data collection was to be conducted in Jan and Kim's classrooms (i.e., during instructional art time). When data collection was conducted in Ellen and Linda's classrooms (i.e., during structured snack time followed by individual puzzle and reading time or during structured independent playtime followed by whole group instruction), appropriate behavior was defined as the absence of disruptive and noncompliance behavior for the entire 10-s interval.

Data Collection Procedures

Each day two 15-minute sessions were conducted. Each session was segmented into three five-minute parts during which one of the three paraprofessional behaviors was observed. Thus, five minutes of recording instruction-giving only was conducted. Then, five minutes of recording praise only was conducted. The last five minutes included recording time out procedures exclusively.

A partial interval recording procedure was used to record instruction-giving, praise, and time out. To permit time for recording, only the first instance of each behavior during each 20-s interval was coded. If the first paraprofessional behavior did not end in the same interval, the subsequent steps for that behavior were still recorded in that interval. For example, if the observer was coding instruction-giving, then the first instruction was coded only in the first interval. If that instruction was not completed within that interval, then that interval was continued until the steps were completed. The subsequent interval then was not eligible for coding. However, if that instruction was completed within the first interval, then the next instruction was not coded if it began in the same interval as the first instruction. At the beginning of the next interval, a new instruction then could have been coded.

Despite several observations, time out did not occur during baseline sessions. Because time out did not occur, time out was observed using role-play interactions. Role-play interactions were used to examine how the paraprofessional implemented time out. A confederate posed as the child and the paraprofessional was asked to respond appropriately to the “child’s” serious misbehavior under scripted simulated conditions. This role-play procedure has been used previously by Budd et al. (1983) where they trained parents to implement time out procedures correctly.

Event recording was used to code time out steps performed correctly during the role-play interactions. Two time out sessions were conducted each day in a separate classroom. The classroom contained two circular tables, several chairs, a carpeted area, and age-appropriate items (e.g., books, balls, toys, etc.). Two confederates and each paraprofessional participated during the simulated conditions.

Data collection was conducted by using observation sheets. On each of the observer sheets, the paraprofessional behavior to be recorded was indicated at the top of each rectangle. Under each paraprofessional behavior, the relevant number of steps possible for each paraprofessional behavior were listed. For example, the data sheet for instruction-giving contained 4 available slots for the 4 steps. If a paraprofessional behavior step was present, a tally mark was recorded in the appropriate slot. If the following relevant steps were not required, then an “N” was displayed. If a paraprofessional behavior step was not present and should have been exhibited or if the behavior was present and should not have been exhibited, an “X” was displayed. Data collection forms are presented in Appendix B.

A second observer recorded student behaviors at the same time the paraprofessional behaviors were being recorded for at least 45 percent of the total sessions. Student behaviors were observed for 10 minutes where each session was segmented into two five-minute parts. A 10-s partial interval recording procedure was used to record off-task, noncompliance, and disruption. Appropriate behavior was recorded using 10-s whole intervals. If one of the student behaviors occurred, the observer placed a checkmark beside the relevant behavior displayed. For purposes of recording student behavior, the observer rotated observations from one of the teacher nominated students to another teacher nominated student in a systematic manner once every minute. The rotation began with the child seated in the left most position to

the data collectors. Then, the data collectors rotated to each of the teacher nominated child on the right once every 60 s. This process continued until the end of the 10-minute session.

Inter-observer Agreement (IOA)

For purposes of IOA, two observers independently and simultaneously observed and recorded each paraprofessional behavior. Two different observers independently and simultaneously recorded each student behavior that was being recorded. IOA was conducted for a minimum of 25% of the sessions conducted. IOA was calculated for each session by dividing the number of agreements by the number of agreements plus disagreements for each interval and multiplying the result by 100%.

IOA was collected on Jan while observing instruction-giving for 48.28% of the sessions. For praise, IOA was collected for 34.48% of the sessions. IOA was collected for 90.91% of the sessions while observing time out. Mean IOA for instruction-giving was 94.52% (range, 83.33% to 100%). Mean for praise was 98.22 (range, 95.56% to 100%). Mean IOA for time out was 95% (range, 83.33% to 100%).

IOA was collected on Kim while observing instruction-giving for 33.33% of the sessions. IOA was collected for 58.82% of the sessions for praise and 90.91% for time out sessions. Mean IOA for instruction-giving was 96% (range, 86.67% to 100%). Mean IOA for praise was 98.89% (range, 93.33% to 100%). Mean IOA for time out was 91.67% (range, 66.67% to 100%).

IOA was collected on Ellen while observing instruction-giving for 37.5% of the sessions. For praise, IOA was collected for 52.38% of the sessions. IOA was collected for time out for 46.67% of the sessions. Mean IOA for instruction-giving was 98.06% (range, 90% to 100%).

Mean IOA for praise was 99.39% (range, 93.33% to 100%). Mean IOA for time out was 90.47% (range, 83.33% to 100%).

IOA was collected on Linda while observing instruction-giving for 61.54% of the sessions. For praise, IOA was collected for 58.82% of the sessions. IOA was collected for 68.42% of the sessions while observing time out. Mean IOA for instruction-giving was 95.83% (range, 83.34% to 100%). Mean IOA for praise was 98.22% (range, 93.33% to 100%). Mean IOA for time out was 91.03% (range, 66.67% to 100%).

Two different observers independently and simultaneously recorded each student behavior for at least 25% of the total sessions. IOA was collected on Jan's teacher nominated students for 37.5% of the sessions. Mean IOA was 95.84% (range, 91.67% to 100%) for off task behavior, 81.67% (range, 75% to 86.67%) for disruption, 96.39% (range, 93.33% to 100%) for noncompliance, and 81.94% (range, 78.33% to 86.67%) for appropriate behavior. IOA was collected on Kim's teacher nominated students for 47.06% of the sessions. Mean IOA was 94.79% (range, 85% to 100%) for off task behavior, 93.13% (range, 85% to 100%) for disruption, 98.54% (range, 91.67% to 100%) for noncompliance, and 88.96% (range, 80% to 98.33%) for appropriate behavior. IOA was collected on Ellen's teacher nominated students for 33.33% of the sessions. Mean IOA was 98.61% (range, 96.67% to 100%) for disruption, 100% (range, 100% to 100%) for noncompliance, and 98.89% (range 96.67% to 100%) for appropriate behavior. For Linda's teacher nominated students, IOA was collected for 38.89% of the sessions. Mean IOA was 88.81% (range, 66.67% to 100%) for disruption, 95.47% (range, 83.33% to 100%) for noncompliance, and 88.57% (range, 65% to 100%) for appropriate behavior.

Experimental Design and Data Analysis

A multiple baseline across paraprofessionals was conducted to evaluate the efficacy of the behavior management training methods. The percentage of steps or elements completed correctly for each paraprofessional behavior was calculated. For determining the efficacy of the behavior management training methods, visual inspection of the graphs was used once implementation of each training method was introduced. For student behaviors, the percentage of off-task, disruption, noncompliance, and appropriate student behavior was calculated for observations conducted in Jan and Kim's classrooms (i.e., during instructional art time). For observations conducted in Ellen and Linda's classrooms (i.e., during structured snack time followed by individual puzzle and reading time and structured independent play time followed by whole group instruction), the percentage of disruption, noncompliance, and appropriate student behavior was calculated. These percentages served to descriptively examine the extent to which progression through the training methods influenced student behavior as a result of the implementation of the behavior management training methods.

Procedure

Teacher Interview and Parent Consent. The purpose of the interview was to establish rapport with each teacher, determine the best times to conduct the observations, and provide an overview of the project. In addition, the lead consultant asked each of the teachers to nominate two to three students who were the most noncompliant for data collection on student behaviors. As a result, student behaviors were recorded on a different number of students from session to session. This insured that data collection would persist regardless of student absences and/or withdrawals from the speech and hearing program facility. Each teacher was also given parent

consent forms for the teacher nominated students to take home and be signed by the parents. The parent consent form is presented in Appendix C.

Paraprofessional Interview and Consent. The consultant conducted an interview to establish rapport with the paraprofessionals. The interview consisted of the consultant providing the rationale of the research project and an opportunity to obtain informed consent from the paraprofessionals (see Appendix D). Adult participants were recruited on a voluntary basis and were free to withdraw from the project at any time.

Baseline. During baseline, the paraprofessional was instructed to conduct the activity as she normally would. Data was collected on all paraprofessional and student behaviors. The initial baselines for paraprofessional behaviors provided information about the extent to which each paraprofessional implemented the behavior management skills examined in this study (i.e., instruction-giving, praise, and time out) prior to the exposure of the behavior management training methods. Visual inspection of the observational baseline data was the basis for the introduction of each training skill. Student behaviors were monitored for at least 45 percent of the total sessions during baseline. This served as a basis for comparing problematic behavior prior to the implementation of the training methods to problematic behavior once exposure to the skills had been introduced.

As previously described, role-play interactions were used to examine how the paraprofessional implemented time out because of the low rate of naturally occurring time out. A confederate posed as the child and the paraprofessional was asked to respond appropriately to the “child’s” serious misbehavior under simulated conditions. This was conducted in order to see how the paraprofessional implemented time out without exposure to the behavior

management training methods. Descriptions of the simulated sessions are presented in Appendix E.

Once the data on the first paraprofessional behavior had stabilized during baseline, a written test was administered prior to the first day of training implementation. The written test contained questions about knowledge of the behavior management training skills.

Administration time approximated 15-20 minutes.

Written Take-home Manual and Summary Card. After baseline, a written take-home manual and summary card was introduced to the most stable behavior management skill baseline for each paraprofessional. The researcher delivered the written manual and summary card to the paraprofessional and asked the paraprofessional a time that each paraprofessional could review the materials in front of the researcher in case any questions arose and to insure that the materials were reviewed. After the materials were reviewed, the researcher then requested that the paraprofessional review the contents at home as well. The written manual included a telephone number to contact the researcher if any further questions arose. Once the paraprofessional reported to the researcher that the written manual and summary card had been examined, the written test was administered again with questions only pertaining to the behavior management skill reviewed in the materials. Administration time for the written test approximated 5-10 minutes. In addition, the first training phase began for that particular paraprofessional behavior. Meanwhile, the other two paraprofessional behaviors remained in baseline. Visual inspection of the remaining paraprofessional behaviors determined when training should be introduced for those behaviors.

Modeling Videotape. Once a declining trend appeared or if the paraprofessional behavior stabilized without reaching high levels of correct responding for any of the paraprofessional

behaviors during the first treatment phase, then the modeling videotape method of training was introduced. The researcher then delivered the modeling videotape to the paraprofessional and asked the paraprofessional a time that each paraprofessional could review the materials in front of the researcher in case any questions arose and to insure that the videotape was reviewed. The researcher then requested that the paraprofessional review the contents at home as well. Once the paraprofessional had reported to the researcher that the videotape had been reviewed, the written test was administered again with questions only pertaining to the behavior management skill reviewed in the videotape. Administration time for the written test approximated 5-10 minutes. In addition, the second treatment phase began for that particular paraprofessional behavior. Meanwhile, the other two paraprofessional behaviors remained in the conditions they were in prior to delivering the modeling videotape. Visual inspection of the remaining paraprofessional behaviors determined when and if the second training phase would occur for those behaviors.

Performance Feedback. Once a declining trend appeared or if the paraprofessional behavior stabilized without reaching high levels of correct responding for any of the paraprofessional behaviors during the second treatment phase, then performance feedback was introduced. Performance feedback occurred after each observation and included a review of the steps required for the paraprofessional behavior, presenting the paraprofessional with her data of the steps completed for that behavior, providing positive feedback for correct steps, providing corrective feedback by reviewing each step omitted or implemented incorrectly, and addressing any questions or comments. A researcher's checklist of the steps required to review with each paraprofessional during the performance feedback phase is presented in Appendix F. The duration of the feedback sessions depended on the amount of corrective feedback needed.

However, the amount of time required did not entail more than 5 minutes. As for the other two paraprofessional behaviors, they remained in the conditions they were in prior to introducing the performance feedback phase. Visual inspection of the remaining paraprofessional behaviors determined when and if the third treatment phase should occur for those behaviors. Once the performance feedback phase was complete for one of the behavior management skills, the written test was administered again with questions only pertaining to that behavior management skill for those paraprofessionals that had not obtained a score of 100% previously. Administration time for the written test approximated 10-15 minutes.

Results

Written Test

For the written test, Jan obtained a score of 33.33% on the instruction-giving questions, 60% on the praise questions, and 28.57% on the time out questions prior to the first day of training implementation for all of the paraprofessional behaviors. After the first training condition (i.e., the written take-home manual and summary card condition), the written test results were 100% for the instruction-giving questions, 80% for the praise questions, and 85.71% for the time out questions. After the second training condition (i.e., the modeling videotape condition), the written test results were 100% for the praise questions and 100% for the time out questions. Prior to the first day of training implementation for all of the paraprofessional behaviors, Kim obtained a written test score of 33.33% on the instruction-giving questions, 20% on the praise questions, and 14.29% on the time out questions. After the first training condition, Kim obtained a test score of 100% for the instruction-giving questions, 20% for the praise questions, and 71.43% for the time out questions. After the second training condition, Kim obtained a test score of 80% for the praise questions and 85.71% for the time out questions. After the third training condition (i.e., the performance feedback condition), Kim obtained a test score of 100% for the praise questions. Ellen obtained a test score of 33.33% on the instruction-giving questions, 60% on the praise questions, and 42.86% on the time out questions prior to any training implementation on all of the paraprofessional behaviors. After the first training condition, Ellen obtained a test score of 66.67% for the instruction-giving questions, 100% for the praise questions, and 85.71% for the time out questions. After the second training condition, Ellen obtained a test score 100% for the instruction-giving questions and 100% for the time out questions. Linda obtained a test score

of 33.33% on the instruction-giving questions, 60% of the praise questions, and 14.29% on the time out questions prior to any training implementation on all of the paraprofessional behaviors. Linda obtained a test score of 100% on the instruction-giving questions, 80% on the praise questions, and 57.14% on the time out questions after the first training condition. After the second training condition, Linda obtained a test score of 80% on the praise questions and 100% on the time out questions. When averaged across all of the paraprofessionals, scores on the written test increased from 33.33% correct prior to any training to 91.67% after the first training condition for instruction-giving. The second training condition resulted in written test scores increasing to an average of 100%. For praise, the average increased from 50% correct to 70% after the first training condition, 95% after the second training condition, and then 100% after the third training condition. For time out, the average increased from 25% correct to 75% after the first training condition and 96.43% after the second training condition.

Paraprofessional Behavior Data

Figures 1, 2, and 3 display the percentage of steps correct session-by-session for each paraprofessional behavior. These figures indicate changes in the paraprofessionals' behavior due to different training conditions. Overall, the teachers showed increased levels of total correct performance following different training conditions.

Figure 1 displays the percentage of steps correct for instruction-giving. During baseline, Kim's instruction-giving exhibited a moderately low level of percentage of steps correct with instability. The mean during baseline was 47.08% (range, 37.5% to 58.33%). After Kim was provided with the written take-home manual and summary card, she exhibited no change in her delivery of instructions. The first training condition was followed by a mean of 44.21% (range, 33.33% to 60%) for steps completed accurately. After Kim was provided with the modeling

videotape, further instability was evident with no change overall in performance. The second training condition resulted in a mean of 53.33% (range, 31.25% to 83.33%). After the performance feedback was implemented, Kim's instruction-giving resulted in a slight unstable increase in level change with a mean percentage of 63.17% (range, 50% to 81.82%). Jan's baseline was moderately unstable with a mean percentage of steps correct of 48.74% (range, 38.1% to 56.25%). Stability and an increased level change were examined once the first training condition was implemented. The mean percentage of steps correct during the first training phase was 79.55% (range, 73.08% to 84.21%). The second training phase resulted in a decrease in level change and a mean percentage of 61.47% (range, 48.65% to 72.73%). However, sessions 16, 17, 20, and 21 were influenced by historical factors. During these sessions, the paraprofessional was conducting class on her own. The teacher was absent when these data points were collected. In addition, for sessions 16 and 17, the paraprofessional had to place a child in time out while conducting class. As a result of these factors, her performance may have been affected in contrast to her true performance if these factors did not exist. The third training phase resulted in similar findings to the first training phase with a mean percentage of 81.54% (range, 69.23% to 90.48%). Ellen's instruction-giving during baseline was moderately unstable. The mean percentage of steps correct was 60.68% (range, 50% to 72.73%). The first training condition resulted in an increased level change with a mean percentage of steps correct of 86.59% (range, 72.72% to 100%). The second and third training conditions resulted in no change in performance overall from the first training condition. Mean percentage of steps correct for the second training phase was 84.58% (range, 58.33% to 93.75%) and for the third phase was 87.14% (range, 69.23% to 100%). Linda's instruction-giving was moderately unstable during baseline. The mean percentage of steps correct was

51.54% (range, 34.48% to 87.5%). A slight unstable increase in level change was examined once the first training condition was implemented. The mean percentage of steps correct during this training phase was 67.48% (range, 50% to 86.67%). Stability and an increased level change were evident once the second training phase was implemented. The mean percentage of steps correct during this training phase was 79.32% (range, 75% to 83.33%). The last training phase resulted in a small increase in level and a mean percentage of 85.34% correct (range, 75% to 91.67%).

Figure 2 displays the percentage of steps correct for praise. Jan's praise during baseline showed stability with a mean of 66.67% (range, 66.67% to 66.67%). Once the written take-home manual and summary card phase was implemented, a positive change in level was present with moderate stability. The mean percentage of steps correct for Jan was 83.77% (range, 77.78% to 91.67%). The second and third training conditions resulted in no change in performance overall from the first training condition. Mean percentage of steps correct for the modeling videotape phase was 85.92% (range, 73.33% to 100%) and for the performance feedback phase was 89.58% (range, 83.33% to 100%). Linda's baseline was stable with a mean percentage of steps correct of 66.67% (range, 66.67% to 66.67%). The first training condition resulted in a slight overall increase with an initial increase in level and then a decrease in slope. The mean percentage of steps correct was 69.45% (range, 33.33% to 100%). The modeling videotape phase resulted in another slight increase in level and a mean percentage of steps correct of 77.78% (range, 66.67% to 83.33%). The performance feedback phase resulted in a stable increase in level and mean percentage of 100% (range, 100% to 100%). Kim's baseline for praise was moderately unstable with a mean percentage score of 74.89% (range, 66.67% to 83.33%). Kim's performance increased slightly in level during the

first training phase. Kim's mean implementation was 88.24% (range, 75% to 100%). During the second training phase, Kim's performance indicated a slight increase in level and stability with a performance mean of 98.61% (range, 91.67% to 100%). Ellen's baseline was unstable and resulted in a mean percentage score of 81.25% (range, 66.67% to 100%). The first training phase resulted in a relatively stable decrease in percentage of steps correct for praise. The mean percentage of steps correct was 73.89% (range, 66.67% to 77.78%). The second training phase resulted in an initial unstable increase in slope and then stabilized at 100% with a mean percentage score of 91.53% (range, 66.67% to 100%).

Figure 3 displays the percentage of steps correct for time out. For Jan's implementation of time out, baseline was low and stable with a mean percentage score of 0% (range, 0% to 0%). After the implementation of the written take-home manual and summary card phase, substantial increases in trend and level was exhibited. Moderate stability was also present. The mean performance score after the first training phase was 58.34% (range, 33.33% to 66.67%). After the modeling videotape training phase, Jan's performance was substantially increased. Stability and an increase in level were also present. The mean performance score resulted in 100% (range, 100% to 100%). During baseline, Ellen's implementation of time out was also low and stable with a mean of 0% (range, 0% to 0%). During the first training phase, Ellen's implementation of time out resulted in a substantial increasing trend and stabilized at 83.33% at the eighth session. Her mean implementation was 83.33% (range, 66.67% to 100%). Ellen's second phase resulted in a stabilized performance of 100% (range, 100% to 100%). As for Kim, her baseline performance decreased overtime with a mean performance score of 8.34% (range, 0% to 16.67%). The written take-home manual and summary card resulted in a substantial increase in level and a change in trend. Kim's mean implementation during this

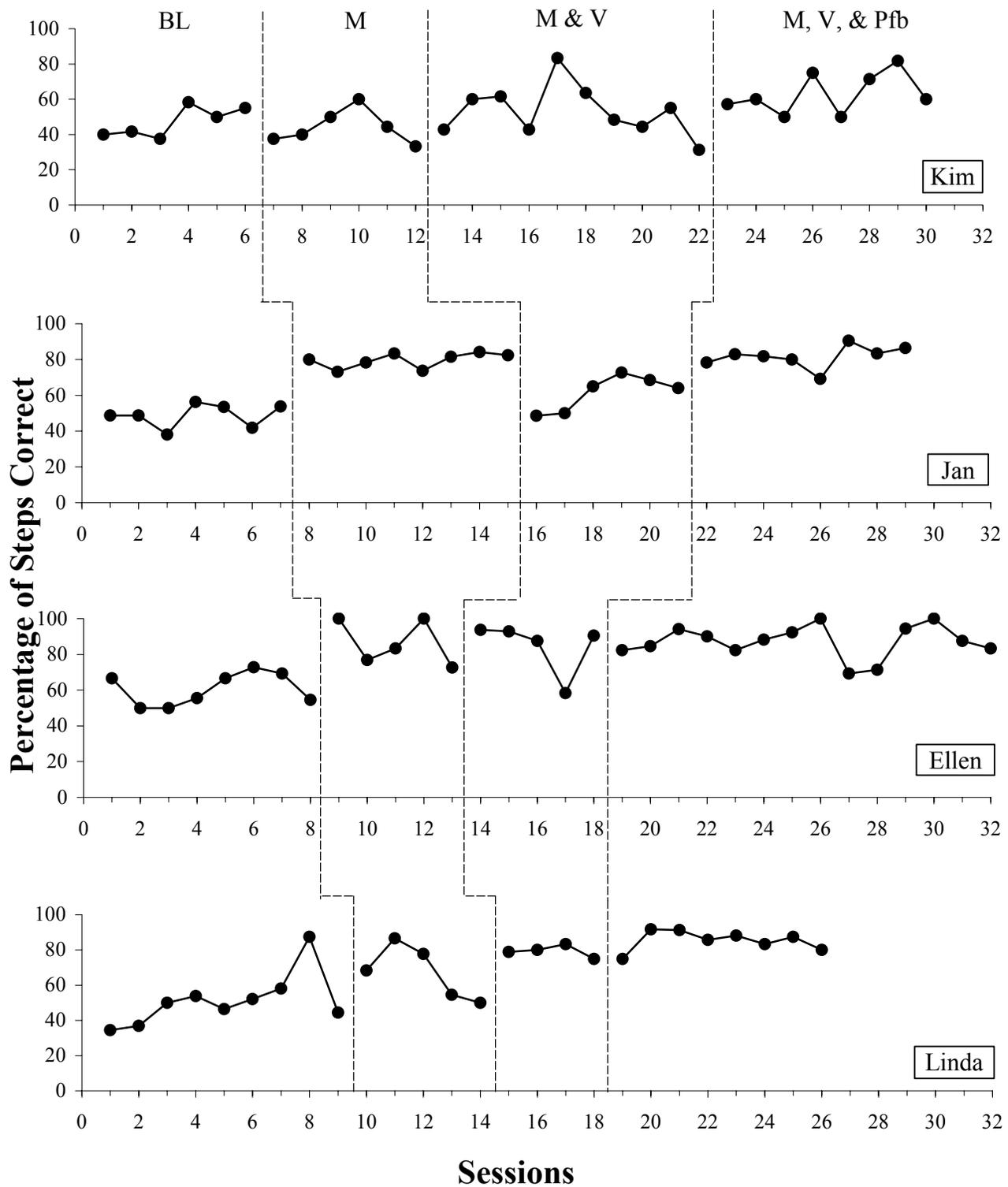


Figure 1. Percentage of Steps Correct for Paraprofessional Instruction-giving Behavior during Baseline (BL), Written Manual and Summary Card (M), and Modeling Videotape (V), and Performance Feedback (Pfb) Conditions.

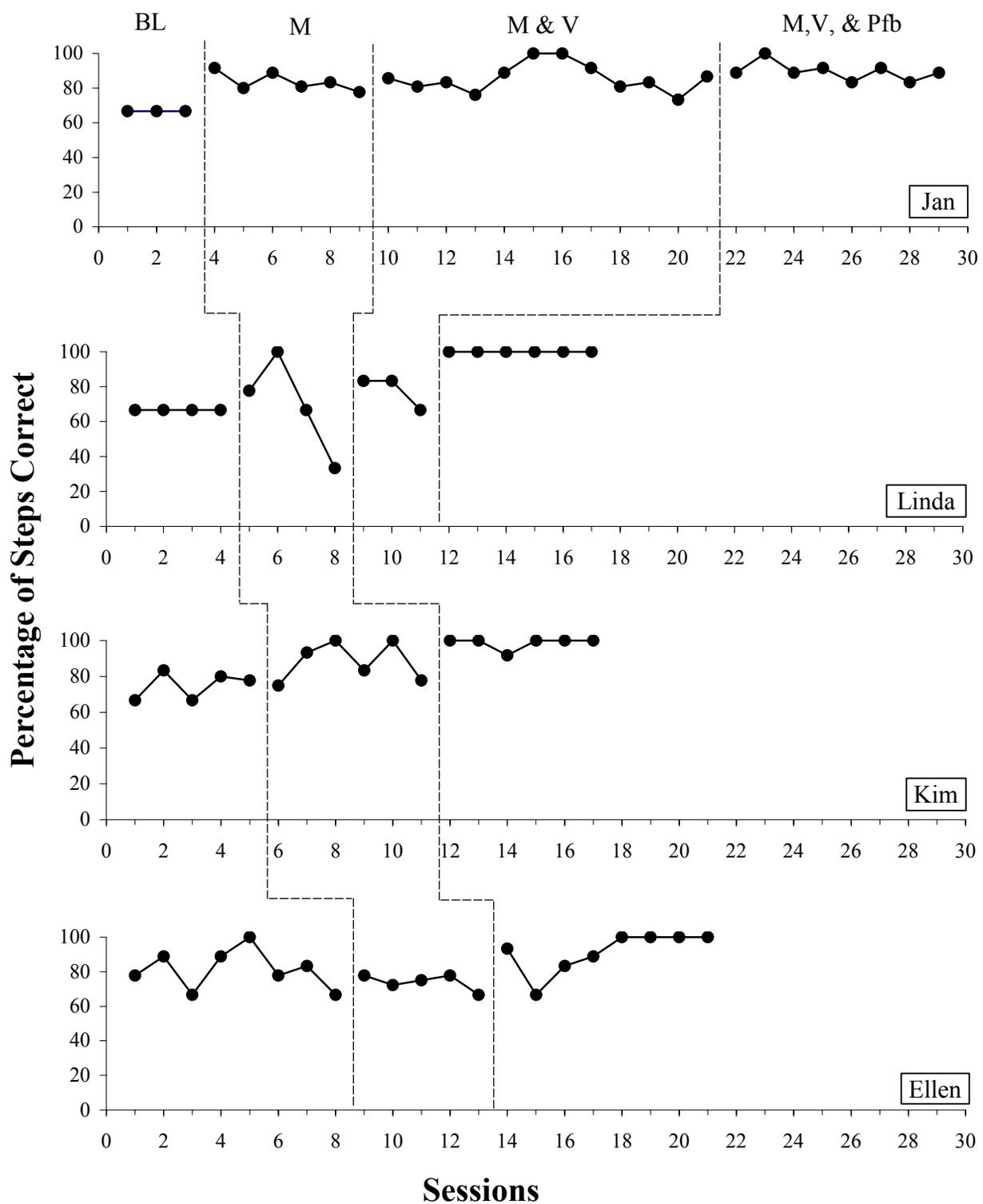


Figure 2. Percentage of Steps Correct for Paraprofessional Praise Behavior during Baseline (BL), Written Manual and Summary Card (M), and Modeling Videotape (V), and Performance Feedback (Pfb) Conditions.

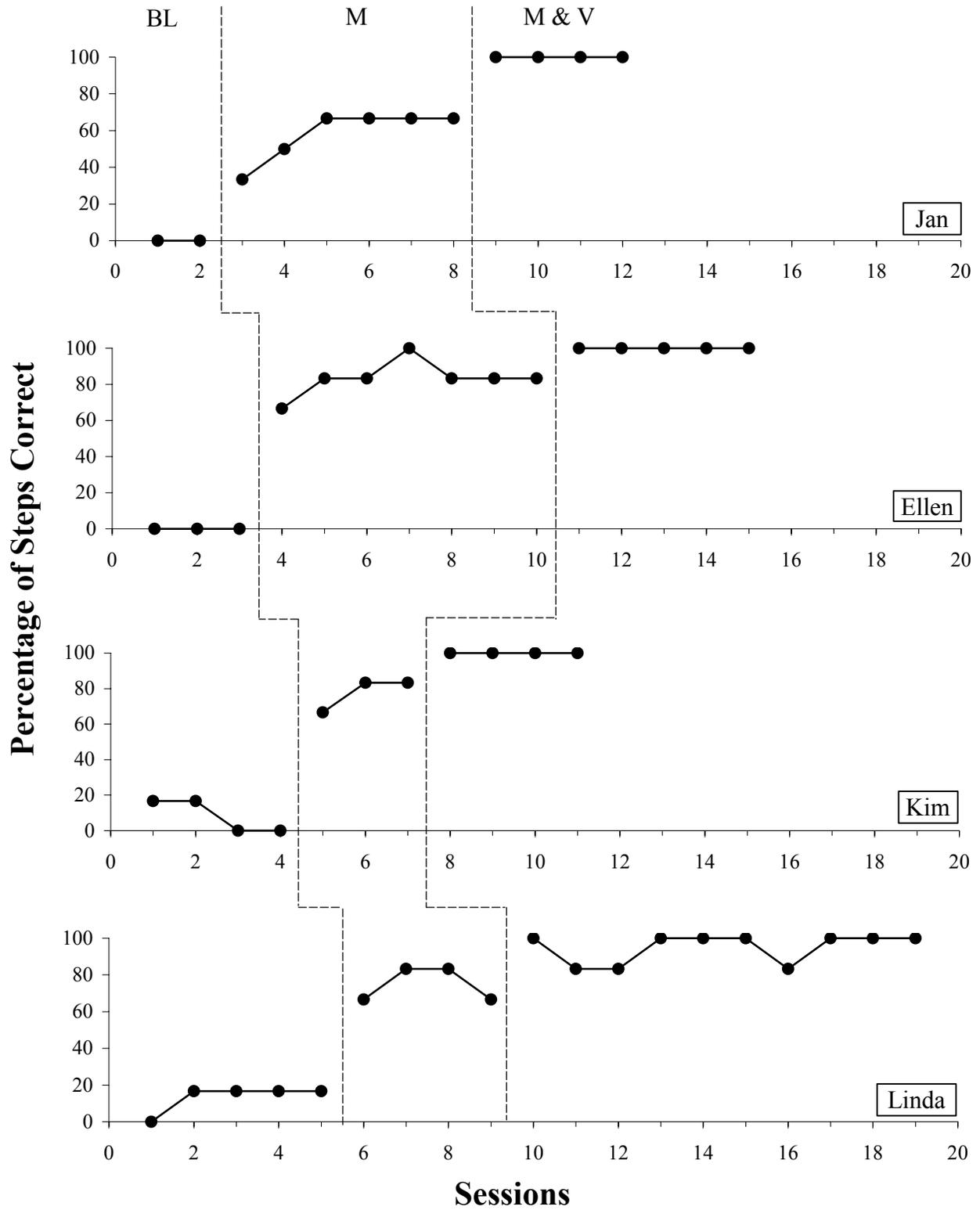


Figure 3. Percentage of Steps Correct for Paraprofessional Time Out Behavior during Baseline (BL), Written Manual and Summary Card (M), and Modeling Videotape (V) Conditions.

phase was 77.78% (range, 66.67% to 83.33%). The modeling videotape resulted in another substantial increase in level with stability. The mean percentage of steps correct was 100% (range, 100% to 100%). Linda's implementation of time out during baseline exhibited initial instability for the first two sessions. Then, the baseline stabilized at 16.67%. Overall, the baseline mean was 13.34% (range, 0% to 16.67%). During the first training phase, Linda's implementation was moderately unstable and resulted in an overall substantial increase in level. Her mean implementation during the first training phase was 75% (range, 66.67% to 83.33%). The second training phase resulted in further moderate instability with an overall increase in level. Her mean implementation increased to 95% (range, 83.33% to 100%).

Student Behavior Data

Figures 4, 5, 6, and 7 represent the data collected on the students in each of the paraprofessional's classrooms. In addition, each of the paraprofessional's performance for instruction-giving and praise are displayed above each of their students' data. These data are shown to descriptively show the relationship between the paraprofessional and student behaviors.

For all of the graphs, student behaviors were stable throughout data collection irrespective of the progression through the training methods. Student behaviors, off task, disruption, and noncompliance, were at low levels throughout data collection. In addition, appropriate behavior was at high levels for all four paraprofessionals' classrooms. As a result, training method effects on student behavior could not be determined because a ceiling effect on desirable behaviors was indicated.

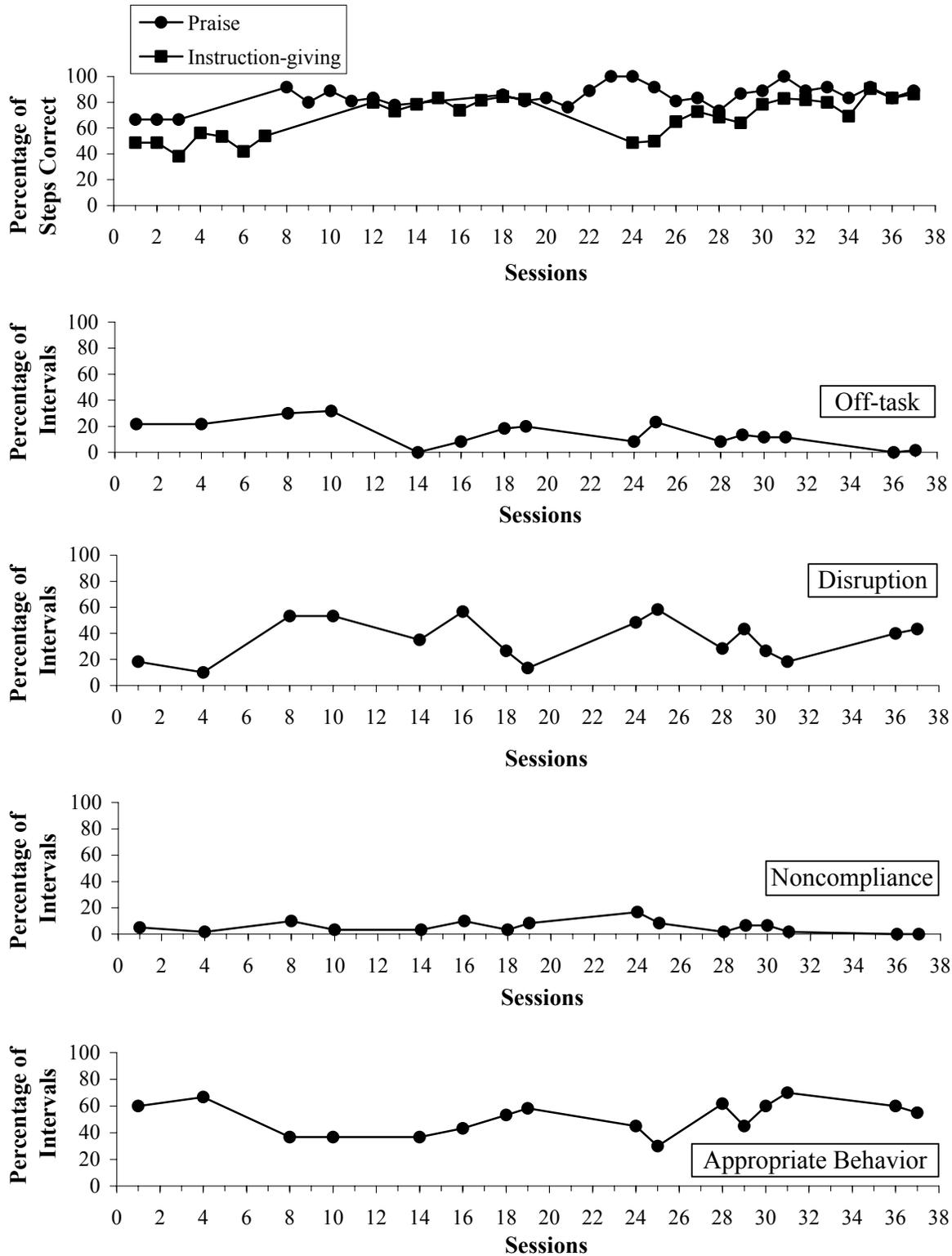


Figure 4. Jan's Percentage of Steps Correct for Instruction-giving and Praise (top panel). Percentage of Intervals for Off-task, Disruption, Noncompliance, and Appropriate Behavior for the Teacher Nominated Students in Jan's Classroom.

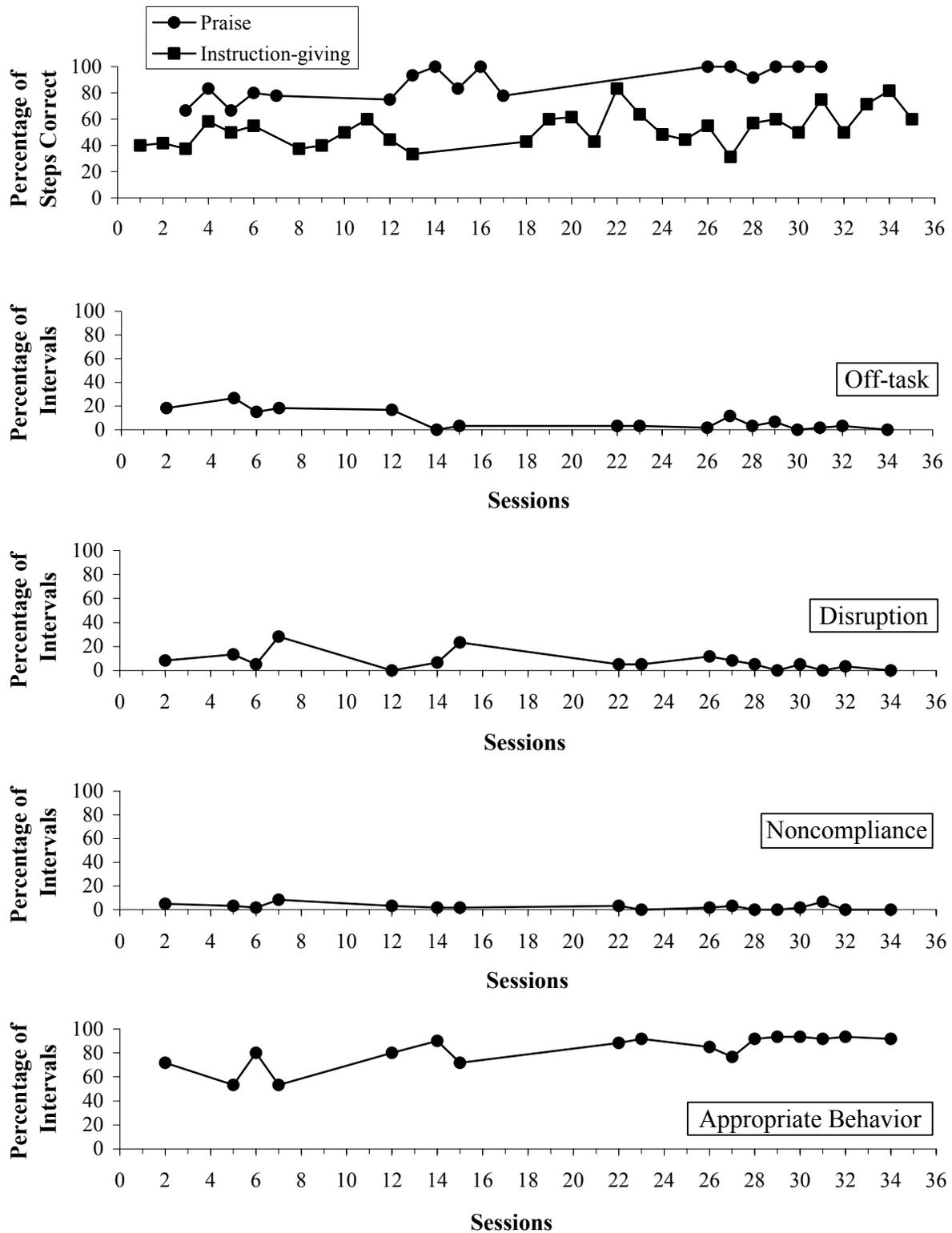


Figure 5. Kim's Percentage of Steps Correct for Instruction-giving and Praise (top panel). Percentage of Intervals for Off-task, Disruption, Noncompliance, and Appropriate Behavior for the Teacher Nominated Students in Kim's Classroom.

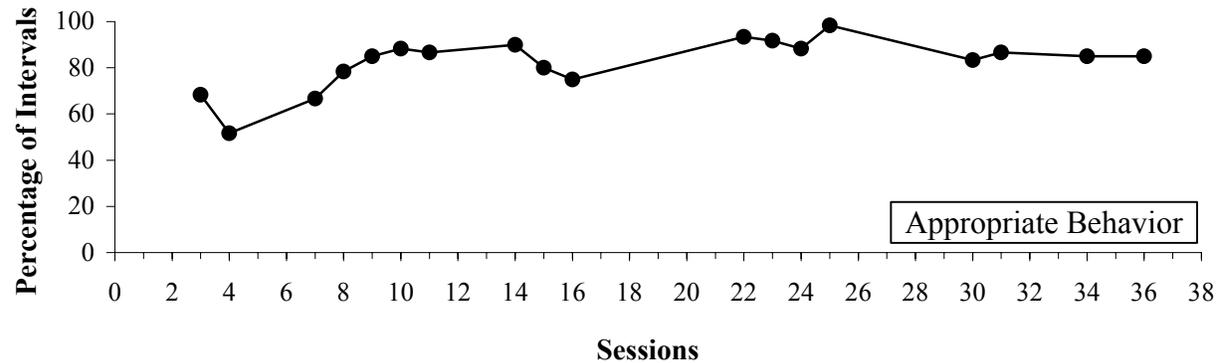
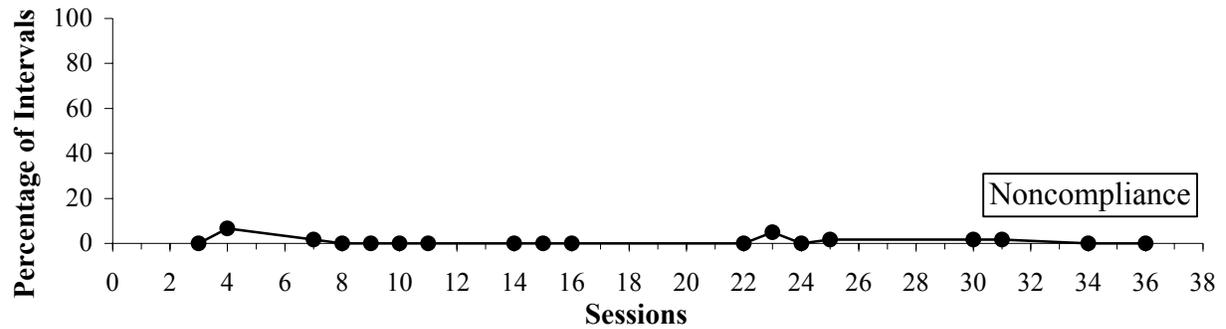
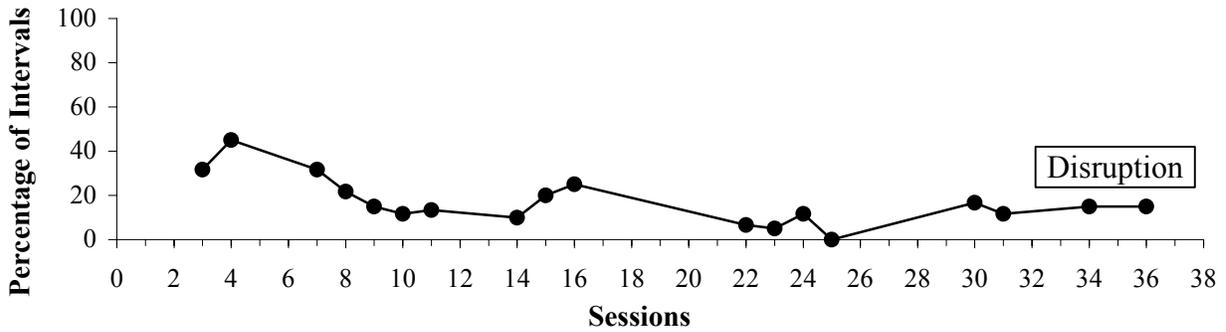
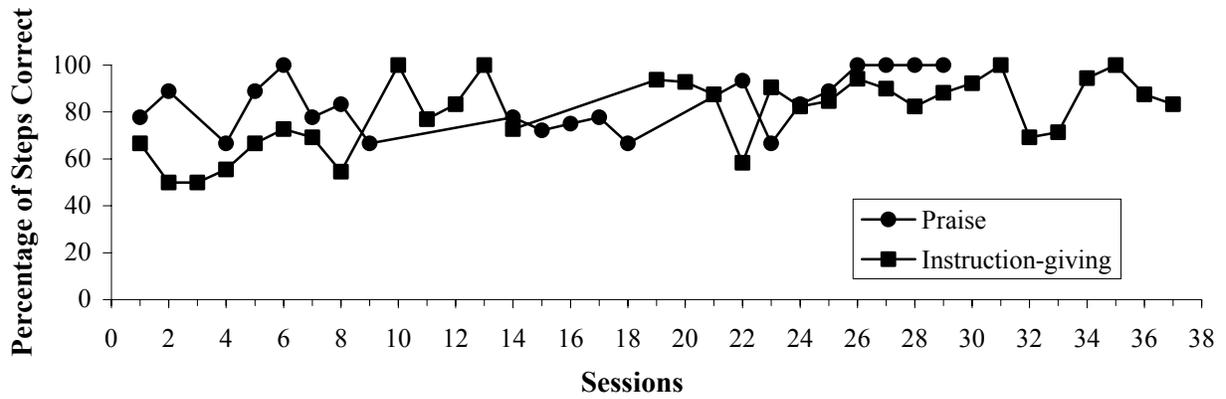


Figure 6. Ellen's Percentage of Steps Correct for Instruction-giving and Praise (top panel). Percentage of Intervals for Disruption, Noncompliance, and Appropriate Behavior for the Teacher Nominated Students in Ellen's Classroom.

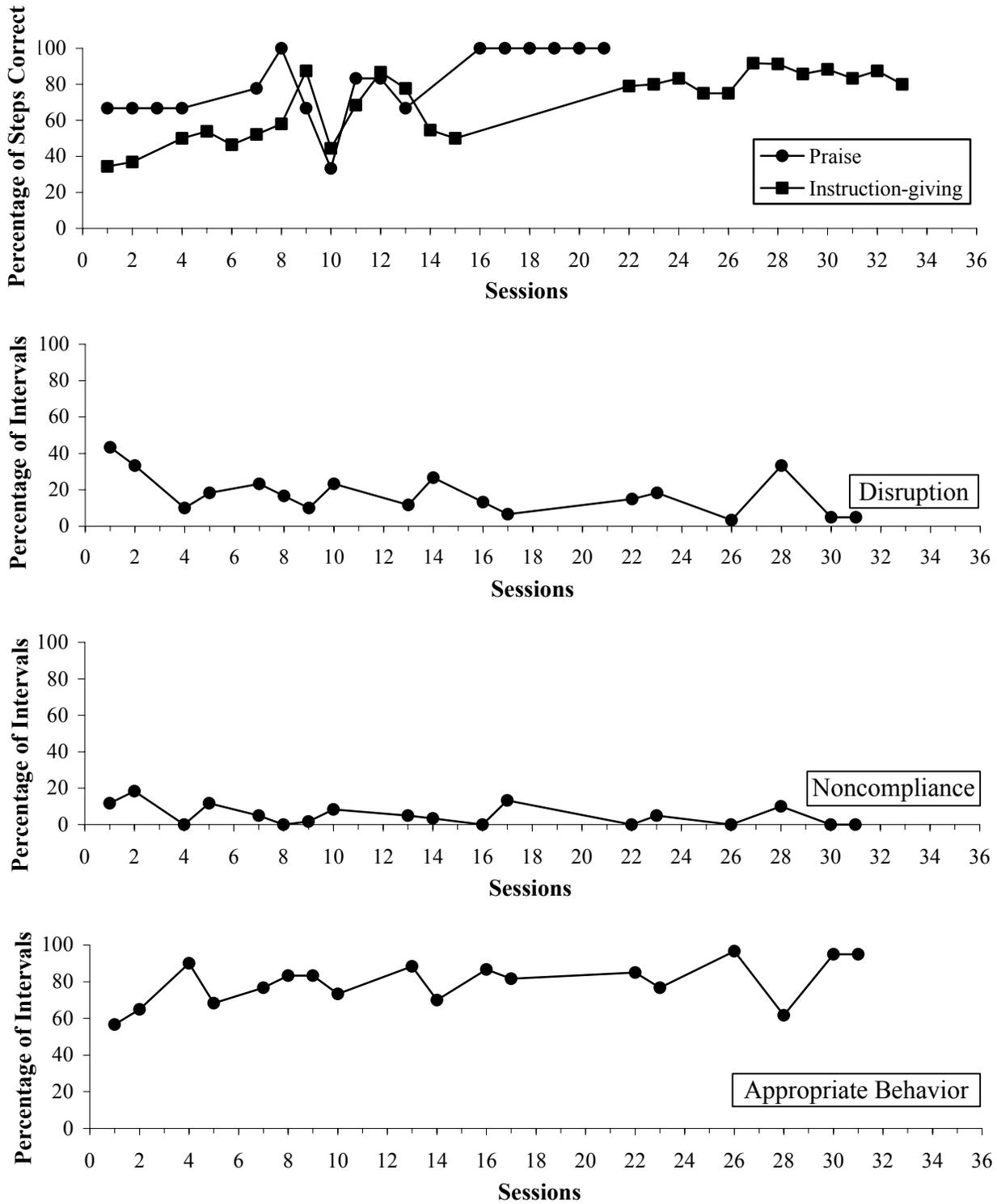


Figure 7. Linda's Percentage of Steps Correct for Instruction-giving and Praise (top panel). Percentage of Intervals for Disruption, Noncompliance, and Appropriate Behavior for the Teacher Nominated Students in Linda's Classroom.

Discussion

The purpose of this study was to extend the work relevant to the dissemination of effective behavior management techniques to paraprofessionals. In addition, the study was designed to examine the effects of increasingly complex and time consuming methods of training on both paraprofessional and student behaviors. The results of this study indicated that paraprofessionals could be taught to implement behavior management techniques, but that the intensity of training efforts required varied across participants and behaviors. Overall, the paraprofessionals exhibited increases in the percentage of steps correctly implemented after the implementation of varying training conditions. To explain, when the paraprofessionals were trained on the effective instruction-giving steps, two paraprofessionals, Jan and Ellen, demonstrated an increase in the percentage of steps correct during the written manual and summary card phase. Further training phases (i.e., the modeling videotape and performance feedback phases) did not add much to the results. In addition, when paraprofessionals were trained on the elements of praise, Jan again demonstrated an increase in the percentage of elements correct during the first training phase. Further training phases did not change her performance. This finding suggests that the written manual and summary card were enough to produce behavior change in the applied setting for two of the four paraprofessionals to apply effective instruction-giving and for one of the four paraprofessionals to apply effective praise elements. This finding is similar to the Brown et al. (1976) study where teachers were taught by way of handouts and a large group format to produce reductions in problematic behavior in the classroom. The availability of the written manual and summary card phase may have contributed to a positive outcome because they were continually available as a reference that the paraprofessionals could keep and look when they chose to. O'Dell et al. (1980) found a

similar result when training parents on how to implement time out via a written take-home manual.

However, an increase in the percentage of instruction-giving steps correct for the other two paraprofessionals, Kim and Linda, did not occur until the performance feedback phase. In addition, when the paraprofessionals were trained on how to deliver praise effectively, one paraprofessional's (i.e., Linda's) percentage of steps correct increased the most and stabilized during the performance feedback phase. This finding is similar to the Johnson and Sloat (1980) study where they trained teachers through successively more complex training methods that ended with performance feedback. Results indicated that the performance feedback phase increased teacher performance the most. However, sequence effects may be the reason performance feedback worked so well. Other similar examples include the Sloat et al. (1977) and Ivancic et al. (1981) studies. These studies demonstrate the positive effects of a successive progression through the training methods that ended with performance feedback.

For Kim and Ellen, their praise performance increased the most during the modeling videotape phase. Moreover, for time out, all four of the paraprofessionals' percentage of steps correct increased and stabilized during the modeling videotape phase. This result is similar to the Panyan and Patterson (1974) and O'Dell et al. (1982) studies. In each of these studies, the authors compared several different training methods and found that the modeling videotape to be the most effective when training paraprofessional staff (Panyan & Patterson, 1974) and parents (O'Dell et al., 1982). However, it is also worthy of noting that the data collection for time out differed from the other conditions. Data were collected during role-plays rather than during routine interactions with students due to the infrequency of time out. Collecting data during role-plays will attenuate the external validity of the data.

Overall, this study's results reveal an inconsistent pattern of training results across behaviors and paraprofessionals. This inconsistency is consistent with results across previous studies. This may be due to the different number of steps required for each behavior, the difficulty or complexity differences between the three behaviors, and/or the different ways each behavior was recorded (i.e., via direct observation in the classroom and role-playing). This has not been found in previous studies. However, as previously mentioned, Delamater et al. (1984) have demonstrated a consistent pattern of training across three staff members. The authors found that role-playing improved staff responding the best compared to didactic training and to feedback when three of the eight staff members were introduced to role-playing (i.e., the other five members did not receive role-playing due to time constraints).

Most importantly, this study's findings suggest that paraprofessionals' needs are likely heterogeneous regarding what form of training is likely to be effective both among themselves and within individuals, but across behaviors. The apparent consistency of the effectiveness of particular training procedures in previous studies may be a methodological artifact. The reliance on group designs (e.g., Bowles & Nelson, 1976; Johnson & Sloat, 1980; McKeown et al., 1975; O'Dell et al., 1980; 1982; Watson & Kramer, 1995) may have identified procedures that produced statistically significant changes at a group level, but may not have been consistently effective at an individual level.

Student behaviors, however, did not reveal any changes through the progression of the various training conditions. The progression through the paraprofessional training methods did not influence students' behavior. A possible reason for this overall finding is that the students' behavior observed in the classrooms was near a ceiling for desirable behaviors. As a result, conclusive evidence for the effects of the paraprofessional training on student behavior could

not be determined. This phenomena is similar to Slider (2001) in which a similar result occurred.

These findings are preliminary and require replication, but suggest that the most cost efficient paraprofessional training method that produces the most positive results varies across paraprofessionals and behaviors the paraprofessionals are taught. That is, the most cost-effective training method for paraprofessionals is idiosyncratic. Further research examining different types of training methods with other behaviors should be employed and compared. This finding is not entirely surprising considering the extensive behavior analytic literature demonstrating variation in individuals' responsiveness to behavior change programs. For example, treatments for the reduction of challenging behavior vary based upon the function of the challenging behavior (e.g., Iwata, Vollmer, Zarcone, & Rodgers, 1993; Mace, Lalli, Lalli, & Shea, 1993). Like treatments, the effectiveness or efficiency of training methods may vary dependent some interaction of individual characteristics and the behavior to be taught.

The results of this study extend the findings of previous studies in several ways. For one, this study demonstrates that didactic training may be an important element of establishing basic behavioral knowledge as previously indicated by Anderson and Kratochwill (1988), but not consistently be sufficient. For this study, basic behavioral knowledge was evaluated by the use of a written test. The written test was administered before and after each training phase until the paraprofessional demonstrated mastery of the knowledge. For Jan, Kim, and Linda, the written manual and summary card phase was enough to demonstrate mastery for instruction-giving; whereas, for Ellen, the written manual and summary card phase was enough to demonstrate mastery for praise. Thus, further testing had to be conducted for the other behaviors until mastery was met. This finding may suggest that for some of the

paraprofessionals, the basic knowledge was not obtained via the didactic method of training alone. These paraprofessionals needed further training in order to obtain the knowledge base for that particular behavior.

This study also extends the work of various researchers who advocated and demonstrated the use of didactic training (e.g., Brown et al., 1976; Fielding et al., 1971), modeling (e.g., Gladstone & Spencer, 1977; Nagle & Gresham, 1979; Panyan & Patterson, 1974; Ringer, 1973; Watson & Kramer, 1995), role-playing (e.g., Gardner, 1972; Jones & Eimers, 1975; McKeown et al., 1975) and feedback (e.g., Cooper et al., 1970; Horton, 1975; Parsonson et al., 1974). In addition, O'Dell and colleagues (1982) found that the use of a videotape was the most effective means of parent training. In a separate study, O'Dell and colleagues (1980) proposed that the use of a take-home manual might contribute to positive results. By combining the videotape and written take-home manual in the second phase, this study extended and partially replicated the work of O'Dell and colleagues (1980; 1982) and Slider (2001). Moreover, the addition of videotapes and written manuals provided some evidence to its potential effectiveness on paraprofessional training effects for some behavior-individual dyads. Last, by adding feedback in the third phase, this study extended the work of several researchers (e.g., Ivancic et al., 1981; Johnson & Sloat, 1980; Sloat et al., 1977), who used progressive training techniques that moved from less labor intensive training methods to more labor intensive methods.

Several studies have previously demonstrated that teachers' implementation of interventions can be maintained by performance feedback (Mortenson & Witt, 1998; Noell, Witt, Gilbertson, Ranier, & Freeland, 1997; Noell, Witt, LaFleur, Mortenson, Ranier, & LeVelle, 2000; Witt, Noell, LaFleur, & Mortenson, 1997). In these studies, three to five teachers were trained to implement a reinforcement-based intervention to individual children

who were referred for consultation services. Training involved didactic instruction and in vivo instruction by the consultant to insure accurate initial implementation. This study's results differ from these studies in two distinct ways. First, this study involved training skills that were modifications of naturally occurring teaching interactions. In other words, no novel skills were trained. The training entailed refinements of what paraprofessionals naturally do in their classrooms everyday. The Mortenson and Witt (1998), Noell et al. (1997), Noell et al. (2000), and Witt et al. (1997) studies involved training skills that were not established in the teacher's repertoire. Second, this study examined the effects of training on student social behavior and academic engagement. The Mortenson and Witt (1998), Noell et al. (1997), Noell et al. (2000), and Witt et al. (1997) studies examined the effects of training on students' academic behavior.

Limitations and Directions for Future Research

Nonetheless, this study was not without limitations. First, as previously stated, the effect of paraprofessional training on student behavior could not be determined due to ceiling effects on desirable student behavior. Future research should explore such effects by possibly identifying behavior-disordered children and conducting the behavior management training to paraprofessionals caring for those students.

Second, reactivity may have resulted from the daily monitoring of the paraprofessionals' behaviors by the experimenters. However, the written test results suggest that paraprofessionals acquired new knowledge that may have been a prerequisite for behavior change. Despite this argument, future research should examine the effects of paraprofessional training on paraprofessional behaviors by way of a less intrusive observational method such as video cameras, one-way observation mirrors, or less novel observers.

Third, the participants of this study consisted of an unusual group of paraprofessionals who worked in an atypical school. All of the participants were undergraduates who majored in Communication Disorders, and thus, the participants possessed at least some knowledge regarding how to interact with and teach preschool children with speech and language delays. In addition, the school where the paraprofessionals worked was at a preschool facility for speech-delayed children. As a result, the participants included and the context in which they worked may attenuate the study's external validity. Further research should investigate the effects of training on regular education paraprofessionals in a typical public elementary school or in a public Headstart program.

In summary, this study did extend the previous work relevant to the dissemination of effective behavior management techniques. This study also demonstrated paraprofessional behavior change with the implementation of differing training techniques as training progressed through more intensive procedures. The training materials included behavior management techniques that have research support (Brophy, 1981; Budd et al., 1983; Flanagan, Adams, & Forehand, 1979; O'Dell et al., 1980; O'Leary & O'Leary, 1977; Rickert et al., 1988; Wahler, 1969; Walker, 1993). However, proactive management skills such as those discussed by Gettinger (1988) were not examined in this study. Thus, a possible future direction would be to examine the effects of the varying paraprofessional training methods using other types of proactive and reactive management skills.

Other potential directions already discussed include comparing the various training methods in terms of effectiveness and cost, exploring the effects of paraprofessional training on student behaviors possibly by using behavior-disordered students, exploring the effects of paraprofessional training on paraprofessional behaviors by way of a less intrusive method, and

investigating the effects of paraprofessional training on regular education paraprofessionals employed in public facilities. Other investigations could also explore whether or not paraprofessional behavior changes as a result of the differing number of steps required for a training skill and the difficulty or complexity of each skill. Future directions such as these would help in determining the overall effectiveness of the most cost-effective training method for each paraprofessional and behavior and would have potential implications for future training implementations.

At present, an extensively researched and well understood cost-effective training hierarchy or package does not exist. What appears to be increasingly evident is the idiosyncratic nature of the interaction of individuals with training methods. At present, it would appear that a progressive approach that is relatively comprehensive in design may be most appropriate when resource conservation is a critical concern and that progression to performance feedback based upon direct observation of performance may be most appropriate when immediate results are the most critical concern.

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Appendix A

Written Test

Name _____
Observer _____

Date _____

Instructions: Please answer the following questions. If more space is needed, please use the other side. Long answers are not necessary.

1. Should praise be delivered only for children who display perfect behavior or exceptional academic work? Explain.

No. Praise should be delivered to those who are showing improvement in behavior or academics.

2. If a student tries to remove himself/herself from time out before time out has been completely served, what should you do?

Redirect the child by guiding the child back to time out.

3. How much time should you wait before providing a prompt or modeling the correct response to a child who is not following your instruction?

5–10 seconds

4. When is it appropriate to provide physical guidance after you ask a child to do a requested action?

After the paraprofessional has conducted the following steps: 1) Gotten the child's attention, provided a clear instruction, and waited for 5-10 seconds and 2) Modeled or provided a prompt and waited 5-10 seconds.

5. After you have told a child to go to time out, what do you do if the child refuses to go to time out?

Physically help the child to time out without talking.

6. Does the following praise example contain specificity? "Good job, Michael." Provide an explanation.

No. The example does not specify the particulars of the behavior to be reinforced.

7. Define time out.

Removing a child away from the opportunity to earn reinforcement.

8. What does contingent praise mean?

Providing praise that immediately follows a behavior to be reinforced.

9. After time out has been served, what should you say, if anything, to the student about his/her misbehavior?

Nothing; there should be no comments regarding misbehavior.

10. Why is feedback important to effective instruction-giving?

Feedback is important for letting a student know which responses are correct or acceptable and which are not.

11. What should you do if after using time out with a child, the child appears to get worse rather than better?

Seek consultation.

12. Provide an example of specific praise.

Answers will vary.

13. Should time out only be conducted in an area where the problematic child cannot see his/her peers?

No. Time out could be exclusionary or contingent observation.

14. Mr. Brewster sees that a child, Timmy, has hit another child on the head in order to get a toy. Mr. Brewster responds by getting Timmy's attention and tells Timmy, "It is not nice to hit other people. If you want a toy, then ask for it nicely. Now, go to time out." What, if anything, did Mr. Brewster do incorrectly in his application of time out?

Mr. Brewster did not state only a one sentence statement describing Timmy's misbehavior and then simply saying, "Time out"; Mr. Brewster's statement of misbehavior was too long.

15. Mrs. Sally's class which is made up of 4 students today is doing very well with their listening skills. In order to convey the great performance the kids are displaying, Mrs. Sally decides to praise every child independently by saying, "Good listening". Is there any problem with the way Mrs. Sally is praising (if so, what)?

Yes. Mrs. Sally's praising did not contain variety.

Appendix B

Paraprofessional Coding Form and Student Coding Form

Paraprofessional _____ Observer _____ Phase _____
 Date _____ Session _____

1	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	6	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	11	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____
2	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	7	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	12	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____
3	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	8	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	13	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____
4	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	9	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	14	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____
5	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	10	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____	15	Instruction-giving 1. _____ 2. _____ 3. _____ 4. _____

Paraprofessional _____ Observer _____ Phase _____
 Date _____ Session _____

1	Praise 1. _____ 2. _____ 3. _____	6	Praise 1. _____ 2. _____ 3. _____	11	Praise 1. _____ 2. _____ 3. _____
2	Praise 1. _____ 2. _____ 3. _____	7	Praise 1. _____ 2. _____ 3. _____	12	Praise 1. _____ 2. _____ 3. _____
3	Praise 1. _____ 2. _____ 3. _____	8	Praise 1. _____ 2. _____ 3. _____	13	Praise 1. _____ 2. _____ 3. _____
4	Praise 1. _____ 2. _____ 3. _____	9	Praise 1. _____ 2. _____ 3. _____	14	Praise 1. _____ 2. _____ 3. _____
5	Praise 1. _____ 2. _____ 3. _____	10	Praise 1. _____ 2. _____ 3. _____	15	Praise 1. _____ 2. _____ 3. _____

Paraprofessional _____ Observer _____ Phase _____
Date _____ Session _____

1 Time out 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____	4 Time out 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____	7 Time out 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____
2 Time out 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____	5 Time out 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____	8 Time out 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____
3 Time out 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____	6 Time out 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____	

Paraprofessional _____ Observer _____ Phase _____
 Date _____ Session _____ Circle: 1st 2nd 5 minutes

1 __ Off task __ Disruption __ Noncompliance __ Appropriate	7 __ Off task __ Disruption __ Noncompliance __ Appropriate	13 __ Off task __ Disruption __ Noncompliance __ Appropriate	19 __ Off task __ Disruption __ Noncompliance __ Appropriate	25 __ Off task __ Disruption __ Noncompliance __ Appropriate
2 __ Off task __ Disruption __ Noncompliance __ Appropriate	8 __ Off task __ Disruption __ Noncompliance __ Appropriate	14 __ Off task __ Disruption __ Noncompliance __ Appropriate	20 __ Off task __ Disruption __ Noncompliance __ Appropriate	26 __ Off task __ Disruption __ Noncompliance __ Appropriate
3 __ Off task __ Disruption __ Noncompliance __ Appropriate	9 __ Off task __ Disruption __ Noncompliance __ Appropriate	15 __ Off task __ Disruption __ Noncompliance __ Appropriate	21 __ Off task __ Disruption __ Noncompliance __ Appropriate	27 __ Off task __ Disruption __ Noncompliance __ Appropriate
4 __ Off task __ Disruption __ Noncompliance __ Appropriate	10 __ Off task __ Disruption __ Noncompliance __ Appropriate	16 __ Off task __ Disruption __ Noncompliance __ Appropriate	22 __ Off task __ Disruption __ Noncompliance __ Appropriate	28 __ Off task __ Disruption __ Noncompliance __ Appropriate
5 __ Off task __ Disruption __ Noncompliance __ Appropriate	11 __ Off task __ Disruption __ Noncompliance __ Appropriate	17 __ Off task __ Disruption __ Noncompliance __ Appropriate	23 __ Off task __ Disruption __ Noncompliance __ Appropriate	29 __ Off task __ Disruption __ Noncompliance __ Appropriate
6 __ Off task __ Disruption __ Noncompliance __ Appropriate	12 __ Off task __ Disruption __ Noncompliance __ Appropriate	18 __ Off task __ Disruption __ Noncompliance __ Appropriate	24 __ Off task __ Disruption __ Noncompliance __ Appropriate	30 __ Off task __ Disruption __ Noncompliance __ Appropriate

Totals: Off task _____ Disruption _____ Noncompliance _____
 Appropriate _____

Paraprofessional _____ Observer _____ Phase _____
 Date _____ Session _____ Circle: 1st 2nd 5 minutes

1 __ Disruption __ Noncompliance __ Appropriate	7 __ Disruption __ Noncompliance __ Appropriate	13 __ Disruption __ Noncompliance __ Appropriate	19 __ Disruption __ Noncompliance __ Appropriate	25 __ Disruption __ Noncompliance __ Appropriate
2 __ Disruption __ Noncompliance __ Appropriate	8 __ Disruption __ Noncompliance __ Appropriate	14 __ Disruption __ Noncompliance __ Appropriate	20 __ Disruption __ Noncompliance __ Appropriate	26 __ Disruption __ Noncompliance __ Appropriate
3 __ Disruption __ Noncompliance __ Appropriate	9 __ Disruption __ Noncompliance __ Appropriate	15 __ Disruption __ Noncompliance __ Appropriate	21 __ Disruption __ Noncompliance __ Appropriate	27 __ Disruption __ Noncompliance __ Appropriate
4 __ Disruption __ Noncompliance __ Appropriate	10 __ Disruption __ Noncompliance __ Appropriate	16 __ Disruption __ Noncompliance __ Appropriate	22 __ Disruption __ Noncompliance __ Appropriate	28 __ Disruption __ Noncompliance __ Appropriate
5 __ Disruption __ Noncompliance __ Appropriate	11 __ Disruption __ Noncompliance __ Appropriate	17 __ Disruption __ Noncompliance __ Appropriate	23 __ Disruption __ Noncompliance __ Appropriate	29 __ Disruption __ Noncompliance __ Appropriate
6 __ Disruption __ Noncompliance __ Appropriate	12 __ Disruption __ Noncompliance __ Appropriate	18 __ Disruption __ Noncompliance __ Appropriate	24 __ Disruption __ Noncompliance __ Appropriate	30 __ Disruption __ Noncompliance __ Appropriate

Totals: Disruption _____ Noncompliance _____ Appropriate _____

Appendix C

Parent Consent Form

Dear Parent/Guardian,

I am writing to request your permission to have your child participate in a research project that is designed to help paraprofessionals increase their use of effective classroom management strategies. The main focus of the research project is for the paraprofessionals to learn to use classroom management strategies such as how to deliver instructions, how to praise, and how to deliver time out effectively in the classroom. The training that the paraprofessionals will receive will contain these three behavior management strategies that have been shown to be effective in managing children's behavior in schools. In order to evaluate the training the paraprofessionals will receive, the research team would like to observe your child's behavior along with some other children in your child's classroom so that we will have a clear picture on the effectiveness of the training on children's behavior. Thus, we would like to make sure that the training will not only help the paraprofessionals deliver effective instructions for instance, but we want to make sure that the training effects children's behavior positively.

Observations will only be conducted during regular scheduled activities, and your child will not be asked to leave the classroom at any time for individual evaluations. The observation will only take place in the classroom when your child is having snack time, art time, individual puzzle, and/or reading time. Your child will not be asked to do anything differently than the other children in the classroom either. Your child will only be instructed by his/her teacher and teacher's aide. The researchers will only interact with the paraprofessionals and will not interact with your child.

Participation in this project is voluntary. You may withdraw your child's participation at any time. If you do choose to participate, a member of the project team will observe your child along with some other children in the classroom before, during, and after the paraprofessionals receive their training in the behavior management strategies.

No participants' names will be used in any reports of this project's outcomes. No identifying information for the children will be collected and the data collected will reflect the children's behavior as a group rather than as individuals.

If you have any questions or concerns, the researcher and other members of the team will be available throughout the project. Also, the researcher's telephone number is indicated at the bottom of this permission form if at any time any questions arise about the procedures of the project.

If you have additional questions about participant's rights or other concerns regarding the research component of this activity you can contact: Robert C. Mathews, Institutional Review Board, Louisiana State University, (225) 578-8692.

Sincerely,

George H. Noell, Ph.D.
Supervising Assoc. Professor
Louisiana State University
578-4119

Natalie J. Slider, M.A.
Graduate Student
752-9135

_____ I give my permission for my child to participate in this project.

_____ No, I prefer that my child not participate.

Date: _____

Parent /Guardian: _____

Student: _____

Signature: _____

Appendix D

Paraprofessional Consent Form

This project is designed to help paraprofessionals increase their use of effective behavior management strategies.

Participation in this project is voluntary. You may withdraw your participation at any time. If you do choose to participate, a member of the project team will observe your work with the students and students' behavior for several days. Next, you will be provided a package of materials describing a number of behavior management procedures that have been found to improve students' behavior in schools. You will be asked to review these materials at your convenience. The materials will describe three behavior management practices that have been shown to be effective in managing children's behavior in schools. The contents of the package will be provided to you sequentially over several days so that one skill is introduced at a time. The presentation in which the materials will be presented may vary. You will be given written materials and you may be given a videotape to review at your convenience at a later time. If you do not have access to a VCR, one will be provided for you for use during the study. Classroom observations on your application of behavior management skills and students' behavior will continue throughout the project. If problematic behavior does not occur while the observations are conducted, then you may be asked to participate in several brief role-play interactions with some project team members. You also may be asked to meet with a project team member after each observation to discuss behavior management strategies.

No participants' names will be used in any reports of this project's outcomes. No identifying information for students will be collected and the data collected will reflect the students' behavior as a group rather than as individuals.

If you have any questions or concerns, the researcher and other members of the team will be available throughout the project. Also, the researcher's telephone number will be available to you enclosed in the training package if any questions arise about the procedures of the project.

If you have additional questions about participant's rights or other concerns regarding the research component of this activity you can contact: Robert C. Mathews, Institutional Review Board, Louisiana State University, (225) 578-8692.

I understand the purpose and procedures involved in the project. I understand that I am free to withdraw at any time. I agree to participate in this project.

Participant's signature

George H. Noell, Ph.D.
Supervising Assoc. Professor
Department of Psychology
Louisiana State University
578-4119

Date

Natalie J. Slider, M.A.
Graduate Student
752-9135

Appendix E

Time Out Role-playing Scripts

Session 1:

A child will ask another student to play with her toy. After the student refuses to give the child the toy, the child will hit the student on the arm. After the paraprofessional announces time out, the child will verbally and physically refuse to go to time out. The child will say, "I am not going to time out. I want to play with the toy." While in time out, the child will continue to talk about not wanting to stay in time out with phrases such as, "I don't want to be in time out."

The paraprofessional should guide the child to time out without talking within 15 seconds after announcing time out appropriately. After placing the child in time out, the paraprofessional should not provide any attention by verbally responding to the child's comments or by direct observation or physical proximity for more than 2 seconds.

Session 2:

The child will ask for a toy from another student. After the student tells the child that she is not done playing with the toy, the child will scream, "I don't like you anymore!" The child will act appropriately for the entire time out segment.

The paraprofessional should get the child's attention after the screaming has occurred and state the misbehavior with a one sentence statement only.

Session 3:

The paraprofessional will be asked to start reading a book to a group of students. The child will pinch another student during circle time (i.e., instructional time). After placing the child in

time out, the child will get out of the time out area quietly before time out has been completely served.

The paraprofessional should redirect the child back to the time out area without talking.

Session 4:

The paraprofessional will be asked to start reading a book to a group of students. After asking a student to point to a particular object on the page, the other child will scream, “I want my turn” and push the student back in her seat before the student can respond to the paraprofessional’s request. While in time out, the child will make noise by kicking her legs and screaming, “I just wanted a turn. I didn’t do anything wrong.”

The paraprofessional should get the child’s attention after the child pushes another student and state the misbehavior with a one sentence statement only. After placing the child in time out, the paraprofessional should not provide any attention by verbally responding to the child’s comments or by direct observation or physical proximity for more than 2 seconds. Lastly, the paraprofessional should refrain from providing any comments about the misbehavior after time out has been served.

Session 5:

The paraprofessional will be asked to start reading a book to a group of students. The child will pull another student’s hair during circle time (i.e., instructional time). Immediately after the paraprofessional announces time out, the child will repeatedly say that she does not want to go to time out and will not do the behavior again during the entire time out session.

The paraprofessional should announce time out and guide the child to time out without talking within 15 seconds. After placing the child in time out, the paraprofessional should not provide

any attention by verbally responding to the child's comments or by direct observation or physical proximity for more than 2 seconds.

Session 6:

The paraprofessional will be asked to start reading a book to a group of students. The paraprofessional will start asking the students questions about the book. The child will grab the book and throw it on the ground after she has been asked to respond to a question. While in time out, the child will quietly get out of time out and attempt to grab the book again.

The paraprofessional should redirect the child back to the time out area without talking.

Session 7:

The paraprofessional will be asked to start reading a book and asking questions to the students about the book. While the paraprofessional is asking questions to the students, the child will hit another student. After placing the child in time out, the paraprofessional will continue to ask questions about the book to the other students. The child will attempt to get out of time out and start screaming, "I didn't do anything. I'll be good."

The paraprofessional should redirect the child back to the time out area without talking. In addition, the paraprofessional should not provide any attention by verbally responding to the child's comments or by direct observation or physical proximity for more than 2 seconds except while redirecting the child back to the time out area.

Session 8:

The paraprofessional will be asked to start reading a book and asking questions to the students about the book. While the paraprofessional asks the child to answer a question, the child will refuse to answer and throw her shoes at the paraprofessional. While the paraprofessional is attempting to take the child to time out, the child will kick and scream that she does not want to

go to time out. After placing the child in time out, the paraprofessional will continue to ask questions about the book to the other students. The child will act appropriately during the remainder of the time out session.

The paraprofessional should guide the child to time out without talking within 15 seconds after announcing time out appropriately.

Session 9:

The child will ask another student to play with her toy. After the student refuses to give the toy to the student, the child will hit the other student on the leg. After the paraprofessional announces time out, the child will verbally refuse to go to time out and run away from the paraprofessional. While in time out, the child will repeatedly attempt to leave the time out area.

The paraprofessional should guide the child to time out without talking within 15 seconds after announcing time out appropriately. The paraprofessional should redirect the child back to the time out area without talking when the child repeatedly attempts to get out of time out.

Session 10:

The paraprofessional will be asked to start reading a book and asking questions to the students about the book. The child will kick another student. After placing the child in time out, the paraprofessional will continue to ask questions about the book to the other students. While the child is in time out, she will scream and cry, "Time in please."

The paraprofessional should not provide any attention by verbally responding to the child's comments or by direct observation or physical proximity for more than 2 seconds.

Session 11:

The paraprofessional will be asked to tell the students it is time to clean up and come to circle. After cleaning up, the child will try to place her chair where another student's chair already is placed. The child will scream, "That is my spot!" The child will then pull the student's hair. After the paraprofessional places the child in time out, the child will repeatedly scream, "What did I do?" The paraprofessional will then be asked to read a story and ask questions to the rest of the students (i.e., to begin circle). After time out has been completely served, the child will come back to circle and ask the paraprofessional what she did wrong.

The paraprofessional should not provide any attention by verbally responding to the child's comments or by direct observation or physical proximity for more than 2 seconds. After the child returns to circle, the paraprofessional should not provide any comments about the misbehavior after time out had been completely served.

Session 12:

The paraprofessional will be asked to start reading a book to the students. The child will grab the book and run around the room with the book after she has been asked a question from the paraprofessional about the book. After the paraprofessional announces time out, the child will physically and verbally refuse to go to time out. The child will also attempt to keep the book in her possession. While in time out, the child will constantly attempt to leave the time out area. The paraprofessional should guide the child to time out without talking within 15 seconds after announcing time out appropriately. The paraprofessional should redirect the child back to the time out area without talking when the child constantly attempts to get out of time out.

Session 13:

The paraprofessional will be asked to start reading a book to the students. The child will verbally refuse to answer a question made by the paraprofessional. When the paraprofessional continues to ask the child to respond, the child will grab the book and throw it down on the ground. After placing the child in time out, the paraprofessional will continue to ask questions about the book to the other students. While in time out, the child will act appropriately.

The paraprofessional should get the child's attention after the child throws the book down on the ground and state the misbehavior with a one sentence statement only.

Session 14:

The paraprofessional will be asked to read a book to the students. The paraprofessional will ask questions about the book to the students. After one of the students has been asked a question, the child will scream, "I want to answer." Then, the child will pinch the student after the student responds to the question and receives praise from the paraprofessional. After placing the child in time out, the paraprofessional will continue to ask questions about the book to the other students. While in time out, the child will attempt to get out of the time out area 3 times.

The paraprofessional should redirect the child back to the time out area without talking when the child attempts to get out of time out.

Appendix F

Performance Feedback Steps

Name of Therapist: _____ Name of Paraprofessional: _____

Behavior: _____ Session: _____ Date: _____

Provide performance feedback by:

- _____ 1. Reviewing the steps required for the aide behavior,
- _____ 2. Describing the steps the paraprofessional missed and how often she missed them,
- _____ 3. Providing corrective feedback by reviewing each step omitted or implemented incorrectly,
- _____ 4. Providing positive feedback for correct steps, and
- _____ 5. Addressing any questions or comments.

Vita

Natalie Jan Slider is currently a graduate student in the School Psychology Program at Louisiana State University under the direction of Dr. George Noell. She received both her Bachelor of Science degree (1998) and her Master of Arts degree (2001) from Louisiana State University in the major area of psychology. Natalie Slider is a candidate for the degree of Doctor of Philosophy to be awarded in December of 2004.