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Training Middle School Paraeducators Positive Behavior Support Strategies
Through Job Embedded Feedback

Carrie Ann Eichelberger

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Science

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ABSTRACT

Training Middle School Paraeducators Positive Behavior Support Strategies Through Job Embedded Feedback

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Master of Science

The current training model for paraeducators traditionally consists of single-day workshops, emails, newsletters, in-service meetings or other similarly isolated and infrequent “tips” or no training at all. Such practices have caused many paraeducators and teachers to cite a lack of efficient and effective training as one of the major difficulties in their job. The purpose of the study was to establish a causal relationship between the independent variable: the direct instruction of precorrection through modeling and guided practice with bug-in-the-ear feedback and the dependent variable, the performance or nonperformance of positive behavior support strategies in the classroom. The study took place at an urban middle school located in northern Utah. The study’s three participants were paraeducators who worked in a self-contained classroom for students with severe disabilities. The intervention consisted of a three-phase lesson for each of the three target skills: (a) a training phase, (b) an independent phase, and (c) a follow up phase. Data indicate a positive functional relation between the intervention and the acquisition and maintenance of the desired skills. On average, participants performed more than 90% of the steps of the desired behaviors across all phases of the intervention and maintained the skills over time in a natural setting after relatively little instruction, no additional time outside of the classroom, and with materials already available at most schools. The success of this training model and its flexible framework further suggest that its use could be expanded in multitudinous ways. As this is the first known study of its kind, there are now numerous avenues of new research possibilities both in the area of paraeducator training, but also teacher training and even training in other work industries. This is an exciting new avenue for research and the improvement of working conditions and the delivery of instruction in schools.

Keywords: paraeducators, training, positive behavior support, bug-in-the-ear, feedback

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Chapter 1: Introduction

Purpose of Study

The purpose of this study was to examine the realities and difficulties involved with adequately training paraeducators in special education classrooms. Researchers sought to explore whether or not on site coaching and assistance could be effectively combined with bug-in-the-ear technology and direct instruction to provide a more cost-efficient and time-effective training model for special education paraeducators to acquire new behavior management skills and continue to use them over time.

Problem Statement

The current training model for paraeducators traditionally consists of single-day workshops, emails, newsletters, in-service meetings or other similarly isolated and infrequent “tips.” These interactions are by nature removed from daily practice and are often infrequent or not provided in a timely manner. In some cases, paraeducators are provided with no training at all. This model has caused many paraeducators and teachers to cite a lack of efficient and effective training as one of the major difficulties in their job. Although a number of promising models have been suggested, few empirical evaluations of these approaches have been conducted. The general consensus among scholars in the field of special education is that additional research is needed to explore the most efficient, effective, and engaging means for delivering initial training and ongoing professional development opportunities to paraeducators.

Hypotheses

Paraeducators can learn to use research-based behavior management strategies and continue to use them over time when trained through an on-the-job direct instructional approach utilizing bug-in-the-ear technology to provide immediate feedback and prompting. Teachers and

paraeducators will agree that such a training approach would be an attractive and advantageous alternative to the current paraeducator training model.

Chapter 2: Review of Literature

Research for the review of literature that follows was obtained by using the EBSCOhost database as well as the ProQuest database. The search terms included researched based professional development in education for paraprofessionals, professional development for paraeducators, professional development and teacher change, researched based professional development in education for teacher's aide, researched based professional development in education for paraeducators, training models for paraeducators in special education classrooms, training models for paraeducators in special education classrooms, training models for paraprofessionals in special, education classrooms, paraeducator training, paraprofessional(s) training, educational assistants training, instructional technologists training, direct instruction, direct instructional model, positive behavior support, bug-in-the-ear training, third ear device, precorrection, active supervision, positive praise, behavior-specific praise, and praise statements. The reference sections within the articles found were also used to identify additional articles that were studied for this review of literature.

Many scholars agree that paraeducators play a vital role in the education of students with disabilities and can have an important influence on student achievement (Ashbaker & Morgan, 2006; Carter, O'Rourke, Siseo, & Pelsue, 2009; Giangreco & Broer, 2007). It is not uncommon for paraeducators to be charged with providing students with social and direct instructional support (Fisher & Pleasants, 2011). It is critical that paraeducators become equipped with data-based strategies for providing academic, social, and behavioral support to students with disabilities, as the roles and responsibilities of paraeducators in the classroom continue to expand (Carter et al., 2009; Giangreco & Broer, 2007). Despite the obvious need for effective and timely training for instructional support personnel like paraeducators, the literature reports an

overall lack of training for many of these educational support staff prior to entering the classroom (Bernal & Aragon, 2004; Carter et al., 2009; Clark, Cushing, & Kennedy, 2004; Maggin, Fallon, Sanetti, & Ruberto, 2012). At best, the current training model for paraeducators consists of single-day workshops, emails, newsletters, or in-service meetings (Bernal & Aragon, 2004). These interactions are, by nature, removed from daily practice and are often infrequent (Wallace, Shin, Bartholomay, & Stahl, 2001; Carter et al., 2009).

However, scholars agree that there is a need to adequately equip paraeducators with the skills and knowledge to effectively serve and support students with disabilities (Giangreco & Broer, 2007). Although the emphasis on strengthening the quality of paraeducator-delivered support certainly is not new (Giangreco, Edelman, Broer, & Doyle, 2001), recent reforms, mandates, and evolving knowledge have brought increased attention to this area of research (Carter et al., 2009). In fact, a growing body of research demonstrates that, when properly supported, paraeducators can effectively and appropriately implement strategies that improve student outcomes (e.g., Carter, Cushing, Clark, & Kennedy, 2005; Causton-Theoharis & Malmgren, 2005; Lane, Fletcher, Carter, DeLorenzo, & Dejud, 2007). Some of the strategies previously investigated include onsite coaching and assistance (Clark et al. 2004), team-based trainings (Devlin, 2005), school-wide planning efforts (Giangreco, Edelman, & Broer, 2003), summer institutes (Giangreco, Backus, CichoskiKelly, Sherman, & Mavropoulos, 2003), consultative models (Carter, Sisco, Melekoglu, & Kurkowski, 2007), and university partnerships (Bernal & Aragon, 2004). Some reports in the literature suggest that on-the-job training has emerged among supervisors as a dominant training avenue for paraeducators across every knowledge area (Ashbaker & Morgan, 2006; Riggs & Mueller, 2001; Steckelberg et al., 2007).

This is possibly due to limited time, and money—both of which are generally needed for more intensive training interventions.

However, scholars like Carter et al. (2009) point out that on-the-job training relies heavily on informal, individualized training approaches—avenues that are likely to be idiosyncratic and highly dependent on the special or general educator who is assigned to provide such coaching, feedback, and supervision; making it necessary to improve these pitfalls by operationalizing and standardizing training procedures through additional research. Although a number of promising models have been suggested, few empirical evaluations of these approaches have been conducted. The general consensus among scholars in the field of special education is that additional research is needed to explore the most efficient, effective, and engaging means for delivering initial training and ongoing professional development opportunities to paraeducators.

Research in teacher training concluded that lectures, discussions and assessments alone—even when coupled with performance-based assignments—are not enough to create lasting, change in the performance of desired skills (Bowles & Nelson, 1976; Gardner, 1972; Martin, 1972). Indeed, very few empirical studies indicate that teachers generalize from in-service training to actual situations in the classroom. In fact, Cantrell (1970) showed that it was possible for teachers to demonstrate gains in the knowledge of a specific behavior technique, yet still poorly execute the desired behavior modification skills in every day practice. Such studies lend further support that on their own, lectures are a good method for teaching behavior modification principles but are not good for producing long-term performance change. As Altman and Linton (1971) pointed out, the ultimate test of the efficacy of behavior modification principles will be not only how well they are understood but also how well they are applied in natural settings.

Though the above studies were conducted on teachers and focused on teacher training, it is reasonable to surmise that paraeducators would respond to lecture-based trainings in similar ways. In fact, more recent studies by Carter (2009) and French (1998) (discussed in detail below) corroborate such suppositions.

The remainder of the literature review will focus on several aspects of paraeducator training including current training practices for paraeducators, paraeducators' perspectives on the training they receive and existing research-based training practices. Researchers selected behavior intervention strategies as the skills they would introduce to research participants. In an effort to use research-based methods for the study, a review of the literature on Positive Behavior Interventions and Supports is also included in following sections.

Current Paraeducator Training Practices

In a study led by Erik Carter (Carter et al., 2009), 313 paraeducators working in 77 elementary, middle, and high schools were asked several questions about their job including the training they received. Overall, the most common form of training paraeducators reported receiving was on-the-job training (48.7%), followed by in-service training (25.5%), other forms of training unspecified (15.3%), and conference training (10.5%). The five areas in which they received the most school-provided training were basic educational terminology regarding students, programs, roles, and instructional activities (88.5%); rules and procedural safeguards regarding management of students' behaviors (87.9%); purposes of programs for students with disabilities (87.5%); effects a disability can have on a student's life (84.0%); and ethical practices for confidential communication about students with disabilities (83.7%). The following five areas were the ones paraeducators identified having the least amount of school-provided training: rationale for assessment, indicators of abuse and neglect, rights and

responsibilities of families and children as they relate to learning needs, personal cultural biases and differences that affect one's ability to work with others, and roles of educational team members in planning an Individualized Education Plan (IEP) (Carter et al., 2009).

According to Carter (Carter et al., 2009), paraeducators reported their attendance at in-service trainings much less frequently than on-the-job training, and less than half of paraeducators reported having ever attended a conference session. Scholars suspect that there are several reasons that paraeducators make such poor showing at these forms of professional development including that (a) a large majority of paraeducators work part-time or are paid on an hourly basis, preventing most of them from participating in such training sessions; (b) few training opportunities are made available to paraeducators in the first place or attendance is not required; (c) paraeducators and teacher perceive the trainings that are available to be irrelevant; (d) paraeducators are rarely funded or reimbursed for registration and/or travel expenses to attend additional training; and (e) attendance at trainings rarely translates into job advancement opportunities (Riggs & Mueller, 2001).

Paraeducator Perspectives on Training

A study of the literature led to the conclusion that paraeducators report varying levels of satisfaction and confidence in having sufficient training in order to effectively perform their job duties. In the same study by Carter (Carter et al., 2009), paraeducators reported moderate levels of a need for additional training. Approximately one third of paraeducators reported considerable need for training in basic technologies appropriate to students with disabilities (37.8%), indicators of abuse and neglect (33.3%), basic instructional and remedial strategies and materials (32.2%), rights and responsibilities of families and children as they relate to learning needs (32.1%), and rules and procedural safeguards regarding management of students'

behaviors (31.0%). Paraeducators generally reported having moderate to substantial levels of preparation in order perform skills that involved ethics and confidentiality and other areas that did not involve instructional techniques (Carter et al., 2009). At least half of the paraeducators indicated they felt moderately to very prepared to perform all of the tasks asked of them in a school day. The five tasks that paraeducators reported the highest levels of preparation were monitoring hallways, study hall, lunch, or detention; clerical work like photocopying, typing, or filing; providing one-on-one instruction; providing instructional support in small groups; and meeting teachers or service providers about work. The tasks most often reported as receiving moderate levels of preparation were completing disability-specific paperwork, assisting with speech therapy services, writing lesson plans for students, assisting with physical or occupational therapy, and participating in planning for students' IEP meetings. The tasks on which the highest percentage of paraeducators indicated considerable need for additional training were helping students to use assistive technology (34.8%), completing disability-specific paperwork (32.4%), assisting with speech therapy services (29.5%), assisting with physical or occupational therapy (29.3%), and implementing behavior management programs (27.4%); (Carter et al., 2009). The broader literature corroborates the fact that paraeducators generally desire more interaction, training, and planning time with their collaborating teachers to feel more comfortable in performing the important skills placed upon them (e.g., Downing, Ryndak, & Clark, 2000; Hauge & Babkie, 2006). Paraeducators most often identified providing one-on-one instruction, facilitating relationships among students, providing instructional support, and implementing behavior management programs as the areas in which they desired additional training and support (e.g., Downing et al., 2000; French, 1998, 2001; Riggs & Mueller, 2001). Because these

skills require more than cursory knowledge of how to properly employ them, it is essential that paraeducators receive more than just informal on-the-job training.

Effective Training Methods for Paraeducators

The broader literature offers guidance in identifying potentially effective methods and procedures for teacher and paraeducator training (e.g., Lieberman & Conroy, 2013; O’Keeffe, Slocum, & Magnusson, 2013). These studies have sought to ensure that research based interventions procedures were used to instruct paraeducators. For the purposes of this study, we will use Sanetti’s definition of *treatment fidelity*: the extent to which essential procedures of an intervention are consistently delivered by a trained interventionist (Sanetti & Kratochwill, 2009; Michie et al., 2011). According to the literature, many researchers agree that the acquisition of well-defined skills is best accomplished through training methods that emphasize procedural fidelity to discrete intervention components. This is especially true when reviewing best practices for preparing paraeducators to work with students (Fixsen, Blase, Naoom, & Wallace, 2009).

Researchers have been successful in training paraeducators and other instructional personnel to implement novel interventions by supplementing traditional training strategies using the following methods: (a) modeling desired behaviors both in and out of realistic settings (Moore & Fisher, 2007), (b) role-playing prior to execution (Lerman, Tetreault, Hovanetz, Strubel, & Garro, 2008), and (c) performance feedback following implementation of new skill (Roscoe & Fisher, 2008; Sanetti, Luiselli, & Handler, 2007). The purpose of modeling is to demonstrate the actions in order to perform a desired skill. Following modeling, the trainee is then asked to imitate the skill through role-play outside of the setting in which the intervention will be implemented. Trainees performed the desired skill in authentic settings after they

demonstrated competent use of the skill during role-play sessions. Data is collected during both role-play and authentic settings to ensure proper performance of the skill. This process is called performance feedback. The purpose of performance feedback is to increase the use of desired skills through explicit, corrective feedback. These training procedures were used as the underpinning of the methods developed for the current investigation given that they have demonstrated efficacy with a variety of school personnel in a variety of settings (Lyon, Stirman, Kerns, & Bruns, 2011).

Positive Behavior Support

In 1997, amendments to the Individuals with Disabilities Education Improvement Act (IDEA) introduced several new concepts, including two particularly impactful constructs: (a) functional behavioral assessment (FBA) and (b) positive behavior intervention and support (PBIS). Section 614 (d)(3)(B)(i) of P.L. 105-17 states that “in the case of a child whose behavior impedes his or her learning or that of others, the child’s Individualized Education Program (IEP) team must consider, when appropriate, strategies, including positive behavioral intervention strategies and supports, to address that behavior.” PBIS and FBA stand as a testament to efforts to offer quality behavioral interventions and behavior support planning. According to Todd, Horner, Sugai, and Sprague, “positive behavior support is a general term that refers to the application of positive behavioral interventions and systems to achieve socially important behavior change” (1999). Initially, PBIS was used with students with significant disabilities as an alternative to aversive or punishing interventions (Durand & Carr, 1985; Meyer & Evans, 1989). However, the approach has widened to audiences such as entire schools and districts (Carr et al., 1999; Colvin, Kame’enui, & Sugai, 1993; Colvin, Sugai, Good, & Lee, 1997; Horner, Albin, Sprague, & Todd, 1999; Taylor-Greene et al., 1997; Todd, Horner, Sugai, &

Sprague, 1999). PBIS focuses on creating environments in which desired behaviors are more functional and problem behaviors are less effective in allowing the student to get what they want. Haring and De Vault (1996) have indicated that PBIS consists of (a) “interventions that consider the contexts within which the behavior occurs,” (b) “interventions that address the functionality of the problem behavior,” (c) “interventions that can be justified by the outcomes,” and (d) “outcomes that are acceptable to the individual, the family, and the supportive community” (p. 116). In short, PBIS is a behavior framework that focuses on preventing problem behavior by creating positive working and living environments.

After reviewing the literature on PBIS, researchers carefully appraised the scientifically-based interventions that would offer the greatest help to teachers and students while remaining relatively easy for paraeducators to learn and implement immediately. With these parameters in mind researchers selected the PBIS skills: precorrection, active supervision, and behavior specific praise to introduce to study participants through the training framework.

Precorrection. Precorrection is a method in which individuals are reminded of expected behavior entering a situation in which undesired behavior typically occurs (Vo, Sutherland, & Conroy, 2012). In other words, “precorrection” is defined as an antecedent instructional event designed to prevent the occurrence of predictable problem behavior and to facilitate the occurrence of more appropriate replacement behavior (Colvin & Sugai, 1988; Colvin, Sugai, & Patching, 1993). For example, if students predictably loiter in the hallway during passing periods, causing them to be late, a precorrection might consist of a verbal reminder before passing periods of possible rewards for being in class on time. Precorrection can be delivered in a variety of forms including a verbal reminder of rules or description of desired behavior or nonverbal prompt (e.g., gesture or model), opportunity to practice a more appropriate behavior

through role-play, or reminders of reinforcers associated with displays of appropriate behavior (De Pry & Sugai, 2002). Several studies have shown clear decreases in problem behaviors following staggered implementation of precorrection from paraeducators and other instructional personnel—particularly during transitions (e.g., passing periods, before and after lunch) within the school day (Colvin & Sugai, 1988; Colvin, et al., 1997; Colvin et al., 1993; De Pry & Sugai, 2002; Vo et al., 2012).

Active supervision. According to Colvin et al. (1997) active supervision is defined as “specific and overt behaviors (scanning, escorting, interacting) displayed by supervisors designed to prevent problem behavior and to promote rule-following behavior” (p. 346). Active supervision involves visually scanning the environment, and using proximity to physically move around and interact with children (Colvin, et al., 1997; DePry & Sugai, 2002). According to Colvin et al (1997) the three main behaviors that define active supervision are:

1. Move around – Physically vary your positions and avoid standing in one place.
2. Look around – Scan all areas, especially distant areas.
3. Interact with the students – Provide greetings, chat briefly with the students, provide gestural signals, comment on items of interest, and inform students when they are violating rules of expected behavior, provide praise for following the rules.

As with precorrection, many studies conducted on the effects of active supervision showed a positive correlative effect on the reduction of the problem behavior(s) (Colvin, et al., 1997; DePry & Sugai, 2002). Overall, the literature indicates that precorrection and active supervision, both in the classroom (e.g., Vo et al., 2012) and schoolwide (e.g., Colvin, et al., 1997), are effective PBIS strategies to improve student behavior.

Behavior-specific praise. Behavior-specific praise is a form of feedback that explicitly identifies a behavior that an individual would like to see increased and signifies approval of that behavior (e.g., “I like the sentence you wrote,” “Thank you for raising your hand.”). The literature states that behavior-specific praise often provides a strong reinforcer that has been shown to increase appropriate behavioral and academic performance in students (Gable, Hester, Rock & Hughes, 2009; Smith, Lewis, & Stormont, 2011; Stormont, Smith, & Lewis, 2007; Sutherland, Wehby, & Copeland, 2000). In fact, behavior-specific praise has been linked to effective classroom management strategies to improve student performance since the 1960s (e.g., Madsen, Becker, & Thomas, 1968). More recently, behavior-specific praise has been shown to increase engagement (e.g., Sutherland et al., 2000) and decrease classroom disruptions (e.g., Gunter, Denny, Jack, Shores, & Nelson, 1993). Moreover, behavior-specific praise has been shown to have positive effects on student’s academic performance in math (Schunk, 1983), reading (Gable & Shores, 1980), writing (Van Houten, Hill, & Parsons, 1975), spelling (Craft, Alber, & Heward, 1998), and science (Blaney, 1983). Although the use of behavior-specific praise has shown itself to be a powerful factor in improving student performance for decades, it continues to be an underused by teachers and paraeducators (Rathel, Drasgow, & Christle, 2008).

Bug-in-the-ear Technology for Training Purposes

It has been said that immediate feedback is at the root of the most effective coaching (Scheeler, Ruhl, & McAfee, 2004). Unfortunately, most traditional training venues (e.g., conferences) do not lend themselves well to immediate feedback. It is no secret that feedback often occurs long after trainings occur and are all too often conducted out of the teaching context (Giebelhaus, 1994; Rock, Gregg, Gable, & Zigmond, 2009). Studies have shown that the greatest potential for learning from feedback occurs during the training process itself

(Giebelhaus, 1994). Regrettably, the common training models do not provide feedback, reinforcement, or intervention during this crucial time of learning. Thankfully, bug in the ear (BIE) devices offer an ingenious solution to this difficulty. BIE technology allows supervisors to provide unobtrusive coaching for new or struggling trainees through a virtual coaching session without being physically present. The trainee wears a receiver (BIE), such as a Bluetooth headset, in one ear and the supervisor uses a microphone such as a telephone to cue and prompt in real-time (Rock, Gregg, Howard et al., 2009). The advantages of utilizing BIE technology for training are numerous. BIE technology offers discreet exchanges between the trainer and trainee. Unlike other methods of on-site coaching, the coach can give feedback in real-time while the teacher is talking or delivering instruction but without interfering with the lesson. The coach can talk to the paraeducator when there is silence in the classroom (e.g., the students are engaged in independent or cooperative learning activities), as well as before or after the lesson. The breakthrough in BIE technology occurred with the introduction of Bluetooth technology and Voice over Internet Protocol (VoIP) such as Skype.

Remote coaching became a reality with these improvements to BIE technology as the difficulties of time and distance essential became non-issues (Rock, Gregg, Gable et. al., 2009; Rock, Gregg, Howard et al., 2009). Moreover, BIE coaching is feasible today using most school district's existing technology resources and most paraeducators' existing level of technology know-how (Rock, Gregg, Howard et al., 2009).

Quantitative and qualitative results indicate that the bug-in-ear technology is a practical and efficient way to provide immediate job-embedded feedback (Rock, Gregg, Howard et al., 2009). Supervisors have applied this strategy in studies validating bug-in-ear technology's effectiveness for more than five decades in a variety of clinical training settings where

communication during supervision is an issue, including medicine, psychology, counseling, dentistry, and teaching. Through the years these studies have shown BIE technology to be a proven method for improving the professional practice of frontline practitioners by providing immediate feedback (Bowles & Nelson, 1976; Boylston & Tuma, 1972; Domoto, Weinstein, & Getz, 1979; Giebelhaus, 1994; Giebelhaus & Cruz, 1992; Hunt, 1980; Rock, Gregg, Howard et al., 2009; Van der Mars, 1989; Ward, 1960). Notwithstanding the extensive empirical evidence validating the use of such a training model coupled with the obvious applications and benefits to BIE training for educators, a review of the current literature revealed that very little research has been conducted with regard to the use of BIE technology to train paraeducators. The paucity of research in this area opens wide an exciting avenue of research to simultaneously address the need for more adequate and timely training for paraeducators while exploring the efficacy of BIE training for paraeducators in an on-the-job training scenario.

Research Questions

This study was guided by the following experimental questions:

1. What are the effects of a bug-in-the-ear, direct instruction model on the use of positive behavior support strategies among middle school paraeducators?
2. Following the training intervention, do paraeducators continue to independently perform these strategies with fidelity over time?
3. What are teacher and paraeducators' perceptions of the utility and effectiveness of the training intervention?

The initial question was a demonstration experimental question in which a causal relationship between the independent variable—the direct instruction of desired PBIS skills through modeling and guided practice with bug-in-the-ear feedback—and the dependent

variable—the performance or nonperformance of positive behavior support strategies in the classroom—were examined and observed. A task analysis checklist for each PBIS skill (precorrection, active supervision, and behavior-specific praise) was used to measure the performance of skills during the training phase. For the remainder of this paper, the checklists will be referred to as the procedural fidelity checklist (see Appendices A–F).

The secondary question assessed the retention of skills over time in order to determine whether paraeducators continued to use the skills they were taught following the training. Thirty days after the training phase occurred participants were observed and the “follow up” section of the procedural fidelity checklist was used to measure the number of skills the participants (see Appendices D–F).

The tertiary question assesses social validity in order to determine whether teachers and paraeducators feel the intervention was successful and effective. Social validity was measured using the Usage Rating Profile-Intervention (URP-I) (see Appendix G) developed by Chafouleas, Briesch, Riley-Tillman, & McCoach (2009). The URP-I is a 35-item self-report measure of the perceived usability of an intervention with factors providing assessments on the acceptability, understanding, feasibility, and support for the intervention. Each item is rated on a six-point scale ranging from, strongly disagree to strongly agree, with high overall scores on acceptability, understanding, and feasibility indicating strong endorsement of the factor and low scores on system support suggesting that the intervention can be implemented with greater independence (Chafouleas et al., 2009).

Chapter 3: Methods

Selection Procedure

Following Institutional Review Board (IRB) approval, the school principal was contacted to discuss the study purpose and obtain permission to speak with the special education faculty and support staff at the school. A meeting was held with program teachers, paraeducators, and the special education facilitator charged with overseeing the program. During this meeting, the study purpose, procedures, and risks were outlined with all teachers and paraeducators.

Researchers offered a \$25.00 gift certificate to any paraeducator willing to participate in the initial selection procedures to find the two paraeducators who would be selected to be participants in the study. They were told that the two participants of the study and the teacher(s) in whose classroom they work would receive another \$25.00 gift certificate once the study was completed. All paraeducators agreed to participate and were given their gift certificate. An observation was then conducted on each of the paraeducators as they worked in their assigned classrooms prior to the implementation of any intervention. The observation consisted of three 15-minute trials during which the participant selection observation forms (Appendices A–C) were used to determine the degree to which paraeducators independently performed the steps for each target skill (precorrection, active supervision, and behavior-specific praise). A plus sign (+) was marked on the participant selection observation forms for each step of the target skill that was performed independently. A minus sign (–) was marked for each step of the target skill that was not performed during each 15-minute trial. Following the observation, the number of plus signs obtained during each trial were counted and marked in the space provided on the observation form. The percent of steps performed correctly during each trial was obtained by dividing the number of plus signs by the number of possible plus signs. The percent of correct

steps for each trial was added and divided by three to obtain an average percent of steps performed correctly over all three trials. Paraeducators who received less than an average of 50% of steps performed correctly were candidates to participate in the study. From that group, the two paraeducators with the lowest average percentages of all three target skills were chosen as research participants. Table 1 shows the mean scores of the selection observations for all of the paraeducators at the participating school.

Table 1

Selection Observation Means (M) Across Skills

| | Precorrection | Active Supervision | Behavior-Specific Praise | Overall <i>M</i> |
|----------------|---------------|--------------------|--------------------------|------------------|
| Paraeducator 1 | 0% | 33.33% | 13.33% | 15.55% |
| Paraeducator 2 | 0% | 6.6% | 6.6% | 4.4% |
| Paraeducator 3 | 16% | 60% | 53% | 43% |
| Paraeducator 4 | 0% | 33.33% | 20% | 17.77% |

Note. Paraeducators 1 and 2 were selected as study participants with the lowest overall mean scores.

Participants

The participants for the study were special education paraeducators working exclusively in the self-contained special education classroom at the participating school. The participants were assigned ordinal numbers (Participant 1 and Participant 2). All data were reported with these identifiers.

Participant 1 was a 25-year-old Hispanic female with three weeks experience as a substitute working with students with severe to profound disabilities in a self-contained special education classroom prior to being hired as a full-time paraeducator in the self-contained special

education classroom in the participating school. She had worked at the participating school for one year at the beginning of the study. She reported working toward a bachelor's degree in elementary education at a nearby university. She also reported receiving no previous preservice preparation for her job as a paraeducator.

Participant 2 was a 19-year-old white male with no experience working with people with disabilities prior to being hired as a part-time paraeducator working in both self-contained and mild-moderate special education classroom in the participating school. He had worked at the participating school for six months at the beginning of the study. He reported working toward a bachelor's degree in an undeclared major at a nearby university. He also reported receiving no previous formal or informal preservice preparation for his job as a paraeducator. Table 2 depicts an overview of the research participants' demographics.

Table 2

Demographic Overview of Paraeducator Participants

| | Classroom Type | Age | Gender | Ethnicity | Experience | Degree |
|---------------|----------------|-----|--------|-----------|------------|-------------|
| Participant 1 | Self Contained | 25 | F | Hispanic | 1 year | Associates |
| Participant 2 | Self Contained | 19 | M | White | 6 months | High School |

Note. Demographic information was obtained through an optional questionnaire on the research consent form.

Setting

This study took place at an urban middle school located in northern Utah. The 2010 U. S. Census reported 115,919 people, 29,192 households, and 19,938 families residing in the city. The population density was 2653.2 people per square mile. The racial makeup of the city was

84.8% White, 0.7% Black or African American, .8% American Indian, 2.5% Asian, 1.1% Pacific Islander, 5.10% from other races, 3.4% from two or more races, and Hispanic or Latino of any race were 15.2% of the population (U.S. Census Bureau, 2010).

The following demographic information about the participating middle school was collected from the Utah State Office of Education's Data Report (Utah State Office of Education, 2014). For the 2014–2015 school year, there were 822 7th- and 8th-grade students enrolled at the participating middle school. Approximately 57% of students at the participating school were from low-income homes and 1% were English language learners. Almost 14% of the student body were students with disabilities. Classroom instruction ran from 9:20 am to 2:50 pm on Mondays (to accommodate faculty meeting) and 8:00 am to 2:50 pm Tuesday through Friday.

There were five full-time special education teachers: one was teaching students with severe to profound disabilities in a self-contained classroom and four were teaching students with mild to moderate disabilities in resource classrooms. There was a student teacher in the self-contained classroom for the duration of the study. The intervention was delivered in the self-contained classroom during regularly scheduled classroom instruction. The students and the participants were familiar with the classroom surroundings, routines, and people.

Materials

One of the aims of the intervention was to reduce the cost and increase the ease with which training is provided. To that end, the suggested materials for the intervention were kept to a minimum and were either already on hand or easily acquired at a minimal price. A list of the recommended materials for the intervention is included in Table 3.

Table 3

Items Used for Paraeducator Training

| Participant Components | Researcher Components |
|--|--|
| Desk or laptop computer, either PC or Mac. (whichever was available) | Desk or laptop computer, either PC or Mac. (whatever was available) |
| Voice over Internet Protocol (VoIP), such as Skype™ or Google Hangouts™ | Voice over Internet Protocol (VoIP), such as Skype™ or Google Hangouts™ |
| Bluetooth earpiece and Cell phone | Cell phone |
| Webcam, preferably with high definition and zoom features, and wide-angle lens capability (built into computers) | Webcam (built into computers) |
| Clipboard | Clipboard |
| Writing utensil | Writing utensil |
| Paraeducator Procedural Fidelity Checklist | Paraeducator Procedural Fidelity Checklist |
| Usage Rating Profile-Intervention | Screen cast recording program, such as QuickTime Player to save the sessions as electronic video files |

Note. Adapted from “Virtual coaching for novice teachers,” by Rock, Gregg, Gable, & Zigmond, 2009, *Phi Delta Kappan*, 91, 36-41. Copyright 2009 by Phi Delta Kappa.

Measures

The experimental questions were measured through the following data collection measures:

1. Procedural fidelity checklists (see Appendices D–F) were used to measure the effect of the training package on paraeducator behavior.

2. The follow up section on the procedural fidelity checklists was used to measure whether or not participants continued to independently perform target skills over time (see Appendices D–F).
3. The Usage Rating Profile-Intervention was used to measure teacher and paraeducator feelings about the training package (see Appendix D).

Dependent variable. The dependent variable was percentage of steps performed correctly on the three target skills (precorrection, active supervision, and behavior-specific praise) and whether or not participants continued to use the target skills with fidelity over time.

Independent variable. The independent variable was the direct instruction training package including modeling and guided practice of desired PBIS skills.

Baseline. Baseline data were collected during the selection procedures for participants. Researchers used the participant selection observation forms (Appendices A–C) to determine the percent of target skill steps paraeducators performed correctly (precorrection, active supervision and behavior-specific praise). The participants selected for the study scored an average of 50% or below of steps performed correctly across all three target skills. Specific baseline percentages are reported in the results section.

Intervention Procedures

The purpose of the primary research question was to determine whether a multicomponent training package resulted in initial and sustained levels of intervention fidelity for paraeducators performing positive behavior support strategies. An equally important focus of the intervention was to minimize the amount of time and money paraeducators spent outside of the classroom for training. As such, the training package consisted of a series of theoretically and empirically grounded components for ensuring that paraeducators were able to learn and

continue to use the positive behavior skills of precorrection, active supervision, and behavior-specific praise. Teachers were notified of training procedures, and understood that they would be without support from either a paraeducator or a researcher for no more than 15 minutes. They were told to run their classrooms as they normally would and an adult (either a researcher or the paraeducator) would be present to support the teacher with behavior management. School personnel were made aware that audio and visual recording instruments would be set up in their classrooms.

Researchers had parents sign video recording releases because their names and faces would appear on film, though no data were taken on students. Before the intervention package was implemented and before school hours, researchers placed a computer equipped with a VoIP program in the participants' classroom. In this case, researchers used Google Hangouts.TM The computer was carefully positioned and tested to give researchers the most unobstructed view of the classroom. A second computer was placed in a different room in the school from which the researchers would view the classroom. Just prior to the beginning of the first intervention phase, the researcher logged both computers on to the VoIP program and began recording.

The intervention consisted of a three-phase lesson for each of the target skills (a) a training phase, (b) an independent phase, and (c) a follow-up phase. The training and independent phases were delivered to participants in a same-day sequence across six 5-minute trials in the training phase and three trials within a 20-minute time period during the independent phase.

During the training phase participants watched two short, introductory training videos. The videos can be viewed online via web link (Appendix H) and the scripts are found in Appendices I–L. After the videos, participants watched a researcher model the skill during

normal classroom instruction in three 5-minute trials. The training phase concluded with three 5-minute guided practice trials in which the participant performed the steps of the target skill during normal classroom instruction time.

During the guided practice trials, a researcher offered prompts and correction via VoIP and bug-in-the-ear systems. The independent phase consisted of a 20-minute observation period in which the researcher observed participants performing the steps of the target skill three times via a VoIP system. Researchers used the procedural fidelity checklist (Appendices D–F) to track the percent of steps the participants performed correctly. The follow-up phase was conducted 30 days after the independent phase. It consisted of three 20-minute observations in which the researcher hoped to observe participants performing the steps of the target skill at least three times, using the procedural fidelity checklist to track the percent of steps performed correctly. This concluded the training package for the first skill. The second skill was introduced following the same procedure as outlined above with a video, live model, guided practice trials, independent practice trials, and follow-up trials. The third skill was then introduced following the same procedure.

Intervention Description

Following the establishment of a stable baseline, the three-phase training package was introduced. The initial training phase consisted of instruction, three modeling trials, and guided practice trials. The secondary independent phase consisted of three independent trials. The final follow-up phase consisted of three trials conducted 30 days after the independent phase. Once the participant completed all of the phases of the first target skills, the training cycle began again with the secondary target skill. Once the three phases were complete for the second target skill,

the third skill was introduced, following the same three-phase cycle. Each component of the training program is described in greater detail in the following sections.

Training phase: Didactic introduction and modeling of target skill. Prior to the introduction of a particular skill participants were asked to clock in 15 minutes before they usually did to watch a 5-minute training video providing a general overview of positive behavior supports and a rationale for their use. This overview was delivered outside of the classroom. Participants then watched a 3-minute video introducing the first target skill (precorrection) and a tutorial of the procedural fidelity checklist that outlined the steps of the target skill. Copies of the videos were made available to participants to view again on their own time if necessary. Following the videos participants were given a clipboard with a copy of the procedural fidelity checklist for precorrection (Appendix D) and a writing utensil. They were informed that they and the researcher were going to enter the classroom a few minutes prior to the beginning of the next class period of normal instruction time and were instructed to find an inconspicuous place in the classroom from which to watch the researcher model the steps of the target skill. They were instructed to mark a plus sign (+) on the procedural fidelity checklist in the space provided next to the step when they observed the researcher model the step. If they did not observe the researcher model the step, they were to mark a minus sign (–) in the space next to the step. They were told that there were two reasons for this: (a) to help participants understand how the researcher used the procedural fidelity checklist to determine whether or not participants were mastering the new skills and (b) to help participants focus on and better recognize the steps of the target skills during the modeling trials. The participants were told that once the researcher modeled all steps of the target skill, he or she would move to the back of the room and wait for

five seconds. This would signal the participant that the trial was over. After the 5-second pause, the second trial would begin and the researcher would move forward into the room and perform all the steps of the target skill. The researcher would then move to the back of the room, wait five seconds and begin trial three in exactly the same way as the previous two trials. Trial 1 of the modeling phase began as the participant and researcher entered the classroom to which the participant was normally assigned. Once all three modeling trials were completed, the researcher and the participant left the classroom. During a 2-minute review session, the researcher and the participant went over the results of the modeling phase, giving the participants time to clarify what they saw and to ask questions.

Guided practice with prompting and performance feedback of intervention procedures. The guided practice phase was designed to assist paraeducators in practicing the steps of the target skill with immediate coaching and prompts from the researcher. As indicated previously, computers with a VoIP program were already positioned in the classroom and in a viewing area and began recording just before the modeling phase of the intervention. The recording allowed a second, independent observer to view and collect data on the guided practice and independent practice sessions at different times to assess interobserver agreement. Immediately after the follow up discussion of the modeling phase, the participants were given a Bluetooth earpiece paired to a cellphone. The researcher called the cellphone and told participants to go back into the classroom and perform the steps of the target behavior. They were told that the researcher would view them via the VoIP program from the viewing area and give verbal reminders and prompts of what to do via the Bluetooth earpiece. They were instructed to practice the target skill over and over again until they performed the target behavior with at least 80% accuracy over three consecutive trials. After the participant entered the

classroom, the researcher watched on the computer in the viewing area. The researcher provided the participant with immediate performance feedback using prompts, praise, and correction via the VoIP and the Bluetooth earpiece while simultaneously collecting data in the guided practice section of the procedural fidelity checklist. Once all of the steps of the target behavior were performed, the researcher told the participant to perform the steps of the target skill again. Once the participant performed the target behavior with at least 80% accuracy over three consecutive trials, they were instructed to leave the classroom and meet with the researcher. During a 2-minute session, the researcher and the participant reviewed the results of the guided practice phase. The researcher pointed out areas that needed improvement and praised areas of strength. The participant was also given the opportunity to ask questions and receive clarification. A second observer viewed the recorded session later to corroborate the initial researcher's data.

Independent practice of intervention procedures. Following the 2-minute review session in the guided practice trial, the participants were asked to remove and return the Bluetooth device, the phone call was ended, and they were told to reenter the classroom a final time and perform the steps of the target behavior. They were told that during the independent phase they were to perform the target skill three times by themselves, executing the steps from the beginning as soon as they finished the final step in the previous sequence. Once the participant returned to the classroom the researcher watched for 20 minutes and collected data on the target skill in the independent practice section of the procedural fidelity checklist in the manner described previously. A second observer reviewed the VoIP recording of the independent trial at their convenience and collected data in the independent practice section of the procedural fidelity checklist in the manner described previously. At the end of the 20-minute timeframe, the independent phase ended and the researcher and observer stopped collecting data.

In order to minimize disruptions to the classroom, the researcher waited until the next natural break in the school schedule to meet with the participant for a 2-minute review session. As in the previous two phases, the researcher reviewed the results of the independent phase with the participant and pointed out areas needed improvement and praised areas of strength. The participant was also given the opportunity to ask questions and receive clarification. Participants were told that the training phase was completed for the target skill. They were also told that they would learn a new skill at a later date but they were expected to continue to use the current skill daily in the classroom. They were informed that they would be observed later to see if they continued to use the skill over time but were not told when the follow up observations would occur.

Follow up on continued use of intervention procedures. During the final phase of the training package, the researcher collected maintenance data to determine whether paraeducators continued to independently perform the desired target skills over time. Thirty days after the completion of the training and independent phases, the research team returned to conduct a follow up observation. The participants were not notified of the time the research team would return to observe. The researcher entered the classroom before the school day began to set up the computer and VoIP system. The researcher and the secondary observer viewed the participants via the VoIP system during three 20-minute observations randomly selected from various parts of the day in order to give participants a greater chance of demonstrating the target skill. The researcher and the observer collected data in the follow up section of the procedural fidelity checklist in the same manner as in previous phases. A trial was counted when the participant performed one or more of the steps of the target skill three separate times at any point during the three 20-minute observations. As soon as three trials of the target skill were observed the follow

up phase ended and any time remaining of the three 20-minute observations were omitted. In order to minimize disruptions to the classroom, the researcher waited until the next natural break in the school schedule to meet with the participant for a 2-minute session. As in all previous phases, the researcher reviewed the results of the follow up phase. The researcher pointed out areas of strength and weakness and reminded participants to continue using the skill. After the review session, the intervention package cycle was completed for the precorrection target skill and participants were introduced to a new skill.

Skill Introduction

The researcher introduced the second skill, active supervision, immediately after the researcher reviewed the results of the follow up observations for the initial skill with the participants. The researcher began the intervention package cycle again, starting with the training phase. The training phase was conducted in the same manner as in the previous cycle with one exception; the participants were only shown one training video. A 3-minute video introduced the second target skill, active supervision, with a tutorial of the procedural fidelity checklist (Appendix E) that outlined the steps of the new skill. The video was made available for participants to watch again on their own time if they wished. The phases of the intervention package were followed in the exact manner as for the first skill including the modeling, guided practice, independent practice, and follow up sessions until the cycle was complete. The researcher then introduced the third target skill, behavior-specific praise. Participants watched a 3-minute video introducing behavior-specific praise, with a tutorial of the procedural fidelity checklist (Appendix F) that outlined the steps of the new target skill. The remainder of the intervention package cycle was administered in the same manner as described for all previous skills. When the intervention package cycle for the third skill was completed, the participants

and their supervising teacher(s) were asked to complete the Usage Rating Profile-Intervention (URP-I) protocol (Appendix G). Researchers immediately gave the second \$25.00 gift card to participants and the teachers who returned their completed URP-I.

Chapter 4: Results

A concurrent multiple baseline design (Richards, Taylor & Ramasamy, 2014) was used to assess the effects of the training package on the percent of steps performed correctly for the target skills. Table 4, Figure 1 and Figure 2 display the results of the trials for each participant.

Table 4

Intervention Phase Means (M) Across Skills

| | Skill | Intervention Phase | M |
|---------------|--------------------------|----------------------|--------|
| Participant 1 | Precorrection | Baseline | 0% |
| | | Guided Practice | 100% |
| | | Independent Practice | 100% |
| | | Follow Up | 100% |
| | Active Supervision | Baseline | 33.33% |
| | | Guided Practice | 100% |
| | | Independent Practice | 100% |
| | | Follow Up | 100% |
| | Behavior Specific Praise | Baseline | 13.33% |
| | | Guided Practice | 100% |
| | | Independent Practice | 100% |
| | | Follow Up | 100% |
| Participant 2 | Precorrection | Baseline | 0% |
| | | Guided Practice | 100% |
| | | Independent Practice | 100% |
| | | Follow Up | 100% |
| | Active Supervision | Baseline | 6.6% |
| | | Guided Practice | 93.33% |
| | | Independent Practice | 93.33% |
| | | Follow Up | 93.33% |
| | Behavior Specific Praise | Baseline | 6.6% |
| | | Guided Practice | 100% |
| | | Independent Practice | 100% |
| | | Follow Up | 100% |

Note. Mean scores were corroborated through an interobserver agreement of no less than 92% agreement.

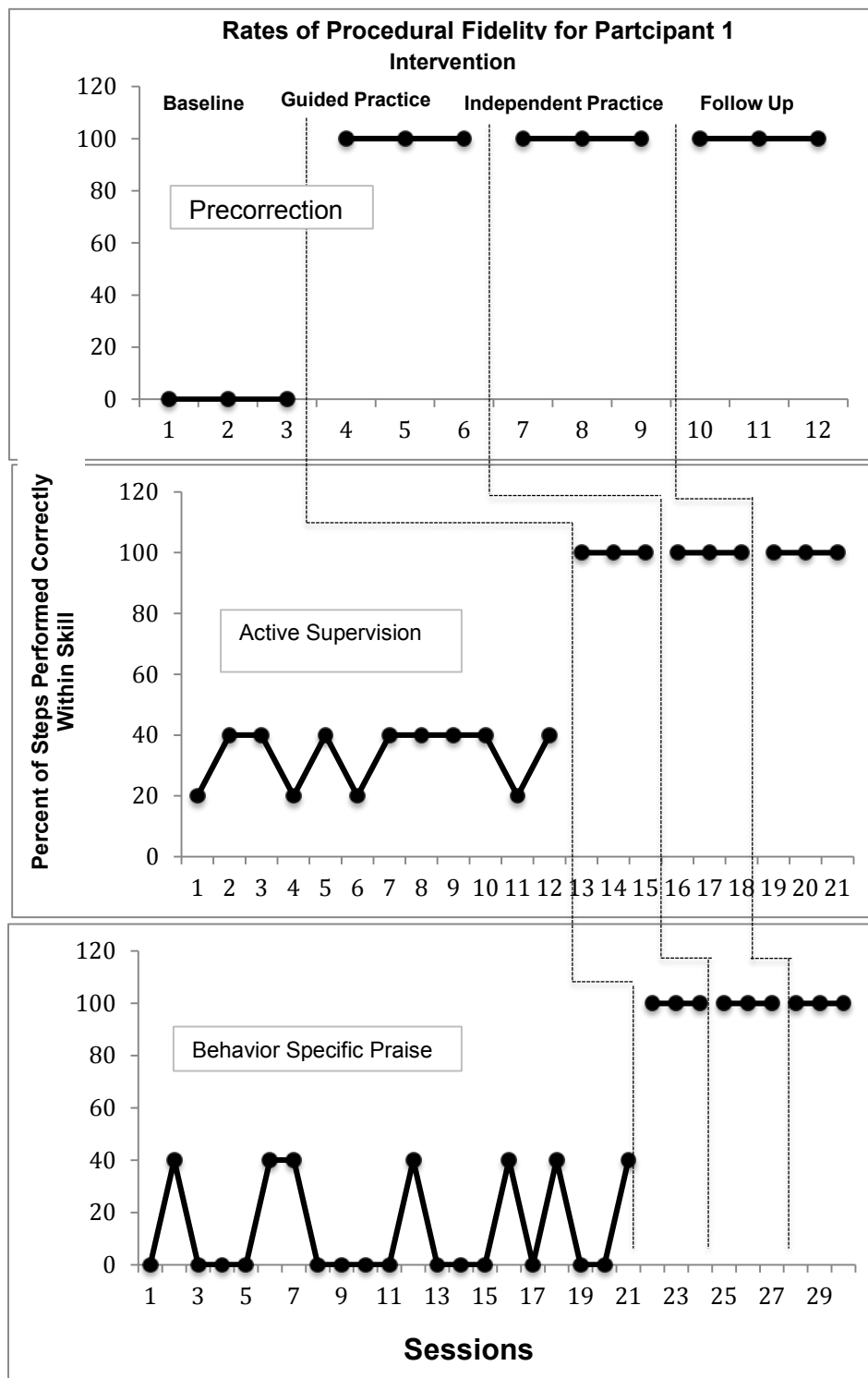


Figure 1. Multiple baseline of effects of training package across skills: Participant 1

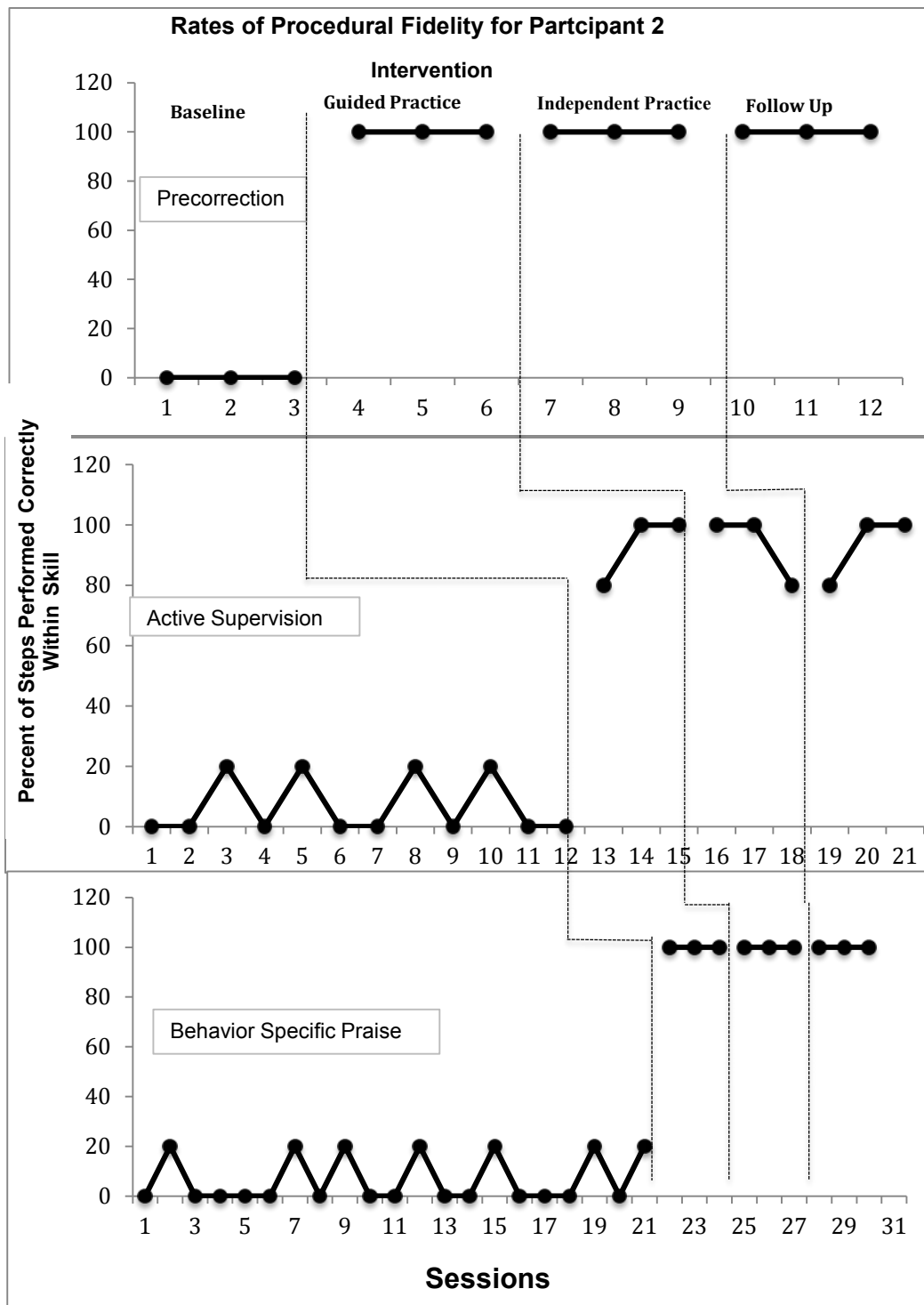


Figure 2. Multiple baseline of effects of training package across skills: Participant 2

Visual assessments were used as the primary method for determining intervention effect. These assessments were conducted in traditional fashion with the immediacy and overall level, trend, and variability of the data taken into account. According to the baseline data, the participants performed less than 50% of the steps for all the skills prior to the intervention. After the intervention, the participants performed nearly all the steps of each skill independently nearly 100% of the time during the independent phase and the follow up phase. Data indicated a positive functional relation between the intervention and the acquisition and maintenance of the desired skills. On average, participants performed more than 90% of the steps of the desired behaviors across all phases of the intervention and maintained the skills over time in a natural setting.

Interobserver Agreement

The researcher observed participants during each phase of the intervention cycle for each target skill and recorded data on the procedural fidelity checklists independently from the second observer. The researcher trained a second observer to collect data to ensure data reliability in a 5-minute session for each skill. The second observer was shown the procedural fidelity checklist for each target skill, which explains in detail each component. They were instructed to look for any behavior that demonstrates an understanding each step in the skill. The second instructor was given several examples of what behaviors would be acceptable for each skill. If they observed the step, they were instructed to mark a plus sign (+) in the correct box. If they saw the skill performed with verbal prompting from the trainer they were instructed to mark a V in the appropriate box. If they did not observe the step, they were instructed to mark a minus sign (–) in the appropriate box. Following the instruction, the second observer watched videos of the participants during each phase of the intervention cycle for each target skill. The second

observer watched privately in a room apart from the researcher and independently recorded data on their own procedural fidelity checklists. Interobserver agreement data were collected during 100% of the sessions across all phases of the study except for the baseline and modeling phases. An agreement index was used to compute reliability assessments with the number of agreements divided by the total number of agreements plus disagreements the formula employed. The mean scores indicated an agreement index of 92% agreement or higher across all three phases (guided practice, independent practice, and follow-up) of the intervention.

Social Validity

Over the years, researchers have attempted to increase the likelihood of successful implementation of school-based interventions through the assessment of treatment acceptability. One of the essential questions of the current study was to determine whether or not stakeholders (teachers and paraeducators) believed that the intervention was beneficial and sustainable. Beyond this, researchers were interested in knowing if stakeholders viewed the training package to be preferable to other methods of training received. These questions were assessed through the Usage Rating Profile-Intervention protocol (Appendix G) (Chafouleas, Briesch, Riley-Tillman, & McCoach, 2009). The URP-I was designed to measure stakeholder's perceptions of the acceptability, understandability, feasibility, and supportability of a school-based intervention. The URP-I consists of 35 questions on a 6-point Likert-type scale of strongly disagree (1 point), disagree (2 points), slightly disagree (3), slightly agree (4 points), agree (5 points) to strongly agree (6 points) (Chafouleas et al., 2009). High scores are desirable for most subscales. However, a low score for the systems support subscale reflects greater ability to independently implement the intervention. The mean score for each subscale from the two participants and the two participating classroom teachers are reported in Table 5.

Table 5

Usage Rating Profile-Intervention Subscale Means (M) and Standard Deviations (SD)

| Subscale | <i>M</i> | <i>SD</i> |
|-----------------|----------|-----------|
| Acceptability | 5.36 | .51 |
| Understanding | 4.90 | .81 |
| Feasibility | 5.37 | .49 |
| Systems Support | 2.87 | 1.49 |

Note. Low score for systems support reflects greater ability to independently implement the intervention.

On average, the participating paraeducators and the classroom teachers agreed that the training method was acceptable, meaning that they found the training to be fair, appropriate, and effective. Those surveyed slightly agreed that they understood how and had the requisite skills to implement the intervention. They agreed that implementing the training was feasible, within the allotted time. Lastly, raters believed that relatively minimal external support would be needed in order to implement the training package.

Chapter 5: Discussion

Data from this study indicated that the proposed training package holds promise as a time- and cost-effective answer to the difficulties of training paraeducators. Preliminary data demonstrated that allowing paraeducators time to watch an expert model the desired skills and to practice them in real time with immediate feedback through bug-in-the-ear technology allowed them to acquire desired skills in a relatively short amount of time and maintain over time. Researchers purposefully used technology the participating school already owned for the majority of the materials used in the study. The training was conducted entirely during the school day, thus saving precious time and money. Moreover, because the trainer acted as the paraeducator during the modeling phase, the classroom teacher only lost support for a maximum of 10 minutes at a time while the paraeducator watched the training video. This element sets it apart from other training methods and could make it particularly attractive to teachers. In fact, our social validity data suggested that teachers and paraeducators felt that the training package was both useful and feasible to implement and maintain. Not only did the intervention improve paraeducators' skills but it bridged the gap between theory and practice—demonstrating to teachers that there is a practical and attainable solution to the difficulties of training. With virtually no additional items to purchase, no additional time spent out of the regular school day, and almost no loss of supervision and support in the classroom, this training package is a sustainable alternative to the traditional expensive, time-consuming, and less effective training methods currently in use.

The success of this training model and its flexible framework further suggest that its use could be expanded in multitudinous ways. Paraeducators could be taught more complex skills beyond the basic behavior management skills used in this study, such as functional behavior

analysis or direct instruction. Teachers and other members of the school faculty and staff could be taught new skills or reminded of old skills through this training framework. It's possible that the framework could be used to train personnel in industries other than education. Direct instruction, on-the-job training and bug-in-the-ear technology are well-established evidence-based practices on their own. There are documented studies from several disciplines outside of education that indicate the positive outcome for using at least one of the three instructional strategies used in the proposed training framework to improve the performance of various professionals (e.g., Boylston, & Tuma, 1972; Hunt, 1980). However, as far as we know, this framework is the first to combine all three strategies in one training method. For educators and administrative personnel in other disciplines charged with the task of professional development and training, data indicated that this training package could offer considerable promise.

Limitations

As is the case when using any kind of technology, there are limitations that one should be considered and planned for. When replicating the experiment, future researchers should consider the age and quality of the participating school's technology. Because this study used the built-in cameras on the participating school's computers the view of the classroom was minimal and the researcher had to enter the room several times to move the camera to view all that was going on. While this did not seem to affect the classroom or negatively affect validity of the data, it might not be possible for long-distance training options. The Internet connection also created some difficulties that interfered with implementing the training. The computers at the participating school relied solely on the district Wi-Fi connection, which was not always reliable. As a result, the video feed from the VoIP would cut out intermittently. Some visual data were lost but observers were also connected via telephone so the training could continue through audio contact

while researchers reset the VoIP. Future researchers should consider using a mid-priced camera with zoom and wide-angle capabilities and using landlines or personal hotspots instead of Wi-Fi.

Although promising, the findings of the study should be viewed with caution due to the fact that the study was only conducted in one classroom in one setting, a self-contained classroom for students with severe disabilities. The small sample size is also a limiting factor of the study. To address these limitations, future research should establish the efficacy of the systematic bug-in-the-ear intervention model for paraeducator training using a randomized controlled trial with a larger sample. Researchers can further strengthen the efficacy of the study by conducting additional trials in multiple classroom settings.

Implications for Future Practice

The goal of this study and future research is to provide teachers and educational supervisors with a time- and cost-effective tool for training paraeducators and other school-based personnel to implement research-based behavioral and instructional support strategies in the classroom. As this is the first known study to combine direct instruction, and job embedded feedback through bug-in-the-ear technology, there are now numerous avenues of new research possibilities both in the area of paraeducator training, but also teacher training and even training in other work industries. This is an exciting new avenue for research and the improvement of working conditions and the delivery of instruction in schools.

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APPENDIX A

Participant Observation Form for Precorrection

Participant #: _____

| Code Key | |
|---------------------------------|-------------------------|
| + Performed skill independently | - Did not perform skill |

| Step | Trial 1 | Trial 2 | Trial 3 |
|---|---------|---------|---------|
| 1. Ask for problem transition(s). (Ask teacher before class starts the areas in which the most frequent or troublesome behavior problems occur) | | | |
| 2. Ask for desired behaviors. (Ask teacher what the desired behaviors are for the problem transitions. Make sure the teacher has taught students the desired behaviors before precorrection begins.) | | | |
| 3. Be there. (Place yourself between students and problem transition setting.) | | | |
| 4. Remind students of desired behaviors <i>before</i> they enter the transition setting(s). (Use a calm, voice and simple language Ex: "Remember, push in your chairs." "Backpacks go on the shelf.") | | | |
| Number of + per trial | __/4 | __/4 | __/4 |
| Percent of steps performed correctly | __% | __% | __% |
| $\frac{_\% + _\% + _\%}{3}$ | | | |
| Average percent of steps performed correctly | ____% | | |

APPENDIX B

Participant Selection Observation Form for Active Supervision

Participant #: _____

| Code Key | |
|---------------------------------|-------------------------|
| + Performed skill independently | - Did not perform skill |

| Step | Trial 1 | Trial 2 | Trial 3 |
|---|------------|------------|------------|
| 1. Move around. (Vary your positions and avoid standing in one place.) | | | |
| 2. Look around. (Scan all areas, especially distant areas.) | | | |
| 3. Connect positively with the students. (Use silent signals when teacher is talking Ex: a light pat on the shoulder, make eye contact and smile etc.... Provide greetings; chat briefly with the students when it is appropriate and non-disruptive to do so.) | | | |
| 4. Provide praise for following the rules or answering correctly. (Use silent signals like a thumbs-up while teacher is talking. Use verbal praise or a high-five when it is appropriate and non-disruptive to do so.) | | | |
| 5. Inform students when they violate rules of expected behavior. (Quietly and calmly state the rule that has been broken so only the student can hear then tell them the correct behavior to perform instead.) | | | |
| Number of + per trial | ___/5 | ___/5 | ___/5 |
| Percent of steps performed correctly | ___% | ___% | ___% |
| $\frac{\text{___}\% + \text{___}\% + \text{___}\%}{3}$ | | | |
| Average percent of steps performed correctly | ___% | | |

APPENDIX C

Participant Selection Observation Form for Behavior-Specific Praise

Participant #: _____

| Code Key | |
|---------------------------------|-------------------------|
| + Performed skill independently | - Did not perform skill |

| Step | Trial 1 | Trial 2 | Trial 3 |
|--|---------|---------|---------|
| 1. Look around. (Scan the room for students who are following rules and answering questions correctly.) | | | |
| 2. Be immediate. (Try to praise as soon as a positive behavior occurs. Delayed reactions are not as powerful.) | | | |
| 3. Move close to the student. (This minimizes distractions and helps people know you are sincere.) | | | |
| 4. Make eye contact. (Another way to show you are sincere) | | | |
| 5. Describe the behavior as you praise. (Tell the student exactly what they did that you appreciated. Ex: "I'm very proud of you for raising your hand." "I like it when you make appropriate comments in our discussions." "You worked hard the whole class period you should be proud." Avoid general statements like "good job") | | | |

| | | | |
|---|------|------|------|
| Number of + per trial | __/5 | __/5 | __/5 |
| Percent of steps performed correctly | __% | __% | __% |
| $\frac{\text{__}\% + \text{__}\% + \text{__}\%}{3}$ | | | |
| Average percent of steps performed correctly | __% | | |

APPENDIX G

Usage Rating Profile-Intervention (URP-I)

| | Strongly Disagree | Disagree | Slightly Disagree | Agree | Slightly Agree | Strongly Agree |
|--|----------------------|----------|----------------------|-------|-------------------|-------------------|
| 1 The amount of time required to use this intervention is reasonable. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2 I would implement this intervention with a good deal of enthusiasm. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3 The intervention could be implemented for the duration of time as prescribed. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4 The amount of time required for record keeping with this intervention is reasonable. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5 I am motivated to try this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6 I would need consultative support to implement this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 All pieces of this intervention could be implemented precisely. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8 The intervention could be implemented with the intensity as prescribed. | 1 | 2 | 3 | 4 | 5 | 6 |
| 9 I would have positive attitudes about implementing this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 10 I understand the procedures of this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 11 I would know what to do if I was asked to implement this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 12 Overall, the intervention is beneficial for the child. | 1 | 2 | 3 | 4 | 5 | 6 |
| 13 Implementation of this intervention would require support from my co- workers. | 1 | 2 | 3 | 4 | 5 | 6 |
| 14 Parental collaboration is required | 1 | 2 | 3 | 4 | 5 | 6 |

| | | | | | | | |
|----|--|---|---|---|---|---|---|
| | in order to use this intervention. | | | | | | |
| 15 | The requirements for implementing this intervention are unclear. | 1 | 2 | 3 | 4 | 5 | 6 |
| 16 | I would not be interested in implementing this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 17 | The intervention could be implemented exactly as described. | 1 | 2 | 3 | 4 | 5 | 6 |
| 18 | This intervention is a good way to handle the child's behavior | 1 | 2 | 3 | 4 | 5 | 6 |
| 19 | I could only implement this intervention with assistance from other adults. | 1 | 2 | 3 | 4 | 5 | 6 |
| 20 | The intervention is a fair way to handle the child's behavior problem. | 1 | 2 | 3 | 4 | 5 | 6 |
| 21 | This intervention is reasonable for the problem behavior described. | 1 | 2 | 3 | 4 | 5 | 6 |
| 22 | I could implement this intervention by myself. | 1 | 2 | 3 | 4 | 5 | 6 |
| 23 | I would need support from my administrator to implement this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 24 | I would be resistant to use this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 25 | This intervention could be implemented as frequently as described. | 1 | 2 | 3 | 4 | 5 | 6 |
| 26 | This is an acceptable intervention strategy for the child's problem behavior. | 1 | 2 | 3 | 4 | 5 | 6 |
| 27 | I am knowledgeable about the intervention procedures. | 1 | 2 | 3 | 4 | 5 | 6 |
| 28 | This intervention is an effective choice for addressing a variety of problems. | 1 | 2 | 3 | 4 | 5 | 6 |
| 29 | This intervention would not be disruptive to other students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 30 | I have the skills needed to implement this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |

| | | | | | | | |
|----|---|---|---|---|---|---|---|
| 31 | Use of this intervention would save time spent on classroom management. | 1 | 2 | 3 | 4 | 5 | 6 |
| 32 | I understand how to use this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 33 | I liked the procedures used in this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 34 | I would have no idea how to implement this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 35 | The directions for using this intervention are clear to me. | 1 | 2 | 3 | 4 | 5 | 6 |

URP-I Scoring Guide

Factor I: ACCEPTABILITY

Items - 2, 5, 9, 12, 16*, 18, 20, 21, 24*, 26, 28, 31, 33

Factor II: UNDERSTANDING

Items – 10, 11, 15*, 27, 30, 32, 34*, 35

Factor III: FEASIBILITY

Items – 1, 3, 4, 7, 8, 17, 25, 29

Factor IV: SYSTEMS SUPPORT

Items – 6, 13, 14, 19, 22*, 23

* REVERSE CODE THESE ITEMS

Note: LOW score for systems support reflects greater ability to independently implement the intervention [If aggregating across all factors to find an overall mean indicative of more favorable responses, consider reverse coding all items in this factor (except 22)] . For the remaining composites, HIGH scores are desirable.

Note. Usage Rating Profile-Intervention. Reprinted from “Moving beyond assessment of treatment acceptability: An examination of the factor structure of the Usage Rating Profile – Intervention (URP-I),” by Chafouleas, Briesch, Riley-Tillman, & McCoach, 2009, *School Psychology Quarterly*, 24, 36-47. Copyright 2009 by School Psychology Quarterly. Reprinted with permission.

APPENDIX H

Link to Training Videos

<https://www.dropbox.com/sh/2n095qoedykog9t/AACj6vrEzM5M--JqXhtOXH9ya?dl=0>

APPENDIX I

Script for Introductory Training Video

When a child doesn't know how to read, what do we do? We teach. When a child doesn't know how to swim, what do we do? We teach. When a child doesn't know how to behave, what do we do? We punish. Does that sound wrong to you? That's because it is! This isn't the way its supposed to be, but that is how many adults approach behavior management. Rather than teaching desired behaviors, we already expect children to behave so we punish them when they don't act in a way we think they should. When working with children, it is easy to fall into a trap of telling them what *not* to do; yet we still see the same behavior over and over again.

Can you guess what the correct answer is for when a child doesn't know how to behave? WE TEACH! Through this training, you will learn a few skills that will help you teach and reinforce positive behaviors in your students through a framework called Positive Behavioral Interventions and Supports (also referred to as PBIS). Positive Behavioral Interventions and Supports is all about teaching behaviors we *want* to see our students perform.

Studies have shown that positive changes in student behaviors are more likely to occur when teachers and paraeducators integrate PBIS strategies, like the ones we will be teaching you throughout this training, into what they do every day in the classroom. Although PBIS has many, many techniques that adults can use to help promote good behavior in their students, our training will focus on 3 specific techniques called precorrection, active supervision, and behavior-specific praise. We will cover each one of these concepts in detail in videos that you will watch later.

The training will consist of 3 phases: a modeling phase, a guided practice phase, and an independent practice phase. During the modeling phase, you will watch a video that explains one of the techniques you are going to learn. Then you will watch as your trainer models how to use the technique on your students during class time. Next, during the guided practice phase, you will use the technique on your students while your trainer whispers helps and hints in your ear through a Bluetooth telephone. Afterwards you and your trainer will talk about how you did and how you can improve. Lastly, during the independent practice phase you will use the technique on your students all by yourself. Your trainer will watch how you do through a video recorder. Afterwards you and your trainer will talk about how you did. They will offer you some tips and tricks to keep up the good work. Then it's up to you to keep practicing the technique every class of every day for a whole month. After that month is up, your trainer will come back to see how you're doing and they will teach you technique number two in the exact same way as before. You'll get another month to practice using techniques number one and two; then your trainer will come back and teach you the last technique using the same system as before. By the end of three months you will have mastered three new positive behavior interventions that you can use with students anywhere! Let's get started!

APPENDIX J

Script for Precorrection Training Video

The first behavior management strategy that you will learn is called precorrection. Precorrection is designed to prevent predictable problem behaviors AND to replace those behaviors with appropriate ones. Several studies have shown clear decreases in problem behaviors after teachers and paraeducators used precorrection strategies. Researchers have found that precorrections are especially useful in correcting behavior issues that occur during transitions—like the transition from whole class instruction to independent computer work. There are a few ways that we can use precorrections, but for this training we are going to concentrate on using verbal reminders as our precorrection strategy. There are four basic steps to follow when using precorrection:

1. Ask to know your student's problem transitions
2. Ask for the desired behaviors
3. Be there
4. Remind

Let's take a closer look at what each step means.

Step #1: Ask to know your student's problem transitions.

In this step, you need to meet with the classroom teacher to identify the areas where the most frequent or troublesome behaviors occur. This doesn't have to be a long meeting. It can be a just a few minutes before class starts. Tell the teacher that you would like to help with precorrection and ask them if there are transition areas where they would like help reminding the

students how to behave. Focus on one transition at a time while you're first starting out. Let's listen to this example as paraeducator Hamal talks to classroom teacher Yvette.

Hamal: Hi Yvette, I'd like to help give you some more behavior support in our classroom. Are there any transitions where you feel our students just seem to have trouble behaving correctly?

Yvette: Yes! I'm so glad you mentioned it! I've been noticing a pattern of our students being tardy to our class. You've seen them; they come running into the room just as the tardy bell rings and often times they're shouting at students in the hallway or the students who are already in the room. It's really getting to be a problem!

From the example, we can identify the problem transition as coming into class from the hallway.

Step #2 in precorrection is: Ask to know the desired behaviors.

After the problem transition is identified, you and the teacher need to decide what the appropriate behaviors are for that situation. You'll want to make sure that the teacher has already taught the students the desired behaviors. Many times adults think children should just *know* how to behave. But just like anything else, if we don't teach people what we want, it's unlikely that they'll just do it automatically. If your teacher hasn't taught those skills yet, let your trainer know and they'll help your teacher with this. Once you're sure the teacher has taught the desired behaviors, you can move forward with precorrection. Let's go back to our example with paraeducator Hamal and teacher Yvette.

Hamal: Okay, so we want to target transitioning into the classroom from the hallway. Have you taught the students how you want them to come in?

Yvette: Yes! On the first day of class I told them that I expect them to WALK into my class with a quiet voice. I also told them that my definition of being on time to my class means that they are in their seat with a pencil on their desk BEFORE the tardy bell rings. I even have it posted on my wall.

Hamal: Great! Since the kids and I know exactly how you want the students to behave, I can remind them of those expectations as often as they need it.

Yvette: Great! Let's start right away!

We can see from the example that the desired behavior is for students to walk into the classroom, using a quiet voice and to sit in their seat with a pencil on their desk BEFORE the tardy bell rings. Once you know what the desired behaviors are, you are ready for Step 3 of precorrection.

Step #3: Be there.

Precorrection only works if you intercept the students *before* they enter the problem transition. You must place yourself between your students and the problem transition before the students arrive. So in our example with paraeducator Hamal and teacher Yvette the problem transition is coming into class from the hallway. Hamal should stand at the doorway. There he will be perfectly situated to remind students how to behave *before* they enter the classroom.

Which brings us to the last step of precorrection.

Step #4: Remind

In the final step of precorrection you will verbally remind students of the desired behaviors *before* they enter the transition setting. You should use a calm voice and simple

language to remind students of the expected behavior the teacher has already taught them. Let's hear Hamal remind the students of the desired behaviors for coming into Yvette's classroom.

Hamal: Hi Jennifer! Remember to come into our class appropriately. Good to see you Jose. Please talk quietly as you come in. Alexis, hurry in before the bell rings, but don't run! Class, don't forget that you'll be marked tardy if you're not in your seat with a pencil on your desk BEFORE the tardy bell rings.

Now that we've gone through all the steps of precorrection, you will have the opportunity to see it in action in Phase 1 of the training: Modeling. Your trainer will model all the steps of precorrection for you three separate times. You will get a checklist like this to remind you of all the steps. When you see your trainer perform one of the steps, put a plus sign in the box next to it. If you don't see them perform the step, put a minus sign in the box. Pay attention to what they do because it will be your turn soon! Your trainer will use the same checklist to see how you do when it's your turn. Now let's go practice some precorrection!

APPENDIX K

Script for Active Supervision Training Video

The second behavior management strategy that you will learn is called active supervision. When an adult uses active supervision, they display specific and overt behaviors used to prevent problem behavior and to promote rule-following behavior. Active supervision involves physically moving around and visually scanning the environment, and regularly interacting with children. There are five basic steps to follow when using active supervision. They are

1. Move around
2. Look around
3. Interact positively with the students.
4. Praise students for following directions or answering correctly
5. Correct students when they violate rules

Now, active supervision is a little different from other PBIS strategies because you can perform them in any order that feels comfortable to you in the moment. We have these steps listed in a specific order, but don't feel like you have to perform them in the same order every time. Let's take a closer look at what each step looks like.

Step #1: Move around

This step is just like it sounds, you need to vary your physical position around the room. When you are using active supervision you should be moving to many different parts of the room frequently rather than staying in one place. This allows you a greater view of the classroom and what students are doing, which brings us to step number two.

Look around.

If we remember that active supervision is a technique designed to prevent problem behaviors it makes sense that another step is to look around. As adults constantly look around the room, it is much easier to see potential problems AND to see the good things that students are doing. As you practice looking around, make sure that you scan all areas, especially the secluded ones.

Another step in active supervision is interact positively with the students.

When you are interacting with students, it is important to make positive connections. This might look like a brief greeting, a light pat on the shoulder or elbow, eye contact, or even a smile. Of course we don't want to distract students from what they are supposed to be doing so we should avoid lengthy or sustained conversations during supervision time. It's just a time to let kids know you notice and like them.

The next step is praise.

As we talked about before, the whole premise behind Positive Behavior Interventions and Supports is to provide a positive and safe environment for kids and to stop problem behaviors before they start. Providing students with praise for following rules and for answering correctly goes a long way to help students feel comfortable and belonging. You can provide praise while class is in session through silent signals like a thumbs-up. You can use quiet verbal praise or high-fives when it is appropriate and non-disruptive.

The last step in active supervision is to correct students when they violate rules.

If a student violates a rule while you are using active supervision, calmly state the rule that has been broken and ask the student to perform the correct behavior. If they follow your

direction, praise them for doing so. If they do not, let the teacher know. Again, your job is to support and help the teacher, but ultimately it's their job to maintain control and handle poor behavior.

Now that you know the steps for active supervision, let's watch as this paraeducator effectively uses all five steps.

Notice that the gentleman in the video did not complete all the steps in the same order but he did an excellent job of hitting them all at some point. Active supervision is a fluid method that you can use to prevent problems and connect positively with kids.

Now that we've gone through all the steps of active supervision, you will have the opportunity to see it in action in the modeling phase of our training cycle. Just like last time, your trainer will model all the steps of active supervision for you three separate times. You will get a checklist like this to remind you of all the steps. When you see your trainer perform one of the steps, put a plus sign in the box next to it. If you don't see them perform the step, put a minus sign in the box. Remember, in active supervision, you don't necessarily have to perform all the steps in the same order every time, so make sure you pay attention to what they do. As you watch, take mental notes about what your trainer does because it will be your turn to try active supervision soon! Your trainer will use the same checklist to see how you do when it's your turn. Now let's go practice some active supervision!

APPENDIX L

Script for Behavior-Specific Praise Training Video

The final Positive Behavior Support strategy you will learn is behavior-specific praise. Behavior-specific praise is a form of feedback from an adult to a student that explicitly identifies and shows approval for a behavior that the adult would like to see a student continue or increase. For example, if you want to see more of your students raise their hands, you might use behavior specific praise like “Connie, thank you for raising your hand” to increase that behavior. Behavior-specific praise has been shown to increase student engagement and decrease classroom disruptions. There are five steps to performing behavior specific praise. They are:

1. Look around
2. Be immediate
3. Use proximity
4. Eye contact
5. Describe the behavior

Let’s dive deeper into what each step looks like:

Step #1: Look around

When you are using behavior specific praise, you must constantly scan the room for students who are following rules and answering questions correctly. This practice not only helps with general supervision, but it helps put you in a more positive mindset as you actively look for students who are doing good things.

The next step to using behavior specific praise is be immediate

The key to making behavior specific praise successful is that your students know you're sincere. That's why it is important that you praise a student you want to reinforce, as soon as you observe a positive behavior. Studies have shown that delayed reactions to good behavior are not as powerful as immediate attention.

The next step is use proximity

Proximity means to move closer to the student. Moving closer to a student has two benefits: 1) it minimizes disruptions, especially if you use behavior specific praise during class instruction, and 2) it helps with authenticity and helps students believe you are sincere.

Next, you want to make eye contact with the student if you can

This is yet another way to help students know your praise is sincere and directed toward them. Don't get too hung up on this step. This can be difficult or awkward for some students so don't worry if they don't return your gaze. What's important is that your students know you're making an effort to be sincere.

The last step to behavior-specific praise is to explicitly describe the behavior you want to continue.

Just like the name indicates, specificity is the name of the game with this kind of praise. You will want to avoid general statements like "Good job!" In this step you need to tell the student exactly what they did that you appreciated. Let's hear some examples of behavior specific praise:

(Voice-overs from teachers):

"Mike, thank you for raising your hand."

“Shukria, I like it when you make such thoughtful comments.”

“Omar, you worked the whole period! Thank you!”

Now that we've gone through all the steps of behavior specific praise, you will have the opportunity to see it in action in the modeling phase of our training cycle. Just like last two times, your trainer will model all the steps of behavior specific praise for you three separate times. You will get a checklist like this to remind you of all the steps. When you see your trainer perform one of the steps, put a plus sign in the box next to it. If you don't see them perform the step, put a minus sign in the box. Remember, in behavior-specific praise, you don't necessarily have to perform all the steps in the same order every time, so make sure you pay attention to what they do. As you watch take mental notes about what your trainer does because it will be your turn to try behavior specific praise soon! Your trainer will use the same checklist to see how you do when it's your turn. Now let's go practice some behavior-specific praise!