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DIRECTOR FOLLOW-UP OF EARLY CHILDHOOD EDUCATOR PROFESSIONAL DEVELOPMENT

Katherine Jordan
University of Kentucky, katherinejord@gmail.com
Author ORCID Identifier:
https://orcid.org/0000-0001-6533-0543
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Katherine Jordan, Student

Dr. Jennifer Grisham, Major Professor

Dr. Channon Horn, Director of Graduate Studies

DIRECTOR FOLLOW-UP OF EARLY CHILDHOOD EDUCATOR PROFESSIONAL DEVELOPMENT

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Education
at the University of Kentucky

By
Katherine Lynn Jordan
Lexington, Kentucky
Director: Dr. Jennifer Grisham, Professor of Interdisciplinary Early Childhood Education
Lexington, Kentucky
2024

https://orcid.org/0000-0001-6533-0543

ABSTRACT OF DISSERTATION

DIRECTOR FOLLOW-UP OF
EARLY CHILDHOOD EDUCATOR
PROFESSIONAL DEVELOPMENT

Research has shown follow-up to be an important component for professional development (PD) to result in teacher behavior change. However, PD rarely includes follow-up support. This pilot study used multiple methods to determine the feasibility of Head Start (HS) directors providing teachers PD follow-up support. Two aspects of feasibility were examined. Practical feasibility was based on whether the directors could master the procedure for providing PD follow-up support and whether they had time to provide PD follow-up support. Social validity feasibility was measured as the acceptability of the procedures and the likelihood of directors continuing to use the protocol prescribed in the study.

Four directors and three teachers under the supervision of each director participated in the study. The directors observed each teacher for 5 min and provided follow-up support for teacher behavioral objectives presented during a required HS PD. The primary research question was what type of supports do HS directors need to provide teacher follow-up support with procedural fidelity. These data were collected via direct observation of HS directors. A nonconcurrent multiple baseline single case design was analyzed to answer this question. All directors achieved mastery criterion following a training which included brief coaching.

Pre- and post-study survey data were collected regarding director-teacher professional relationships pre- and post-study, acceptability of study procedures, and directors' intentions to continue using the study protocol to support teachers. Director-teacher relationships were positive both before and after the study. Teachers who identified as being a different race than their directors reported slightly better relationships with their directors. Directors and teachers found study procedures acceptable, and directors reported they would continue to use the study protocol to support teachers. The directors in this study had experience collecting teacher data and supporting teachers. All the teachers engaged in the behavioral objective during observations. Future research should include samples that are more representative of early childhood education professionals.

KEYWORDS: professional development, follow-up, early childhood education

Katherine Lynn Jordan

(Name of Student)

08/01/2024

Date

DIRECTOR FOLLOW-UP OF
EARLY CHILDHOOD EDUCATOR
PROFESSIONAL DEVELOPMENT

By
Katherine Lynn Jordan

Dr. Jennifer Grisham
Director of Dissertation

Dr. Channon Horn
Director of Graduate Studies

08/01/2024
Date

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TABLE OF CONTENTS

LIST OF TABLES

.

LIST OF FIGURES

CHAPTER 1. INTRODUCTION

Teachers' education and training experiences impact the quality of education and care children receive. These experiences can be divided into two broad types of activities: preservice and in-service (Gomez et al., 2015). Preservice training occurs before educators are certified, often before they begin formally working the classroom. In-service training refers to ongoing professional development (PD). Across industries PD has been described as, "the education of adults…designed to produce positive change in beliefs, knowledge, skills or behaviors" (Lauer et al., 2014, p. 207). A literature review conducted by the National Professional Development Center on Inclusion (NPDCI, 2008) concluded there was "no agreed-upon definition of the term professional development in education or related fields" (p. 1). In 2009, the Organisation for Economic Co-operation and Development (2009) described PD for educators as, "the activities that develop an individual's skills, knowledge, expertise, and other characteristics as a teacher" (p. 49).

1.1 PD in Early Childhood Education

The National Association for the Education of Young Children (NAEYC) defines early childhood (EC) as birth to age eight (2020). While kindergarten is not uniformly required across the United States, it is included in most primary school settings (Department of Homeland Security, n.d.). PD requirements for teachers of children in kindergarten and primary school are often markedly different from those who work with younger children (Gomez et al., 2015). Teachers who work with children in public school settings must have a teaching license or certification; renewing these qualifications typically requires earning PD hours (Office of Occupational Statistics and Employment Projections, 2023). While some early educators, most often preschool or kindergarten prep (pre-K) teachers,

work within the public school system and must meet similar requirements, many do not. Background and PD requirements for these teachers vary by state. The focus here will be PD for EC educators working in pre-kindergarten environments.

National Professional Development Center on Inclusion (NPDCI, 2008) found the definition and format of EC PD varied across and even within states. According to Buysse et al. (2009), EC PD can be offered by a variety of providers to cover a wide range of content in formats ranging from one-time workshops to "a semester-long academic course" (pp. 235-236). Despite these challenges to defining EC PD, a definition is necessary to improve PD and evaluate its impact. Considering these factors, NPDCI defined PD for the EC workforce as "facilitated teaching and learning experiences that are transactional and designed to support the acquisition of professional knowledge, skills and dispositions as well as the application of this knowledge in practice" (p. 3). While not all EC educators are required to complete coursework, courses provided within the formal education system (e.g., college) may count toward PD requirements. Since these courses are not uniformly required and their duration and format does not reflect the format of PD designed specifically as PD (Darling-Hammond et al., 2017), herein PD will refer to educational and training experiences for EC education and care providers that occur outside the formal education system.

1.2 Why Quality PD is Important

NAEYC (2016) stated that research supports the claim that PD can increase EC educators' use of effective, evidence-based teaching strategies. Over the past decade, the number of scholars examining the impact of PD on EC educators' teaching has accelerated. In an early study, Burchinal et al. (2002) utilized a teacher survey to examine

the impact of formal training (e.g., college) and PD on EC classroom quality. They found that while the level of formal training of lead teachers had the greatest impact on classroom quality, PD had a modest to moderate positive impact on quality scores for lead teachers both with and without formal training. Similarly, in a cross-national literature review Slot (2018) found that both preservice training and PD experience were associated with higher EC program quality.

1.2.1 Child Outcomes

While definitions of PD often do not mention child outcomes (e.g., NAEYC & National Association for Child Care Resource and Referral Agencies [NACCRRA], 2011; NPDCI, 2008), the purpose of PD is not only to positively impact teacher behavior and classroom quality but also to improve outcomes for the children served. PD is considered a mechanism for improving child outcomes (Brunsek et al., 2020).

Meta-analyses support the notion that PD can have a positive impact on child outcomes. Werner et al. (2016) analyzed randomized controlled trials on the effectiveness of targeted PD "to improve child care [*sic*] quality, caregiver interaction skills, and child social-emotional development" (p. 259) across childcare settings (e.g., home-based, center-based) found PD to be effective for improving both childcare quality and child outcomes. Similarly, Egert et al. (2018) conducted a meta-analysis to examine the effect of PD on EC classroom quality ratings and child outcomes. They found that PD improved quality ratings and that classroom quality was a "key mechanism" (p. 401) for improving child outcomes.

While PD can lead to improve outcomes for children, the impact of every PD is not the same. For example, Wasik and Hindman (2011) conducted a randomized study

comparing the impact of ongoing language and literacy PD to one-time PD on Head Start (HS) teachers and children. They found ongoing PD had a greater impact on educators' quality of teaching and children's receptive vocabulary and phonological sensitivity than one-time PD.

1.3 High-Quality PD

When NPDCI reviewed the literature in 2008, they found "strikingly little scientific research" (p. 1) indicating what components resulted in positive PD outcomes. This lack of research has since been remedied. Hamre et al. (2017) noted in their summary of recent PD research, "intentionally designed and high-quality PD can make meaningful changes [to teachers' practices which] can translate to improved outcomes for children" (p. 2).

1.3.1 Key Research

While some researchers studied the components that make PD high-quality before 2008, noticeably more work has been published during the subsequent years. More recent research, driven by adult learning theories, is represented primarily in literature reviews and meta-analyses designed to determine components common to studies in which PD was shown to have positive adult, classroom, and frequently child, outcomes. These reviews and analyses have had different research questions, featured various subsets of educators (e.g., EC, elementary, K-12), and sometimes focused on specific types of PD or outcomes (i.e., developmental domain or academic subject). In addition to these aggregate studies, some individual studies warrant individual mention.

Garet et al. (2001) conducted an early study of PD components. Mathematics and science educators across the United States completed a survey about the components of

PD they had attended. They then rated their perceived outcomes for each PD. While the teachers' subjectivity regarding their own behavior could be considered a methodological weakness, later research resulted in similar findings. Another study of note is Wasik and Hindman's (2011) previously mentioned randomized control trial. The ongoing PD in this study featured multiple components, including a 3 hr group training with follow-up modeling and teacher observations.

Dunst and Trivette's (2009) seminal PD article is the culmination of several meta-analyses of methods commonly associated with adult learning. It examined six general practices across three phases of adult learning. These practices were further divided into specific strategies. For example, the authors' planning phase included the practice of introducing information. Strategies for introducing information included using pre-class exercises and workshop lectures. Other seminal works include a literature review conducted by Zaslow et al. (2010) for the United States Department of Education on four areas targeted by EC PD initiatives and a review "of 35 methodologically rigorous studies that have demonstrated a positive link between teacher professional development, teaching practices, and student outcomes" (Darling-Hammond et al., 2017, p. v) across three decades. This review indicated that teacher feedback was correlated with positive outcomes.

Most literature reviews have included only published work, however Egert et al. (2018) included unpublished studies to counter publication bias in their systematic review evaluating the effects of EC PD "on external quality ratings and child development" (p. 401). Publication bias occurs when studies that do not result in positive findings (e.g., null result) are not submitted for publication or are rejected for publication

due to these findings (Cook & Therrien, 2017). Despite the potential impact of publication bias, variations in research questions across reviews and syntheses, and methodological concerns there is overarching agreement regarding what components are present in high-quality, impactful PD.

1.3.2 Components of High-Quality PD

Some terms used to identify the components present in high-quality PD appear across the literature (e.g., modeling, feedback) whereas others have been described in a variety of ways (e.g., coherence with curriculum, individualization). Here, components with common features have been assimilated under one descriptor based on their shared traits. These components can be thought of as occurring across three phases of PD: planning, presentation, and follow-up.

1.3.2.1 PD Planning

Before PD begins, it must be planned. Two components related to PD planning reoccur in the literature (Darling-Hammond et al., 2017; Egert et al., 2018; Wasik & Hindman, 2011). These are dosage and individualization. Dosage refers to how much PD on a given topic is provided. Dosage includes duration which may be the length of a PD session or the duration across which a topic is addressed (e.g., one week, four months). Several researchers have addressed PD dosage. Darling-Hammond et al. (2017) noted that while specifics regarding duration have not yet been identified, it is clear that PD needs to consist of more than a one-time in-service. Egert et al. (2018) found PD lasting 40-60 hr "most effective in changing classroom practices, with both shorter and longer programs showing less positive results" (p. 421). In Brunsek et al.'s (2020) meta-analysis of the associations between PD and outcomes, the authors noted that more complex

concepts may be better served by longer PD. Similarly, Zaslow et al. (2010) said the duration and intensity of PD should match the content.

The matching of PD dosage to fit the content is related to individualization, the second component that should be addressed during PD planning. Individualization refers to recognizing educators' experiences, needs, and teaching contexts (Darling-Hammond et al., 2017). It includes planning content that is focused in a way that deepens educators' knowledge of content matter (Garet et al., 2001) and aligns with what teachers are teaching (Darling-Hammond et al., 2017), teachers' goals, state standards, and assessments (Garet et al., 2001). Individualizing PD content and considering dosage and duration during PD planning contribute to high-quality PD.

1.3.2.2 PD Presentation

PD presentation is the phase during which new information is presented to educators. This may be during a single session (e.g., in-service day) or across several sessions (e.g., Wasik & Hindman, 2011). Four components during the PD presentation phase are associated with positive teacher and child outcomes: explaining, modeling, active learning, and feedback/evaluation/reflection. Explaining consists of the PD provider introducing information about the PD content (Dunst et al., 2015; Dunst & Trivette, 2009). This may include an explanation and/or demonstration of how the content is beneficial in practice.

Modeling includes the demonstration of skills by the PD provider (Darling-Hammond et al., 2017; Dunst & Trivette, 2009), via video model (Landry et al., 2009), peer, or other means (Darling-Hammond et al., 2017). It also includes providing model materials such as sample lesson plans and student work samples. Active learning is the

third component associated with high-quality PD presentation. Active learning refers to an array of teaching strategies that go beyond didactic instruction. Active learning strategies specifically mentioned in the literature include reflecting on how PD content might be used in practice, designing teaching strategies, practicing skills, and collaborating with other teachers (Darling-Hammond et al., 2017; Dunst et al., 2015),.

The final PD presentation component is feedback/evaluation/reflection. These three characteristics have been combined into one because they serve a similar purpose, and each is almost always used in tandem with at least one of the other two in the literature. For example, Dunst and Trivette (2009) reported "the more actively involved the learners were in judging the consequences of their learning experiences (evaluate, reflection, mastery) the stronger the relationship between the adult learning method characteristics and the study outcomes" (p. 168). This finding pairs reflection and evaluation of skill performance. Similarly, Darling-Hammond et al. (2017) noted that time for feedback and reflection should be built into PD presentation. PD presentation that includes explaining, modeling and models, and opportunities for active learning are associated with improved adult and child outcomes.

1.3.2.3 PD Follow-Up

The final phase of PD is follow-up. This refers activities that support PD following the presentation of new information. Snyder et al. (2015) described the implementation of evidence-based practices within practice-based coaching which utilizes a repeated cycle of determining goals and planning; observation; and reflection and feedback. They stated, "PD should be cohesive and sustained over time rather than episodic, one-shot training" (p. 133). Like PD presentation, follow-up should include a

combination of feedback, evaluation, and reflection. Dunst et al. (2015) indicated, “coaching, mentoring, or performance feedback [should occur] during both the in-service professional development and follow-up sessions in the settings where the teachers used the content knowledge or practice” (p. 1738). Mentoring in PD has been defined in many ways; Merrian-Webster 's(2023) online dictionary defines a mentor as a “trusted counselor or guide” (https://www.merriam-webster.com/dictionary/mentoring). Educators should reflect on their performance after PD presentation (Dunst and Trivette, 2009) and follow-up support should be individualized to meet teachers’ needs (Darling-Hammond et al., 2017).

Feedback, evaluation, and personal reflection in some combination should be provided both during both the PD presentation and PD follow-up phases. While the components associated with high-quality PD have been individually identified, greater the numbers of these components included in a PD, the greater the positive impact on outcomes (Dunst & Trivette, 2009; Markussen-Brown et al., 2017). For example, the teachers surveyed by Garet et al. (2001) reported better outcomes when PD longer of duration was combined with active participation and individualization.

The inclusion of any one, or even of all, the components associated with high-quality PD and described above does not guarantee improved outcomes for educators or children (Darling-Hammond et al., 2017). Burchinal et al., (2016) conducted a secondary analysis of the data from eight studies that examined the relationship between EC classroom quality indicators and preschoolers’ outcomes. They found that improved classroom quality only impacted children’s outcomes if the classrooms already met an initial quality threshold. In other words, when classroom quality was initially low even

significant improvements in quality indicator scores was not adequate to improve child outcomes. Additionally, several researchers have expressed concerns that large scale PD may be less likely to result in positive outcomes than smaller scale PD. For example, Piasta et al. (2020) found a large scale ongoing state PD which included many components associated with high-quality PD did not result in significant adult or child gains.

1.4 Coaching as PD Follow-Up

Like PD, coaching has been defined in a variety of ways. La Paro and King (2019) described it as, "a relationship-based process to encourage the use of newly acquired knowledge and skills" (p. 435). Rush and Shelden (2005) defined coaching as an expert-led evidence-based adult learning strategy which promotes reflection and collaborative problem solving. In their *Early childhood education professional development: Training and technical assistance glossary*, NAEYC and NACCRRA (2011) more precisely defined coaching as, "a relationship-based process led by an expert with specialized and adult learning knowledge and skills…designed to build capacity for specific professional dispositions, skills, and behaviors and is focused on goal-setting and achievement for an individual or group" (p. 11). Further, Darling-Hammond et al. (2017) identified coaching as a PD follow-up strategy.

Coaching can be used not only as a PD follow-up strategy, but also as the sole method of providing PD. In fact, Egert et al. (2018) found programs that exclusively used coaching for EC PD "were nearly three times more effective than other programs" (p. 416) at increasing quality ratings and child development indicator scores. For these reasons, coaching is of particular interest.

1.4.1 Components of High-Quality Coaching

As with PD, researchers have identified components key to high-quality coaching. Again, the ways scholars have organized and described these components vary but include common characteristics. Coaching "includes various combinations of questioning, listening, observation, reflection, feedback, prompting, modeling, and practice" (NAEYC &NACCRRA (2011, p.11). Rush and Sheldon (2020) reported, "the five key characteristics of early childhood coaching are: joint planning, observation, action/practice, reflection, and feedback" (p. 1).

Rush and Sheldon (2020) identified joint planning as the first key coaching characteristic. They described this as "agreement by the coach and coachee on the actions they will take or the opportunities they will have to practice between coaching visits" (p. 1). Coaching relationships require trust, questioning, and listening. Coaching goals, actions, and the coaching plan should be a collaboration between the coach and coachee (NAEYC & NACCRRA, 2011; Snyder et al., 2015).

Observation is the second characteristic identified by Rush and Sheldon (2020). During observation, the coach observes the coachee to gain more information about the coachee's practices. Planning and observation may occur at the beginning of the first coaching session or as a preliminary session. Action/practice, described as the coachee having "opportunities to practice, refine, or analyze new or existing skills…within the context of a real-life situation" (Rush & Sheldon, 2020, p. 2) is also key. The coach should engage in focused observation when the coachee practices (Snyder et al., 2015). Prompting may be used (NAEYC & NACCRRA, 2011) to provide in vivo feedback

during action/practice. For example, Ledford et al. (2017) used prompting to point out opportunities for EC paraprofessionals to use environmental arrangement strategies.

As with PD, reflection and feedback are key to coaching. Rush and Sheldon (2020) described reflection as the coachee analyzing their current performance to determine whether changes or modifications need to be made "to obtain the intended outcome(s)" (p. 2). They elaborated that feedback may be "based on…direct observations of the coachee, actions reported by the coachee, or information shared by the coachee" (p. 2) and should contribute to the coachee's understanding or affirm their thoughts or actions. Coaches may use modeling to demonstrate skills (NAEYC & NACCRRA, 2011). Snyder et al. (2015) identified reflection and feedback as a single feature of coaching.

The key characteristics of coaching identified by Rush and Sheldon (2020) reflect the EC coaching literature. While other scholars have labeled some practices differently, and EC coaching variations have been utilized, the umbrella practices of "joint planning, observation, action/practice, reflection, and feedback" (Rush & Sheldon 2020, p. 1) are applicable across coaching contexts. Whatever the context, coaching is a cyclical process (Snyder et al., 2015). While some goals may be achievable after a single coaching session, coaching frequently occurs across a series of sessions (NAEYC & NACCRRA, 2011).

1.4.2 Coaching Variations

Several variations to in-person coaching models have been successfully utilized. NAEYC and NACCRRA (2011) explained, coaching "may be provided face-to-face or through distance, technology based, or hybrid" (p. 11). EC researchers have a history of

using video recordings for coaching observations (e.g., Fantuzzo et al., 1996, 1997). More recently, Artman-Meeker and Hemmeter (2013) found feedback delivered via email within 8 hr of a classroom observation was effective for increasing preschool teachers' use of practices to prevent challenging behavior. Similarly, Artman-Meeker et al. (2014) found distance coaching with video-recorded observation and email feedback effective for increasing teachers' use of strategies to support social-emotional development.

Ennis et al. (2020) conducted a systematic literature review of preK-12 coaching to increase teacher praise in which they examined the impact of a range of coaching variations. The reviewers located studies that used "written, email, visual, video, and self-monitored performance feedback" (p. 148) as well as "in vivo bug-in-ear prompting" (p. 148) and combinations of these methods. They found these strategies to be effective, but noted that not all approaches work for all teachers. Donegan-Ritter and Van Meeteren (2018) used another variation. Following a series of workshops, they recorded Early HS (EHS) teachers in their classrooms. Each coaching session began with the teacher watching their video and completing a self-reflection guide. They found that four of five targeted behaviors increased and that two of these four behaviors maintained at six months.

1.4.2.1 Brief Coaching

While coaching is recognized as an evidence-based PD and PD follow-up method across EC organizations (e.g., Division for Early Childhood, 2016; HS Early Childhood Learning & Knowledge Center (ECLKC), 2023; NAEYC & NACCRRA Resource, 2011; ZERO TO THREE, 2016), there are challenges associated with coaching specifically and

PD in general. These include a lack of time allotted to educators for PD activities (Buczynski & Hansen, 2010; Diamond & Powell, 2011; McCormick Center for Early Childhood Leadership, 2016; Phillips et al., 2016) and a lack of knowledgeable coaches (Hamre et al., 2017). Brief coaching may help address these challenges by shortening the duration of coaching sessions.

There is no designated dosage or duration for coaching sessions. In the literature, sessions range from 15 min for observation plus time before to review a task analysis of procedures and time after to reflect and ask questions (Frantz et al., 2019) to "30 to 90 min followed by a 30-min debriefing session" twice a week for 20 to 30 days (Fox et al., 2011). Brief coaching has been used in K-5 classrooms over four coaching sessions lasting 30 min each (Dudek et al., 2019; Fabiano et al., 2018). Some studies provide less information, such as 2 hr per month through the school year (Wasik et al., 2006). Schachter et al. (2015) surveyed 91 practicing EC coaches in a Midwestern state. Most coaches reported having face-to-face meetings with coachees once a month, twice a month, or weekly for 46-60 min. Many coaches reported meeting with coachees for more than 60 min at a time.

While brief coaching does not have a designated session time limit, it is an abbreviated coaching model. The shortened session length is less of a strain on educators' limited time and allows a single coach to support more teachers. Despite its brevity, brief coaching typically includes all or most of the key coaching characteristics identified by Rush and Sheldon (2020). For example, Lane et al. (2016) used brief coaching to teach parents naturalistic strategies for increasing the communication skills of their young children in a clinic setting. Parents were trained in three strategies, one at a time. Training

lasted 2 to 3 min and was followed by 4 min in vivo coaching sessions. After in vivo coaching, the coach provided feedback and answered questions. Coaching for each skill occurred in a series of sessions within a 1 hr period until the parent achieved predetermined mastery criterion. Parents mastered each skill in less than one hour. Zhu et al. (2022) used a similar model to effectively teach parents naturalistic strategies in their homes. While there was variation across strategies, overall parents' strategy use maintained at levels higher than baseline and lower than during coaching sessions.

Brock and Beaman-Diglia (2018) used brief coaching to teach preschool co-teachers strategies for addressing challenging behavior. A multiple baseline design across behaviors was used. Before baseline, the coach met with the teachers and reviewed data to determine classroom needs. Then the coach conducted two sessions for each of four behaviors. The first coaching session for each behavior lasted 30 min. During these sessions the coach provided materials for strategies and used modeling and role play to teach strategy use. The second coaching session for each behavior occurred two or three days later and lasted 15 min; during this time the coach provided feedback and answered questions. While brief coaching may not be adequate for teaching complex content, there is increasing evidence that it can be effective for supporting adults in learning and maintaining uncomplicated skills. As Zaslow et al. (2010) noted, duration and dosage should match content. In short, brief coaching is method for training adults that includes joint planning, observation, practice, reflection, and feedback (Rush & Sheldon, 2020).

1.5 Measuring the Quality of PD Follow-Up

There are several direct and indirect methods for measuring the quality of PD. These methods have been used to measure PD component and phase quality as well as

overall PD quality. In each case, measures must align with the particulars of the PD and the data to be captured. The focus here is on PD follow-up.

1.5.1 Direct Measures PD Follow-Up Quality

According to NPDCI (2008), the who, what, and how should be considered when planning and evaluating PD. The "what" refers to PD components. Since the components associated with quality PD follow-up have been analyzed to determine which contribute to positive adult and child outcomes (e.g., Dunst & Trivette, 2009; Landry et al., 2009), one way to evaluate the quality of PD follow-up is to count the presence or absence of the components associated with these outcomes and, hence, high-quality follow-up. Though this is a direct measure of follow-up, it does not measure the quality of follow-up in vivo. The presence or absence of follow-up components could be of use to administrators in determining which PD to select for their staff, but as Darling-Hammond et al. (2017) noted, the inclusion of quality components does not ensure positive outcomes.

A second option for measuring PD follow-up quality is to measure treatment fidelity. Treatment fidelity is a subtype of procedural fidelity (PF) used to measure how closely intervention procedures are followed (Ledford & Gast, 2014). PD may be considered an intervention or treatment. Methods for measuring PD follow-up treatment fidelity include checklists and behavior counts. Treatment fidelity is frequently reported as a percent that has been calculated by dividing the number of planned behaviors that occurred by the total number of planned behaviors and multiplying by 100.

1.5.2 Indirect Measures of PD Follow-Up Quality

1.5.2.1 Social validity

Surveys are another method of collecting data about the quality of PD follow-up (e.g., Donegan-Ritter & Van Meeteren, 2018; Hsieh et al., 2009). Targeted survey questions can be used to determine the social validity of follow-up. In his seminal work on social validity, Wolf (1978) described the social validity of an intervention as being determined by the acceptability of the goals, procedures, and effects on stakeholders. For example, the goal of a PD might be to increase EC teachers' use of praise in the classroom. The procedures might require teachers to carry a timer in their pocket set at 5 min intervals and to provide praise every time the timer vibrates. The teachers as well the children could be considered stakeholders. The effect on the teachers could be increase provision of praise and a more positive view of their children. The effect on the children could be that they engage in more positive behaviors and their enjoyment of school increases. Parents and EC center administrators could also experience positive effects.

The continued use of skills and practices over time is a measure ecological validity (Horner et al., 2005; Kennedy, 2002). In the case of the increased use of praise, teachers could receive coaching for a week following the PD. The teachers continued increased use of praise (with or without the timer as a reminder) after coaching ended would indicate that providing more praise is feasible in a real life setting (Ledford et al., 2016). High-quality PD follow-up should result in teachers' sustained use of skills and practices after PD supports are removed. In this way, social validity measures can serve as a proxy for PD follow-up quality.

1.5.2.2 Outcome Measures

Schachter (2015) reviewed 73 studies where the success of EC PD was evaluated in terms of child outcomes, teacher outcomes, classroom environment, or a combination

of these measures. Measurement tools included state assessments, environmental rating scales, and direct observation of specific behaviors. While outcomes are an indirect measure of PD, improved educators' practices and children's enhanced learning are the ultimate measures of PD success (Sheridan et al., 2009).

Pre-post measures with a control group are often used to assess PD follow-up outcomes (e.g., Piasta et al., 2020; Wasik & Hindman, 2011). Single case researchers have used baseline and post PD follow-up (maintenance) data to evaluate PD outcomes (e.g., LaBrot et al., 2016; Ledford et al., 2017). While outcome measures are proxies for follow-up quality, since the inclusion of quality PD components does not guarantee positive teacher or child outcomes (Darling-Hammond et al., 2017), it could be argued that outcomes are the most meaningful measures of PD quality. For outcome measures to be valid, PD content and follow-up must align with the behaviors and skills being measured (Garet et al., 2001). Additionally Piasta et al. (2020) noted that one-time outcome measures, which are cost effective and common in the literature, may be less informative than multiple observations. While relatively time-intensive measures such as Classroom Assessment Scoring System (CLASS) and comprehensive child assessments may capture more data, in addition to large evaluation tools, observational measures focusing on fewer adult or child behaviors could provide valuable supplemental data. Not only could targeted small-scale measures be used to collect maintenance data, but they could be utilized by trained on-site personnel after studies have ended.

1.6 Utilizing On-Site EC Professionals to Support PD

Early childhood literature contains several examples of on-site EC professionals, those who work in the EC environment, being utilized to provide PD support (e.g., (J. P.

Hundert, 2007; Zan & Donegan-Ritter, 2014). One advantage of utilizing on-site staff to is the reduced cost to EC programs. Additionally, educators have reported they prefer being observed their by peers (e.g., Edwards & Steed, 2021). Challenges to using on-site professionals include navigating teachers' schedules and availability. Additionally, some teachers have reported they are uncomfortable providing feedback to their peers (Johnson et al., 2017).

1.6.1 Peer Coaching

Peer coaching is one method that uses on-site EC professionals to support PD follow-up. The definition of peer coaching varies by study (Hooker, 2013). Edwards and Steed (2021) described it as "colleagues within the same early childhood program work[ing] together to observe and provide feedback to one another" (p. 319). In a review of the literature, Hooker (2013) identified two types of peer coaching: expert and reciprocal. In expert coaching, one peer is an expert who provides coaching for the other. In reciprocal coaching, peers coach one another. Communication, trust, and reflection are important components of peer coaching. Strong communication skills are necessary for planning observations and providing feedback. A trusting relationship between peer coaches and coachees allows them to receive and provide honest feedback. Coachees must be willing to reflect on the feedback they receive so they can improve their practices. Additionally, coaches must be willing to reflect on feedback regarding their coaching practices and make adaptations as needed to meet the needs of coachees.

Expert peer coaching may be provided by teachers or other EC staff members with expert knowledge. Edwards and Steed (2021) conducted an expert peer coaching pilot study with 18 teachers and program administrators serving as coaches in a birth to

five EC center. Teacher coaches were selected by their peers and directors. Teachers participated in one to three 10 to 20 min coaching sessions across five months. The study focused on acceptability and adherence to the coaching process rather than teacher outcomes or what was being taught. Coaches used forms to record what they observed, positive feedback, and constructive feedback. Teachers became more comfortable with being observed as the study progressed and believed the experience improved their teaching practices. Notably, Edwards and Steed (2021) found administrator coaches to be more likely than teacher coaches to provide specific feedback.

1.6.2 Other Examples of On-Site PD Support

Peer coaching is not the only way in which on-site EC professionals have been utilized to support PD. For example, Zan & Donegan-Ritter (2014) used peer coaching in combination with mentoring to support HS teachers in increasing their CLASS scores. Teachers and their assistants provided reciprocal peer coaching monthly for 20 to 45 min following two 15 to 20 min video observations. In addition, HS supervisors were trained to lead 1 hr monthly mentoring sessions for classroom teaching teams during which they "provided encouragement, made suggestions, and shared resources" (p. 96) based on the observation videos. There were statistically significant gains for four of ten CLASS domains in the experimental group compared with the control group.

Peer coaching is not always a component of on-site PD support. Canada, Hundert and Hopkins (1992) trained three preschool supervisors to lead a "collaborative team approach to encourage resource and classroom teachers to develop strategies that promote peer interaction of all children" (p. 385) in inclusive classrooms. The supervisors attended a 2 hr training then conducted two 30 min meetings with teachers. During the

first meeting they supported the development of "a program to increase the positive social interaction[s]" (p. 390). During the second meeting the teachers presented their refined implementation and data collection plans, and the supervisors provided non-specific feedback. Finally, the supervisors conducted at least three unannounced classroom observations. Teachers increased their interactions with children diagnosed with disabilities in planned and generalization settings. They reported the collaborative team approach was beneficial. Additionally, children without disabilities in the experimental classrooms doubled their play interactions with children with disabilities compared to children in control classrooms. Hundert (2007) conducted a similar study with equivalent results that "were maintained at the 3 month follow-up observation" (p. 159).

LaBrot et al. (2016) provide another example of an on-site professional providing PD support. They used in situ bug-in-ear training to increase teachers' praise behavior. The training was conducted by a doctoral student whose graduate assistantship included providing behavioral consultation to the participating HS program. The teachers increased their use of praise. Three of the four teachers maintained their use of praise when maintenance data were collected at one week and at one month; the fourth teacher's use of praise was found to be decreasing. This study was unique in that additional support was provided to the fourth teacher based on maintenance data. This may not have been possible if a member of the research team had not been employed in the study setting.

An array of methods for utilizing on-site EC professionals to support a variety of PD content and formats have been explored. Often studies have been conducted in HS

settings. As federal programs, these settings provide a comparatively uniform environment for research.

1.7 HS and PD

HS programs include Early HS (EHS), which supports children from birth to 3 years old and their families, and preschool programs (HS ECLK, 2018). HS's center-based programs employ 259587 staff serve 822491 children in more than 20000 classrooms across the United States and territories (National HS Association, 2023). HS regulations state the program must provide all teachers with an annual 15 hours of PD from a credentialed provider (HS ECLKC, 2020; Office of HS, 2019). This PD must be high-quality and sustained (Office of HS, 2019).

In addition, at least 50% of HS's center-based lead preschool teachers are required to have a bachelor's degree or equivalent coursework in child development or a related field (HS ECLKC, 2020). EHS educators and all assistant teachers must have a Child Development Associate (CDA) credential or be working toward one. A CDA credential requires 120 hours of PD, plus 480 hours working with children (Hannon, 2016). While HS programs require educators to obtain a CDA credential at minimum, HS educators have wide range of training experience as evidenced by the fact that 13% of HS preschool teachers have advanced degrees (HS ECLKC, 2022).

1.7.1 EC Educator PD in Kentucky

EC PD and other education requirements are determined by individual states (McLean et al., 2021). If state regulations exceed HS requirements, HS educators must meet state requirements. Thus, PD requirements for EC professionals vary by locality and employer. In the US, 42 states require EC educators who work in state-funded preK

programs to participate in yearly PD (Gomez et al., 2015). Both the state of Kentucky and the HS program require EC educators to obtain 15 hr of PD yearly. HS programs are required to provide PD free of charge. HS programs provide 3923 jobs in Kentucky (Kentucky HS Association, 2020).

1.7.1.1 PD Provider Credentialing and Compensation

In Kentucky, only credentialed trainers can provide mandated PD to EC educators. For an individual to earn a Kentucky Early Care and Education Trainer's Credential, they must complete 17 training hours (Commonwealth of Kentucky, 2023). Depending on a trainer's background and education, they may need to meet additional requirements (e.g., being supervised, attending trainer-specific PD), (Kentucky Cabinet for Heath and Family Services Department for Community Based Services Division of Child Care, 2012).

Kentucky's trainer credentialing materials emphasize the importance of PD follow-up and provide examples of follow-up (Human Development Institute, 2020). However, the online platform used for tracking EC PD and EC educators' progress toward meeting PD requirements, Early Care and Education Training Records Information System (ECE-TRIS), does not include a method for EC PD providers to be compensated for follow-up. Providers are paid based on the number of initial PD hours they provide and there is no way for follow-up hours to be logged in the system (C. Hausman, ChildCare Aware of Kentucky Content Coordinator, personal communication, February 16, 2023).

1.8 Racial Dynamics in EC Education

Critical race theory often includes how the intersections of race, gender, and class impact discrimination (Bhattacharya, 2017). While applying critical race theory is beyond the scope of this study, it is important to acknowledge the distribution of pay and power in EC work. There are more non-Hispanic White-identifying workers in lead teaching positions compared with assistant teaching positions than would be expected if these positions were distributed equally across racial groups (Paschall et al., 2020). Additionally, Vogtman (2017) found pay is typically lower for teachers who work with younger children even when they have the same credentials as teachers who work with older children and that Black and Hispanic women more frequently work with younger children than non-Hispanic White women. Further, women of Color are less likely to hold organizational leadership positions than White women (Sanchez-Hucles & Davis, 2010). This indicates White women may be more likely to be EC directors than women of Color. These imbalances in pay and leadership across racial identity groups could impact director-teacher relationships.

Demographic information teachers and teaching assistants employed by the collaborating HS program in this study indicated that out of 398 teachers and teaching assistants, 297 identified as White (74.6%) and 73 identified as Black or African American (18.3%). Other racial identities included multi-racial/biracial (4), Asian (2), American Indian or Alaska Native (1), and Other (14). Thus, 23.6% of teachers identified as a race other than White. Seven employees did not indicate a race. The early care and education workforce in the United States of which 92.1% identifies as female (*Childcare Workers*, 2021). Of the 398 teachers employed by this agency, only six identified as male

and 34 employees did not complete the gender identity section (female and male were the only choices). Since the sample size for this study was small and 90% of the teacher population for this study identified as female, gender inequities were not addressed in this study. Director demographic information was not available.

1.9 Summary

PD can be an effective means for improving EC educator and child outcomes. Research has determined which PD components contribute to these outcomes. While follow-up is key to high-quality PD, the follow-up phase is frequently absent from PD (Darling-Hammond et al., 2017). One method for providing high-quality PD with follow-up is coaching. Coaching and other follow-up methods have been used by on-site EC professionals to support their peers (e.g., Johnson et al., 2017; Zan & Donegan-Ritter, 2014).

Federal HS regulations specify PD should be high-quality and sustained (Office of HS, 2019). This indicates it should include follow-up. However, EC PD implementation is overseen by individual states (McLean et al., 2021) and does not always include mechanisms for the provision of follow-up (e.g., C. Hausman, personal communication, February 16, 2023). This is the case in Kentucky. PD that includes the components associated with high-quality PD planning and presentation but lacks follow-up limits EC educators' ability to apply new skills and improve their classroom practices. Follow-up procedures, such as coaching, are key to positive PD outcomes for educators and the children they serve (e.g., Brunsek et al., 2020; Egert et al., 2018).

1.10 Theory of Change

The goal of this study was to determine if it was feasible for HS directors to provide PD follow-up in the form of teacher observations during which they provided behavior specific praise (BSP) and after which they provided constructive feedback for targeted behaviors to teachers under their supervision. This was a pilot study and focused only on the feasibility of director behavior change, not on teacher or child outcomes. Two types of feasibility were measured: practical feasibility and social validity feasibility.

1.10.1 Measures of Feasibility

The practical feasibility of HS directors providing PD follow-up support was measured using PF data, particularly the change in PF between the baseline and intervention conditions. PF data measures how accurately procedures are implemented (Ledford & Gast, 2014). In this study, PF included interobserver agreement (IOA) measures to evaluate the accuracy of the data HS directors collected. When there is no an instrument to obtain a true measure of accuracy for a behavior, reliability may be used as a proxy (Cooper et al., 2020). IOA data measures the reliability or agreement of data collected by two independent observers. PF data were used to measure the fidelity of HS directors' provision of PD follow-up support; reliability, in the form of IOA, was used as a proxy for accuracy. For this reason, practical feasibility was indicated if directors achieved predetermined mastery criteria based on intervention PF data.

The second way feasibility was determined was via social validity measured as acceptability of procedures (Wolf, 1978) and ecological validity (Horner et al., 2005; Kennedy, 2002), consisting of the feasibility of application in typical settings (Ledford et al., 2016) and the continued use of procedures after a study (Horner et al., 2005;

Kennedy, 2002). Social validity as acceptability of procedures was determined by Likert-rated director and teacher post-study survey statements about the convenience of classroom observations and the benefit of BSP. Directors also indicated whether collecting data for the study was convenient. Social validity as ecological validity was measured with directors' PF data during the maintenance condition. It was also measured via directors' responses to a question asking if they would continue to use the prescribed method for supporting teacher after the study ended.

Additional survey questions focused on director-teacher relationships and whether they changed from the beginning to the end of the study. While these did not directly address feasibility, they were included to provide potential insight to social validity responses. For example, if most participants indicated the procedures were acceptable, but data analysis revealed a decline in relationships pre- to post-study, this could indicate a problem with social validity not captured by the survey questions.

Field notes were also used to collect social validity data. Field notes are a form of qualitative data used to provide depth and context during field observations (Phillippi & Lauderdale, 2018). The field notes made for this purpose focused on data that may not have been captured by PF mastery criteria or survey data. For example, directors might achieve and maintain mastery following training, but they might need to read through the entire protocol before beginning teacher observations each day. Similarly, teachers could report that observations were convenient, but might roll their eyes when it is time to be observed. In this way, field notes provided social validity feasibility data.

1.10.2 Short Term Activities

The completion of this study required several short term activities including PD, teacher observations, and data collection. Several other activities had to be planned for and, if indicated by the data, performed. These were brief coaching, video training intervention, in vivo training intervention, and self-management strategy collaboration. For HS directors to provide PD follow-up to teachers, directors and teachers had to attend a PD session which include behaviors appropriate for the follow-up support model. It was important that the PD included the components of a high-quality PD in its planning and presentation phases as poor initial PD quality could have hinder teachers' understanding of the information presented. For this reason, the PD used for this study was evaluated beforehand to ensure it contained the components associated with high-quality PD planning and presentation. Additionally, the PD objective was clearly defined and there were measurable adult behaviors that were likely to be observable during a 5 min classroom observation. Finally, due to the necessity of scheduling multiple weekly observations across HS sites, the behaviors had to be one that teachers could employ during a variety of classroom activities and routines.

Observations schedules had to be determined for each study site based on director availability and teachers' schedules (i.e., observations needed to be schedule around teachers' breaks). Baseline data indicated directors had to be trained to provide PD follow-up support which included BSP and permanent record feedback for the targeted behaviors. They needed to understand observation protocol and what data they were expected to record during classroom observations. This director training could be considered PD because it promoted "the acquisition of profession knowledge, skills and

dispositions as well as the application of this knowledge in practice" (NPDCI, 2008, p.3). Zaslow et al. (2010) stated PD dosage and duration should reflect PD content. The procedures for observing teachers and providing PD follow-up support for this study were straightforward. Because the tasks were relatively simple, brief coaching (e.g., Lane et al., 2016) was appropriate for training directors. Brief coaching was also used to train the secondary data collectors.

Due to the simple nature of observation and data collection procedures, it was expected that barriers directors encountered in meeting mastery criteria would be related to challenges in finding time to conduct observations. Conducting classroom observations necessitated changes to directors' typical work routines. It can be difficult for individuals to establish and maintain new routines, even when they want to change their behavior (Cooper et al., 2020). Therefore, self-management strategies would have been needed if any directors had not met the corresponding mastery criterion (no more than one block of scheduled teacher observations missed per two weeks without contacting the trainer to reschedule or cancel).

Self-management is the deliberate engagement in a behavior or behaviors to increase the likelihood that another behavior will occur. Though most people use self-management strategies every day (Baum, 2017), these strategies are often not used systematically, which may explain why there is a lack of literature describing the use of these strategies with healthy adults without a disability diagnosis. For example, an individual may occasionally write a grocery list or use a planner to record appointments. The principles of behaviorism, which indicate that there are understandable explanations for what people do, can be applied to develop plans for the deliberate and systematic use

self-management strategies in a variety of ways (Baum, 2017; Cooper et al., 2020). Field notes were used to document what, if any, self-management strategies directors used or mentioned using across the course of the study. These notes would have been used to inform the short term development of self-management strategies, had any directors not achieved mastery criteria within the predetermined timeframe.

A final short term activity was developing a positive working relationship with HS directors. As directors moved from one study condition to the next (e.g., baseline, video training), their data were used to individualize the support they received. Not only was director support individualized, but the support was provided in a one-to-one trainer-director context. Transactional learning theory highlights the importance the continuity of learners' previous experiences and abilities during new learning experiences (Östman & Öhman, 2010). To maintain this continuity, director's data were shared with them so they could see why they were receiving support. Directors were encouraged to ask questions and were provided positive and constructive feedback during trainings. To increase their sense of agency, directors completed a checklist during trainings to ensure the trainer completed each training activity. Further, directors had to opportunity to collaborate with the trainer to create a plan to record data during training. Had the need been indicated by the data, the trainer would have collaborated with directors to develop a self-management plan.

1.10.3 Long Term Inputs and Outcomes

The end goal for the research initiated in this pilot study is the development of recommendations for EC directors and other on-site supervisors to provide PD follow-up. There are four output objectives that must be met to achieve this goal. The immediate

output objective is for feasibility data from this pilot study to be collected, analyzed, and disseminated to inform future work. There are two intermediate objectives. This first is for this study to be repeated on a larger scale. A larger sample would not only allow researchers to examine whether this model is feasible on a large scale. This would also allow researchers to determine if there is a relationship between whether HS teachers identify as being the same race as their directors and how they describe their professional relationships. The second intermediate objective is for the study to be repeated across a variety of EC care and education settings. This would allow researchers to examine the feasibility of this model across EC settings that reflect community availability.

For these objectives to be met, PD that includes high-quality planning and presentation phases must be available; the methodology and findings of this study must be thoroughly documented; and study materials (e.g., data sheets, task analyses, raw data) must be obtainable. Research funding is also necessary to pay research assistants, cover travel expenses, and to compensate participants.

Finally, the long-term objective of research evaluating the impact of EC directors providing PD follow-up in the form of BSP and constructive feedback must be met to achieve the end goal. Impact should be measured as teacher and child outcomes across multiple contexts. For this to occur, PD with quality planning and procedural components as well as funding are necessary. Valid tools for measuring teacher and child outcomes in relation to PD content will also be needed. See Figure 1, Theory of Change model.

1.10.3.1 Assumptions

Several assumptions had to be met for this project to result in data regarding the feasibility of HS directors providing PD follow-up. First, the PD had to result in

participants having a clear understanding of the behavioral objectives. Second, there was an assumption that it would be possible to coordinate directors', teachers', and data collectors' schedules so directors could observe participating teachers and a member of the research team would be able to collect data during these observations. Third, there had to be adequate data for analysis. It was assumed attrition and missed teacher observations would be minimal. These three assumptions were monitored and maintained over the course of the study.

1.11 Rationale

This research addresses the lack of pragmatic PD follow-up and challenges to PD follow-up in the existing literature. The primary challenge to PD follow-up in the literature is a lack of accessibility. Multiple prohibitive factors limit accessibility. First, there are a lack of PD providers and coaches available to provide follow-up support (Hamre et al., 2017). While there is a plethora of PD follow-up research, the majority of follow-up in studies is provided by researchers rather than typical implementors.

Cost is another factor that limits the accessibility of PD follow-up. More than 20 years ago, Garet et al. (2001) estimated a cost of $512 per teacher for high-quality PD. Not all of that cost can be attributed to follow-up, however more recently Barrett & Pas (2020) noted that providing follow-up coaching to a single teacher for a year using current models increases the cost of a PD by hundreds of dollars. The use of HS directors to provide brief PD follow-up mitigates these accessibility challenges.

Another challenge to PD follow-up is staff scheduling. Even when studies provide coaching in the classroom setting, often the procedures for in-person feedback delivery necessitate additional staff to maintain supervision ratios (e.g., Wasik & Hindman, 2011).

Studies that utilize feedback methods outside of working hours, such as video or email, impede on teachers' personal time (e.g., Artman-Meeker et al., 2014). While educators may be paid for this time in the context of a study (e.g., Zan & Donegan-Ritter, 2014), this might not be an option if follow-up is provided by a typical implementors (e.g., Artman-Meeker & Hemmeter, 2013; Zan & Donegan-Ritter, 2014).

Finally, while it is beyond the scope of this study to explore in depth, considering the enduring impact of the slavery and racism in the United States and the disproportionate number of White-identifying women in EC leadership roles (Sanchez-Hucles & Davis, 2010), it would be remiss to ignore the potential of race to impact director-teacher relationships. Though the participant group for this study was too small for an in-depth examination of how race might impact director-teacher relationships, the inclusion of racial identity information from the teacher's viewpoint sets an important precedent for subsequent studies.

This study utilized brief teacher observations with BSP provided in-situ and simple permanent record feedback provided following the observations. This model did not interrupt classroom activities, necessitate extra staff, or require the budget necessary for PD follow-up support provided by off-site professionals. The observations were limited to 5 min and permanent record feedback limited to BSP of one thing the teacher did well and one example of how the teacher could incorporate targeted behaviors into their practice in the future. The observation length permanent record feedback were kept to a minimum so the directors could fit the practice into their schedules. Future iterations of this study could include feedback strategies such as in-situ prompting, similar to those used in LaBrot et al., (2016) to avoid disrupting teacher's schedules.

1.12 Research Questions

The purpose of this pilot study was to explore the feasibility of utilizing HS directors, who are already present in the environment and are invested stakeholders, to provide PD follow-up feedback to the teachers they oversee. There was one primary research question and were six secondary research questions.

1. What types of support do HS directors need to provide teacher follow-up support with PF?

This was the primary research question. These data were collected via direct observations of HS directors.

2. Were study procedures acceptable to study participants?

This information was collected from director and teacher participants via pre- and post-study surveys and field notes made during direct observations.

3. Did HS directors' ratings of their ability to support teachers change from the beginning to the end of the study?

These data came from director pre- and post-study surveys.

4. Did HS teachers' ratings of their director's ability to support them change from the beginning to the end of the study?

These data came from teacher pre- and post-study surveys.

5. Did HS directors' descriptions of their professional relationships with the teachers they supervise change from the beginning to the end of the study?

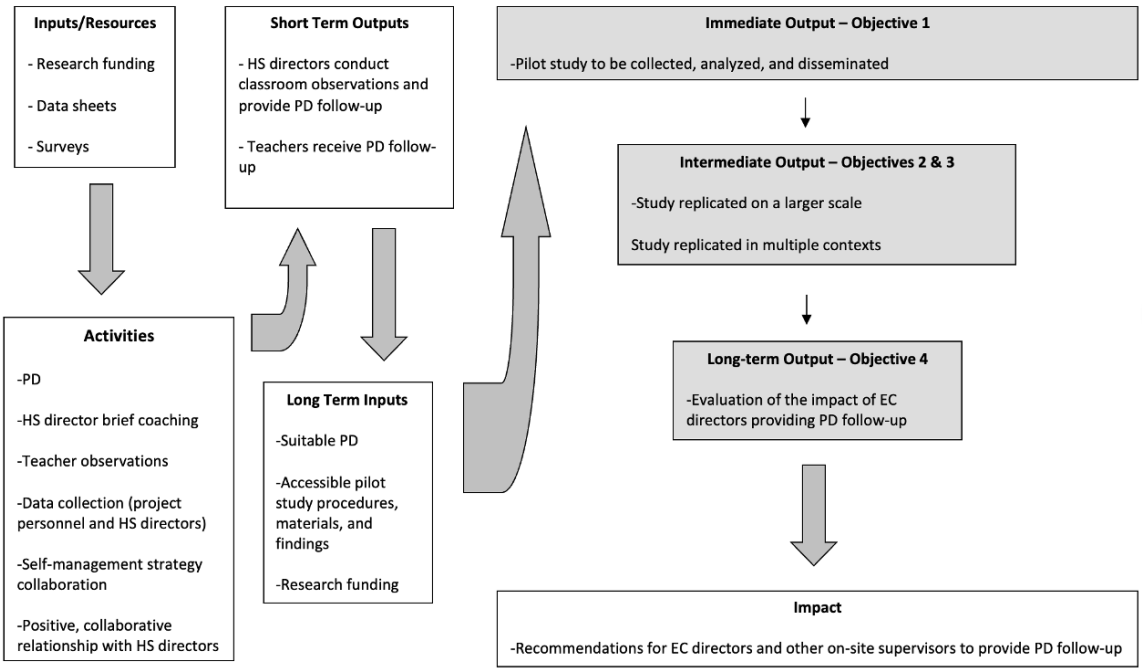
These data came from director pre- and post-study surveys.

6. Did HS teachers' descriptions of their professional relationships with their director change from the beginning to the end of the study?

These data came from teacher pre- and post-study surveys.

7. Is there a difference in how teachers who identify themselves and their directors as being of the same race and how teachers who identify themselves and their director as being of different races respond to survey questions?

   These data came from teacher pre- and post-study surveys.



Note: HS = Head Start, PD = professional development, BSP = behavior specific praise

Figure 1 Theory of Change

CHAPTER 2. METHOD

2.1 Participants and Settings

For the purposes of this study, HS teachers refers to full-time HS preschool lead teachers and teaching assistants. Members of the Community Action Council's (CAC) Educational Leadership Team identified a total of four directors and sixteen teachers across six classrooms for potential study recruitment. All participants had to be full-time employees. The author (henceforth referred to as trainer) first recruited directors then recruited teachers under each director's supervision. Four HS directors and three teachers under their respective supervision, for a total of 16 individuals, were enrolled in this study. All participants were female presenting.

2.1.1 Directors

Inclusion criteria for HS directors were: (a) they supervised at least three HS teachers; (b) they were present for least 90% of school days during the previous six months or, for the duration of their time as a HS employee if it was less than 6 months; (c) they had no planned prolonged absences during the study (i.e., more than five consecutive workdays); and (d) they expressed willingness to participate by completing a consent form. See Appendix 1 for all consent forms. Interim directors were excluded from participation as it was considered likely they would not remain in their position for the duration of the study.

The trainer met with all the potential director participants via Microsoft Teams to provide basic information and answer questions. This meeting lasted 12 min. See Appendix 2 for meeting and recruitment scripts. Following the meeting, the trainer emailed the directors to determine if they were interested in learning more about study

participation. The trainer then met individually, in-person with each interested director to go over the consent form and answer questions. Four directors consented to participate in the study. Each was provided with a copy of the consent document to keep. After all the directors were recruited, they were randomly assigned a number 1-4. This number was used on data sheets to ensure anonymity and to determine the order in which directors would begin baseline. After signing consent, directors completed a brief interview (Appendix 3). The consent process, answering the director's questions, and the brief interview that followed took 50 min for Director 1, 20 min for Director 2, 35 min for Director 3, and 40 min for Director 4.

After signing consent, directors completed a brief interview. They were asked how long they had served as a HS director, about their educational background, and about related experience. They were also asked how they provided teacher support and feedback. All directors were fluent in English; Spanish was Director 1's first language. The directors had from four months to 15 years of experience as HS directors and five to 16.5 years of experience working in early childhood settings. Each director had at least a bachelor's degree in a related field. See Table 2.1 for more information.

The directors described multiple means of supporting teachers' professional growth. These included recording skills for improvement, goal setting with the observed teacher, and follow-up observations; answering questions; assisting teachers in finding trainings matched to their interests and needs; reminding teachers about training content; monitoring teachers' yearly professional growth plan goals; and referring to CAC for additional training and/or support if yearly goals were not met. One director stated they served as a contact point between teachers with questions regarding past PDs and PD

providers. Directors noted teachers had limited access to PD follow-up support. For example, the HS program had instructional coaches, but they only provided support to teachers whose classrooms received low CLASS scores.

Directors supervised between one and seven HS and EHS classrooms, each with at least three full-time teachers, across one to three locations. They said they spent time in these classrooms at least once a week and sometimes as frequently as once daily. They reported that during these classroom visits they supported teachers, provided breaks, and conducted observations to determine if classrooms met Health and Safety, NAEYC, education, and other standards. Directors said they observed individual teachers 2-3 min daily to once per month and provided teachers informal feedback verbally one-on-one or occasionally via email. They reported that teachers were formally evaluated once a year, except new teachers who were evaluated three times within their first 12 months of employment.

2.1.2 Teachers

For simplicity, the term teachers refers both to lead teachers and full-time teaching assistants. Inclusion criteria for teachers were: (a) they worked at least 30 hr per week as a teacher in a HS classroom; (b) they were present for least 90% of school days during the previous six months or, for the duration of their time as a HS employee if it was less than 6 months; (c) they had no planned prolonged absences during the study (i.e., more than five consecutive workdays); and (d) they expressed willingness to participate by completing a consent form.

After each director signed a consent form, the trainer emailed the potential teacher participants they supervised a brief study description to determine which teachers would

like to learn more about study participation. The trainer then met with potential participants individually during in-person meetings to review the consent form. Twelve teachers (three under the supervision of each director) consented to participate in the study. Each teacher was provided with a copy of the consent document to keep. The teachers under Director 2 and Director 3 were able to review consent forms on the same day while the teachers under Director 1 and Director 4 consented on two separate days. The consent process took between six and 10 min per teacher. After signing consent, each teacher was assigned a letter, a-c. In combination with their director's number, these letters were used on data sheets to ensure anonymity (e.g., 1a, 1b, 1c). All teachers were fluent in English; Teacher 3b's first language was Spanish.

Of the twelve teachers who participated in the study, five (1a, 2a, 3a, 3c, and 4a) were lead teachers and seven were teaching assistants. The participating teachers supervised by Directors 1, 2, and 4 taught in the same classrooms. Teacher 1a, 1b and 1c taught in the same classroom; Teachers 2a, 2b, and 2c taught together in a different classroom; Teachers 4a, 4b, and 4c taught together in a third classroom. The teachers supervised by Director 3 taught in two different classrooms; Teacher 3b was an assistant in Teacher 3a's classroom and Teacher 3c was the lead teacher in a different classroom. Teachers' experience teaching in EC settings ranged from 4 months to 34 years. Most of the teachers' experiences were in HS (including EHS) classrooms. Before working for HS, Teacher 1a had been an assistant in a special education classroom; Teacher 1b had been a daycare director for 5 years and a substitute in a daycare for 7 years; and Teacher 1c had owned and childcare center and substituted in childcare for 25.5 years. All these teachers worked in the same classroom. Teacher 4a had run an in-home childcare center

during the summer for about 5 years. The remaining eight teachers did not have related experience.

The highest level of teacher education was a bachelor's degree. Four of the five lead teachers and one assistant had or were working toward a related bachelor's degree. One teaching assistant had an unrelated degree from a university in a South American country; this assistant, and five others had or were working toward their Child Development Associate (CDA). See Table 2.2 for more information regarding teachers' experience and education.

When asked how often their director spent time in their classroom for any reason, teacher responses ranged from daily to once per week. At least one teacher from each classroom stated that their director came into their classroom to give breaks and conduct observations. Teachers supervised by Directors 2, 3, and 4 said their director spent time in their classroom to complete weekly Health and Safety checklists (e.g., ensuring outlets were covered, ensuring medications were out of children's reach). Teachers supervised by Directors 1, 3, and 4 reported their director provided support, such as helping with or providing ideas for working with children who engaged in challenging behavior in the classroom. Teachers supervised by Director 1 reported their director worked in their classroom if a teacher was absent.

2.1.3 Trainer

The doctoral candidate served as the trainer for all directors and study personnel. The trainer was a board certified behavior analyst, had an Interdisciplinary Early Childhood Education teaching certification, and was a credentialed EC educator trainer. At the time of the study, the trainer was enrolled in a special education doctoral program

with a focus on interdisciplinary early childhood education. The trainer had worked in inclusive EC setting for seven years and was serving as a substitute teacher in an inclusive EC center at the time of the study. The trainer used a brief coaching model to train the caregivers of children with behavioral concerns at a student-run applied behavior analysis clinic during their masters' program. The trainer served as the primary data collector throughout the study.

2.1.4 PD Content

The trainer worked with CAC's HS Education Team to determine what PD met the study requirements of observable and measurable teacher behavioral objectives and include all the key components of quality PD, except follow-up. The Education Team said they were providing a PD which included CLASS behaviors relationships and respect from the Emotional Support Domain, Positive Climate. The CLASS uses a 7-point Likert scale to measure teacher-child interaction quality in the areas of Emotional Support, Classroom Organization, and Instructional Support (Weiland & Rosada, 2022). High CLASS scores have been correlated with positive child outcomes (Cash et al., 2019; Perlman et al., 2016).

The individual behaviors identified within relationships are physical proximity, shared activities, matched affect, and social conversations. The individual behaviors identified within respect are eye contact, warm and calm voice, and respectful language. While these behaviors are not entirely objective (e.g., observers could disagree about what physical proximity looks like or warm and calm voice sounds like), they were deemed appropriate because the CLASS, which was developed to "assess and quantify aspects of classroom quality that are described as process variables related to how

teachers implement curriculum and interact with children in ways that support children's social and academic performance" (Zan & Donegan-Ritter, 2014, p, 94), is used to assess HS settings.

2.1.5 HS Centers and Classrooms

Three director recruitment meetings and three director training interventions occurred in directors' offices. Director 1 and Director 2 had private offices. Director 1's office was located between the site's two classrooms and had one-way observation windows on either side. The office was also used for storing extra classroom supplies such as toys and paper towels. Only one classroom of the adjacent classrooms was in use during the study. Director 1's recruitment meeting occurred in the office. Their training occurred in the shared administrative office of a nearby HS site, not under their supervision, where they had been assigned to work that day. That office contained two desks and office equipment. The training occurred at the end of the day and Director 1 was the only person in the office during training. Director 2's office was in their site's administrative modular building. Director 2's recruitment meeting and training occurred in their office.

Director 3 shared a long, narrow office with other HS personnel. One end of the office contained a storage closet and four desks with computers; there was a small kitchen at the other end of the office. The office ran the length of the site's two HS classrooms and was accessed through one of the classrooms. There was a divided door between the classroom and the office. The bottom of the door was secured during the school day so that children could not access the office. Director 3's recruitment occurred

in the adjoining classroom (described below) when no children or teachers were present. Their training occurred in their office.

Director 4's recruitment meeting occurred in a secluded area of the hotel which hosted the HS PD day that included the PD associated with the study. Director 4 shared a small office with another HS administrator. This office did not have adequate space to review the training materials, so their training occurred in a records room containing several metal filing cabinets and two large rectangular tables. There was no one else in the records room during the training.

The twelve teacher participants in this study worked in five classrooms. None of the participating classrooms served children on Fridays. Eight teacher recruitment meetings occurred one-on-one in the teachers' classrooms after children had left for the day or on a Friday. Four recruitment meetings were conducted individually in the administrative areas described above.

Each of the participating classrooms served children aged three to five with no more than 18 children per class. The size and layout of each room varied but had adequate room for children to work and play. All classrooms included distinct dramatic play, art, blocks, science, math, and library areas. They had child-sized furniture with tables and chairs for activities, meals, and snacks. The classrooms under the supervision of Director 1 and Director 4 had child restrooms inside the classroom; the child restrooms for the classrooms under Director 2 and Director 3 were in the hallway. Each site had a shaded outdoor gross motor area with play equipment such as slides and climbing surfaces appropriate for preschool-aged children.

Director 1's participating classroom was located next door to their office. Director 2's participating classroom was in a modular building adjacent to the administrative building. There were several other classrooms, hallway restrooms, and a kitchen in this building. Director 3 oversaw classrooms at three separate sites. Director 3's participating classroom was in one half of a duplex in a residential area; it was the only classroom at this site. Director 4 supervised two classrooms. Two teachers from one classroom and one teacher from the other classroom participated. The classrooms occupied part of the first floor of a community college building. They had a connecting door and shared a wall with Director 4's office. Both classrooms could be accessed from the hallway or through the connecting door.

Director 1 typically conducted teacher observations for this study on Tuesdays and Thursdays between 11:30am and 12:15pm on the playground and/or in the classroom during large group time. Director 2 typically conducted observations on Tuesdays and Thursdays between 9:50am and 10:20am in the classroom during large group and free play. Teacher 2c's first observation occurred in an EHS classroom where she was filling in for an absent teacher. This was deemed appropriate because the focus behaviors were applicable to the EHS setting. Director 3's observations were scheduled around irregularly occurring work commitments (e.g., training, exam) on Tuesdays, Wednesdays, and/or Thursdays between 8:15am and 8:45am while children were eating breakfast. Director 4's observations took place on Tuesdays and Wednesdays between 10:30am and 11:00am on the playground weather permitting, or in the classroom during free play. Directors were scheduled to observe each teacher twice a week for a total of six

weekly observations; sometimes this was not possible due to teacher absences or directors' other work responsibilities.

2.2 Dependent Variables

Dependent variables (DV) measured for this study fell under two main categories: practical feasibility and social validity feasibility. Directors' ability to conduct and achieve mastery of teacher observations and provide feedback following training was used to measure the practical feasibility of directors providing PD follow-up support. Practical feasibility was the primary DV; these data were used to make experimental decisions. Both director and teacher data were used to examine the social validity feasibility. Two components of social validity were examined. The second DV measured social validity as the acceptability the PD follow-up support procedures, as rated by directors and teachers. The third DV measured ecological social validity. This was measured during a maintenance condition via observation of directors' use of the PD follow-up support protocol and via a survey.

2.3 Independent Variable

The independent variable was the amount of individual support provided to directors before each study condition. First, baseline data were collected so the trainer could observe what each director did when instructed to provide teachers support for the focus PD behaviors. The trainer used these baseline data to determine what video training intervention components each director would receive then provided brief coaching based on these data. The training could include information about BSP, practice providing verbal BSP, permanent record (e.g., written, emailed) feedback based on video clips, and self-management strategy development. The trainer used a PowerPoint presentation for

the video training intervention. The presentation reviewed the focus behaviors and explained how to provide BSP featuring video examples. It also included embedded videos of preschool teachers for directors to practice providing or not providing BSP, as appropriate, for the focus behaviors and to practice providing written feedback based on teacher behavior. See Appendix 4 for links to existing videos and sample scripts for videos created for this training. If any director had not achieved mastery criterion following video training intervention, they would have received in vivo training intervention. None of the directors required in vivo training.

2.4 Data Collection and Measurement

Multiple methods were used to answer the research questions increase the comprehensiveness of data (Axinn & Pearce, 2006). Three types of data were collected: director and teacher surveys (pre- and post-study), direct observations in the form of field notes, and direct observation of director PF data regarding their provision of PD follow-up support. Field notes were used to enhance understanding of director PF through documentation of environmental factors impacting director performance. Additionally, field notes were used to record director and teacher interactions and attitudes during the course of the study, as these might not be captured by the pre- and post- study surveys. Director PF data were graphed on a line graph and evaluated within the context of a nonconcurrent multiple baseline design (NCMB). Secondary data collectors were used for IOA to measure director PF reliability. Additionally, observational data were used to measure and ensure the completion of director and study personnel training activities. IOA and training data will be discussed under Reliability.

2.4.1 Survey Data

Qualtrics was used to collect survey data before participants began baseline and after they completed the final NCMB condition (video training or maintenance as time allowed). Surveys were used to collect quantitative and qualitative data. Pre- and post-study surveys contained questions about director-teacher professional relationships and interactions. Post-study surveys also included social validity questions. See Appendix 5 for all survey versions.

2.4.1.1 Quantitative Survey Data

Quantitative survey statements utilized Likert scales with five response options. While the specific responses varied, in each case the responses were ordered from most positive (e.g., capable, comfortable, always) to least positive (e.g., incapable, uncomfortable, never). Directors and teachers responded to six statements for the pre- and post-study surveys using 5-point Likert scales. The statements were about director-teacher relationships. The content of the director and teacher statements were the same, but they were worded for each specific participant group. For example, the first statement for directors read: describe your ability to support teachers under your supervision. The teacher version of this statement was: describe your director's ability to support you. The statements for each group were identical on the pre- and post-study surveys.

The director versions of the pre-post relationship statements were: (1) describe your ability to support teachers under your supervision, (2) describe your comfort level spending time in the classrooms of teachers under your supervision, (3) in general, my professional relationship with the teachers I supervise is, (4) in general, the teachers I supervise feel comfortable coming to me when they have work related questions, (5) in

general, the teachers I supervise are receptive when I make suggestions or provide corrective feedback, (6) in general, I understand the challenges faced by the teachers I supervise. The teachers responded to similar statements, reworded to capture their perception of these statements (e.g., describe your director's ability to support you).

Directors responded to five and teachers responded to four post-study quantitative social validity statements. Like the relationship statements, participants used 5-point Likert scales to rate their responses with the first option being the most positive (e.g., has greatly improved) and the fifth being the least positive (e.g., has gotten much worse). To avoid confusion, these statements will be referred to as statements a-e. Teachers did not rate a statement corresponding to statement e, but otherwise they responded to reworded versions of the statements rated by directors. The director versions of the statements were: (a) compared to before I participated in this study my ability to support teachers under my supervision; (b) compared to before I participated in this study my comfort level spending time in the classrooms of teachers under my supervision; (c) conducting classroom observations for this study was convenient; (d) providing behavior specific praise to teachers was beneficial; (e) collecting data for this study was convenient.

2.4.1.2 Qualitative Survey Data

Directors and teachers were asked one open-ended question about their director-teacher relationship on the pre-and post-study surveys. Directors were asked to respond to four additional questions/statements on the post-study surveys while teachers were asked two additional open-ended questions. The post-study surveys also included qualitative social validity questions and statements related to study procedures. Directors were asked to respond to three questions and one statement: (1) how could the classroom

observation procedures used in this study be changed to better meet your needs/the needs of the teachers you supervise; (2) I will continue teacher observations after the study is over; (3) did you use any resources other than those provided by the trainer collecting data for this study; (4) is there anything else you would like the trainer to know about your experience with this study. Teachers were asked to response to the first and final questions as the other question and the statement did not apply to them.

2.4.2 Field Note Data

The trainer used a pencil and data sheet to record field notes regarding participant comments and body language during teacher observation procedures. The data sheet contained prompts to remind the trainer of the types of information to be collected (Appendix 6). Field notes were also used to record directors' use of self-management strategies and permanent record feedback.

2.4.3 PF Data

PF data were used to measure the primary DV. PF data were collected by the trainer using a pencil and data sheet (Appendix 7 Procedural Fidelity data sheet [PFDS]). The secondary data collector recorded IOA data in-person in the same manner. The trainer and secondary data collectors positioned themselves so they could not see each other's data sheets during observations. PF data were collected for directors for a total of four behaviors. All behaviors were recorded as either occurring or not occurring. The first PF behavior was observing the teacher for the correct length of time. The correct length of observation time was 5 min. This length of time was selected for several reasons. First, it was deemed an adequate length of time for directors to observe teachers engaging in at least one focus behavior. Additionally, the observations needed to be short for practical

reasons; directors needed to conduct observations in addition to their other duties and the trainer needed to attend biweekly observations at multiple sites. While accuracy was important, there was leeway regarding the length of observations. Observations could be off by a full minute (i.e., range of 4 to 6 min) to allow for the use of wall clocks and other imprecise timekeeping methods.

The second PF behavior was the director appropriately providing or refraining from providing BSP for a focus behavior. The focus behaviors were the seven CLASS Positive Climate Behaviors: physical proximity, shared activities, matched affect, social conversations, eye contact, warm and calm voice, and respectful language. Beneath this behavior, the data sheet had two columns with four sub-behaviors (see Table 2.3). To determine if the director engaged in the second PF behavior, data collectors first had to determine which sub-behaviors occurred. The first sub-behavior in each column referred to a teacher behavior (engaging in or not engaging in a focus behavior) while the second behavior in each column referred to director behavior (providing or not providing BSP). The sub-behaviors in the first column were (1) the teacher engaged in a focus behavior and (2) the director provided BSP. The sub-behaviors in the second column were (1) the teacher did not engage in a focus behavior and (2) the director did not provide BSP. If both sub-behaviors in the same column occurred, the director engaged in the second PF behavior of appropriately providing or refraining from providing BSP. If both sub-behaviors in the same column did not occur, the director did not appropriately provide or refrain from providing BSP. While it is best practice to provide BSP immediately following the target behavior (Royer et al., 2019), due to the busy nature of HS classrooms and to minimize disruption of classroom activities, the director could provide

BSP anytime during the observation after the teacher engaged in a focus behavior. In addition to the sub-behaviors, this portion of the data sheet contained an area for behavior count. The behavior count portion was not used because count was not deemed an appropriate measure for the focus behaviors.

The third PF response was the director's accurate recording of data regarding whether the teacher engaged in a focus behavior. It should be noted that due the nature of the focus behaviors, it was considered unlikely that any teacher would not engage in at least one of them. For this study, director behaviors were the behaviors of interest; teacher behaviors were recorded only to determine the appropriateness of director behaviors. Most teachers in engaged in multiple of the context-appropriate focus behaviors throughout observations. For example, some children liked to kick a ball to one another on the playground. Teacher 3c often shared the activity, matched children's affect, engaged in social conversations, and used respectful language. The teacher did not engage physical proximity and did not always use a calm voice during this activity. Teacher 3b had only worked for HS for a few months and sometimes engaged in only one or two of the focus behaviors at a time.

The final PF response was the director's provision of permanent record support. This support had to match the director's PF response of whether the teacher engaged in a focus behavior, regardless of whether the director's record was correct. This was so the director would not be penalized twice if they were inaccurate in determining if the teacher engaged in a focus behavior. In other words, if the teacher did engage in a focus behavior, but the director indicated they did not, the director's permanent record feedback should be based on the instructions for feedback for a teacher who did not engage in a

focus behavior. The protocol was designed so that the feedback directors provided would be appropriate regardless of whether the director accurately assessed if the teacher engaged in a focus behavior.

If a director indicated a teacher did engage in a focus behavior, their permanent record feedback should include BSP for a focus behavior (this could be the same as the verbal BSP) and a suggestion of how the teacher could engage in that focus behavior during another classroom activity. If the director indicated a teacher did not engage in any focus behaviors, their permanent record feedback should include BSP for some other behavior (e.g., modeling conversation while talking with another teacher) and a suggestion for engaging in a focus behavior during an activity that occurred. In either case, the director could not provide the same permanent record feedback for a teacher for consecutive observations. In addition to the four PF behaviors, rescheduled and missed observations and the reason for the rescheduled or missed session were documented. If observations were not rescheduled or cancelled in advance, this was also noted.

2.5 Research Design

A multiple methods design was used to examine the practical and social validity feasibility of HS directors providing PD follow-up support. Quantitative data were collected via a nonconcurrent multiple baseline **(**NCMB) design across participants (directors) and surveys with Likert-rated statements. Qualitative data were collected via open-ended survey questions and field notes. See Table 2.4 for a summary of planned study components.

Multiple methods studies utilize different and complementary methods of data collection to "extend the scope and depth of the data" (Chamberlain et al., 2011, p. 151).

In this study, field notes were used in combination with NCMB data to determine which supports directors needed to achieve PF mastery criteria. Field notes also were used to record director and teacher attitudes regarding study procedures (as indicated by their comments, tone, and body language) which complimented survey responses. Open-ended survey questions were designed to gain more insight into Likert-rated survey responses. While were insufficient qualitative data to make comparisons with the quantitative data, the data collected via various methods (i.e., PFDS, field notes, Likert-rated and open-ended survey items) provided more information regarding directors' abilities and director and teacher perceptions about observation protocol than any single method alone.

2.5.1 Decision to Use a NCMB Design

The distinguishing characteristic of NCMB designs is that unlike concurrent multiple baseline designs, data are not collected concurrently across participants (e.g., tiers; Slocum, Pinkelman, et al., 2022). Until recently, NCMB designs were widely considered to be less rigorous than concurrent multiple baseline designs and were not generally accepted in the field of single case research. Visual analysis has traditionally placed greater importance on across-tier than within-tier comparisons in multiple baseline designs. This means that greater importance has been placed on the replication of effect than data level and stability within conditions or the immediacy of change across conditions within tiers. Claims regarding the lack of rigor in NCMB designs have been refuted and these designed have gained acceptance, particularly in applied-setting research when it is unlikely that participants will be impacted by shared events outside the study (Ledford & Zimmerman, 2023).

NCMB were historically considered less experimentally rigorous due to concerns regarding internal validity (e.g., Cooper et al., 2020). The inability of NCMB designs to detect the impact of an outside event coincidentally impacting a participant's responding (i.e., history) is one example of a perceived threat to NCMB study rigor. However, for an impact to be detected in multiple tiers across study conditions, multiple tiers must be exposed to the event (Slocum, Pinkelman, et al., 2022). This is most likely for multiple baseline across behavior designs with a single participant or when tiers consist of participants who share a physical setting where potentially impactful experiences may be shared (e.g., students in the same classroom) and is less likely when, as in this study, tiers consist of participants at different locations. The directors in this study attended monthly meetings together; however, providing PD support to teachers was not addressed at these meetings.

Other internal validity concerns that have been expressed in relation to NCMB are maturation and testing or session experience (Slocum, Pinkelman, et al., 2022). The participants in this study are adults, and maturation is not a concern; even if it were, concurrent designs only control for this threat if participants are expected to mature at similar rates (Ledford & Zimmerman, 2023). It was not expected that session experience would impact participant responding, so the absence of concurrence across comparison tiers was not a concern. Further, the order in which participants began baseline and the number of baseline data points were varied and randomly assigned a priori to control for these threats (Ledford & Zimmerman, 2023; Slocum, Joslyn, et al., 2022). Data were recorded and presented on separate A-B/A-B-C graphs and session dates have been

provided to ensure design transparency (i.e., to ensure the design would not be mistaken for concurrent multiple baseline).

Nonconcurrent sessions did not increase the threat to internal validity for this study. In addition, the use of NCMB was practically indicated. This study required scheduling 30 min observations time blocks twice weekly around director availability, classroom activities, driving time between observation sites, the duration of the school day, and director trainings while ensuring the appropriate number of data points were collected across tiers (Slocum, Joslyn, et al., 2022); it was not feasible to use a concurrent multiple baseline design.

2.6 Procedures

2.6.1 Pre-Baseline Activities

2.6.1.1 Secondary Data Collector Training

Before the study began, the trainer used a brief coaching model (e.g., Lane et al., 2016) to individually train a graduate student and one faculty member as secondary data collectors. The graduate student trainee had previous experience collecting observational data in EC classrooms and had taken masters-level coursework on intervention planning and data collection. Their training took 1 hr. The faculty member had four decades of experience collecting observational data and training university students and other EC professionals to collect observational data. Their training took 20 min.

Before each training started, the trainee received a Secondary Data Collector Training Handout and Checklist (Appendix 8). The trainer explained that the checklist would be used to ensure that all parts of the training were completed and reviewed how to

complete the checklist. The trainer and trainee completed the checklist during the training. The trainee was then instructed to read the handout's Behaviors and BSP sections. The trainee demonstrated their understanding by providing three examples of BSP related to the teacher focus behaviors across three different EC classroom activities or events (e.g., large group story time, art, transition). An example of BSP during mealtime is, "you had a social conversation when you talked to Marie about the color of the apples she has at home, nice job."

Next, the trainer provided the trainee with a PFDS and talked through the first behavior, 5 min observation time. Evaluating the first PDFS behavior (did the director observe for 5 min) was not practiced for two reasons. First, since directors were allowed a wide range (4 to 6 min) for this behavior, it did not seem likely that the primary and secondary data collector would have disagreements about this item. Second, the example videos were all less than 1 min in length. Had there been disagreements during actual data collection, the trainer would have used longer, pre-existing videos to practice assessing this behavior with secondary data collectors.

The trainer then oriented the trainee to the rest of the behaviors on the PFDS and explained why the data were being collected. Next, the trainer explained the sub-behaviors for the second PFDS response (i.e., the director appropriately provided or refrained from providing BSP). The trainee watched videos created for the study featuring directors observing teachers (see Appendix 4 for sample scripts). The trainee practiced collecting data for the sub-behaviors using video examples until the trainer and trainee achieved 100% IOA across three videos regarding whether the director appropriately provided or refrained from providing BSP. The trainer used data sheets

scored in advance for each training video to determine IOA scoring. For examples of prescored data sheets, see Figure 2.1.

Then the trainer explained the third and fourth PFDS behaviors. The trainee practiced scoring PF for example director permanent record feedback based on the videos. The trainer showed the trainee a sample director data sheet (Figure 2.1). The trainee completed a PFDS based on the video and sample data sheet. The trainer then revealed how their prescored PFDS. Each trainee practiced until they achieved 100% IOA for three consecutive trials.

Both trainees were provided opportunities to ask questions throughout their training. Immediately following each practice, they were provided positive feedback. They were provided corrective feedback for each step as appropriate. The trainer intentionally created examples that were not straightforward to score, such as data sheets with extra information. The graduate student trainee required three practice and feedback brief coaching cycles to achieve 100% IOA for three trials for scoring the third and fourth PFDS behaviors. During each coaching cycle, the trainer explained the PF scoring and answered the trainee's questions. The faculty member did not require coaching.

For each section of the training, the trainer and trainee recorded the training activities completed on the Secondary Data Collector Training Checklist. The trainer reviewed the checklists for disagreement. For both trainings, the trainer and trainee agreed that the trainer completed all 18 training activities. If either the trainer or trainee had indicated any training activity had not been completed, the trainer would have completed those activities.

2.6.1.2 Survey Completion Tracking

A second graduate student (survey tracker), not connected with the study in any other capacity, tracked which participants submitted pre- and post-study surveys and completed the paperwork required by the university to send the participants compensation in the form of a check (i.e., name, mailing address, email). The funds for compensation came from a dissertation grant the trainer receive from their university's College of Education.

The trainer reviewed instructions for completing these tasks with the survey tracker and answered their questions. The trainer gave the survey tracker access to the Qualtrics surveys using the Qualtrics Collaborate option and removed themself from the survey. The survey tracker sent participants links to the surveys, received completed surveys, and used the names provided by each participant on their survey to track who had and had not completed the surveys. They sent reminders approximately every two weeks to participants who had not completed the survey. The trainer was notified if any participants had not completed the survey before their first scheduled observation.

The survey tracker also downloaded the survey data onto a secure university computer and removed the section with identifying information (i.e., name and email) from the data. At the end of the study, the survey tracker created an Excel file of the deidentified data and sent it to the trainer. This process was used for both pre- and post-study surveys.

The trainer provided the survey tracker information necessary to complete funding paperwork (i.e., participant name, email address, and mailing address). When the paperwork was submitted at the end of the study, the trainer learned that the method for distributing the funds to compensate participants had changed after the trainer received

the award. The funds were deposited into the trainer's personal account, and the trainer mailed checks to the participants.

2.6.1.3 Study Participants

Each participant completed the appropriate consent form. Three directors and three teachers consented to participate in the study before the PD; one director and nine teachers consented after the PD.

2.6.2 High-Quality PD

The PD which covered the study focus behaviors was the last of three required HS PD sessions. The PDs were held in a large hotel conference room; all staff members attended the same PDs. There were 247 CAC HS staff in attendance. The trainer attended the relevant PD session to determine if it included the components of high-quality PD as described by the PD presenter. During the planning phase, the presenter and the CAC team that planned the PD determined an appropriate dosage. In this case, it was 1.5 hrs. This length of time may not have been adequate, as one component of high-quality PD was not included (described below). Time constraints were placed on individual sessions according to the duration of the PD and the total number of sessions. In addition to dosage considerations, the PD planning phase included individualization. The PD topic, Getting Intentional about Relationship Building, was developed based on teacher and director input. The presentation was individualized to include teachers' requests for non-examples of positive classroom interactions. While not specifically identified as CLASS behaviors during the PD, focus behaviors for this study were discussed during the PD.

During the session, three of the four components of associated with a high-quality PD presentation were present. First, an explanation was provided. The objective was

described as increasing teachers' knowledge about forming relationships with children. The presenter explained why positive relationships are essential for children's learning. The PD also included the component of modeling. This occurred in the form of examples and non-examples of relationship-building practices in EHS and preschool HS classrooms. Finally, active learning occurred when staff watched the videos examples, and individual participants described the relationship-building strategies they observed to the whole group. The video examples and non-examples featured teachers in CAC's HS program. Most PD participants appeared to be engaged while watching and discussing teacher behaviors depicted in the videos.

Before the PD, the presenter informed the trainer that the PD would include the opportunity for teachers to reflect, in classroom teams, on their use of relationship-building practices in their classrooms. However, this did not occur. The final component of quality PD, reflection/feedback/evaluation, was absent. This was not ideal, however, since the study participants worked in rooms with high CLASS ratings, the focus behaviors were not new to them. Additionally, director behaviors were the behaviors of interest, and these could be evaluated regardless of whether the teachers engaged in focus behaviors.

2.6.3 Pre-Study Surveys

Before beginning baseline, participants were provided with the link to the pre-study survey, which included instructions. There were two versions of the survey, one for directors and one for teachers. The survey tracker could access the surveys and noted when they were completed.

2.6.4 Baseline

There were two randomizing factors associated with baseline. First, the numbers randomly assigned to directors after consent were used to determine which would begin baseline first. Second, List Randomizer was used to determine the number of baseline data points (6, 8, 10, or 12) would be collected for each director. Each individual teacher observation represented one data point. The decision to use a different number of data points for baseline across participants is best practice for NCMB (Ledford & Zimmerman, 2023). It supports external validity by providing evidence that the data are not impacted by the number of baseline sessions. Because the trainer was working with directors with established methods for supporting teachers, it was assumed directors' behavior would be stable from one baseline session to the next. Had baseline data for any director not been stable enough to predict future performance, the number of baseline sessions for that director would have been reevaluated.

Director 1 and Director 2 began baseline at the same time. Each teacher observation was one session. Though teachers were observed for 5 min each, sessions were scheduled for 10 min. This allowed flexibility for unforeseen delays as well as allowing time for directors to provide permanent record support to teachers following observations. Teachers were scheduled to be observed two days per week, resulting in twice weekly 30 min scheduled blocks of time per director. The order in which teachers were observed varied based on what was happening in the classroom. For instance, if a teacher was on a break at the beginning of s scheduled observation, another teacher would be observed first. Also, if a teacher was cleaning up after a meal they were not

observed until they were done when they had more opportunities to engage in the focus behaviors.

The trainer was present for all teacher observations throughout the study. Teachers were not observed if they were absent or otherwise unavailable during the scheduled observation time (e.g., moving from classroom to classroom to provide breaks). Similarly, due to the driving time between the sites and between the trainer's home and the sites (45 min to 1 hr 15 min for three of the four sites), if a scheduled observation time block was canceled or missed, it was typically skipped rather than rescheduled.

2.6.4.1 Baseline Data Collection

Before baseline data collection began, teachers were reminded of the times they would be observed and the focus behaviors. Three types of director data were collected during baseline. The trainer used PFDSs to collect PF data during each baseline session as described in the PF Data section. PF data were collected by the secondary collector for at least 20% of teacher observations for each director during baseline and all subsequent conditions. Additionally, information regarding missed, canceled, and rescheduled observations was recorded throughout the study. The trainer used a Field Notes data sheet to record data on directors and participating teachers' data as described above. The collection of these data were not limited to the observation period; participants were made aware of this during the consent process. Participants did not know what type of data were being recording using field notes.

2.6.5 Intervention

Directors received the video training intervention once they had conducted the predetermined number of baseline teacher observations. Had a director achieved mastery during baseline, they would have been moved to the maintenance condition rather than video training. There were two planned intervention conditions, video training and in vivo training, each to be preceded by brief coaching. Either or both conditions could include self-management training if indicated by individual director data.

2.6.5.1 Video Training

After the predetermined number of baseline data points were collected for each director, the trainer used brief coaching to train them to provide BSP and permanent record feedback. The trainer utilized a handout created for the study and a PowerPoint presentation with embedded video examples for practice. Each training was individualized based the director's baseline PF data. First, the trainer provided the director with an individualized Director Checklist for Video Practice (see Appendix 10 for all possible intervention training handouts and checklists) and explained how to complete it. This checklist was similar to the one used during the secondary data collector training and was used to ensure the trainer completed all video training activities. If a director engaged in any of the PFDS behaviors during 100% of baseline observations, the behavior was discussed, but the training section for that behavior was crossed out on the checklist and the director was not required to practice that behavior.

After explaining the checklist, the trainer provided the director with a Teacher Follow-Up Support Protocol (Support Protocol) handout and instructed them to read the Focus Behavior and BSP sections. The trainer explained that the director would be

providing PD feedback that included BSP to teachers during observations. Next, the trainer shared the director's data for the first three PFDS behaviors (i.e., observe teacher for 5 min, appropriately provide or refrain from providing BSP for a focus behavior, accurately record whether the teacher engaged in a focus behavior) with them. Directors with less than 100% accuracy for providing BSP across all baseline observations were shown example BSP videos. The trainer pointed out the language that made the praise behavior specific in each instance. Next, the director watched 20- to 30-s videos and practiced providing BSP or refraining from providing for focus behaviors, as appropriate. Each director practiced until they achieved 100% accuracy for three consecutive videos. The trainer provided positive feedback and corrective feedback as applicable. Directors were provided the opportunity to ask questions about BSP and the focus behavior(s). The trainer used a Director Practice Data Sheet (Appendix 11) to record director behaviors during video training practice.

Then, the trainer instructed the director to read the third step of the Support Protocol (e.g., record teacher feedback based on the observation) and provided the director with an Example Director Data Sheet (see Appendix 12). The trainer explained that the director did not have to use this data sheet during observations to record data, but that the trainer would provide it if the director wanted to use it. All directors chose to use the data sheet. The trainer told the director they could provide the teacher a copy of the data sheet as a permanent record of their feedback or they could also use another method, such as text or email, if they preferred.

The director practiced providing written BSP feedback based on video examples. If the teacher in the video engaged in a focus behavior, the director provided written BSP

for a focus behavior; if the teacher did not engage in a focus behavior, the director provided written BSP for some other behavior the teacher engaged in (e.g., sitting on the floor at the child's level). The trainer provided positive and corrective feedback and answered questions. The director practiced until they achieved 100% accuracy for three consecutive videos.

Then the director practiced writing constructive feedback based on video examples. If the teacher in the video engaged in a focus behavior, the director noted how the teacher could use that behavior during another classroom routine or activity. If the teacher did not engage in a focus behavior, the director noted how the teacher could use one of the focus behaviors during an observed routine or activity. The trainer provided positive and corrective feedback and answered questions. The director practiced until they achieved 100% accuracy for three consecutive videos.

Finally, the trainer reviewed the use of the whole data sheet and provided the director with an opportunity to practice more if they so desired. At the end of the training, the Director Checklist for Video Practice was consulted. Had the director or trainer indicated any training activities had been skipped, they would have been completed.

2.6.5.2 Intervention Data Collection

After receiving video training intervention, directors resumed teacher observations and data collection. All directors achieved mastery criteria following video training and were moved to the maintenance condition rather than receiving in vivo training. Mastery criteria were: 1) the director maintained 100% PF for three consecutive observations across at least two teachers and 2) the director missed no more than one

scheduled block of teacher observations every two weeks without contacting the trainer to reschedule or cancel.

2.6.6 Self-Management

If a director had not met the second mastery criterion during baseline, they would have received self-management training along with their video training. Additionally, had any directors required in vivo training and had not met the second mastery criterion after video training, they would have self-management training with their in vivo training. No directors required self-management training.

2.6.7 Maintenance

After each director achieved mastery criteria, the trainer planned to conducted maintenance probes. The number of maintenance probes completed for each director varied due to the school year ending. When possible, maintenance data were collected across multiple teachers to capture potential PF inconsistencies in maintenance across teachers. Adjustments were made to schedules observation times to meet the needs of the participants, the trainer (who was collecting data from an increased number of sites once the first director entered maintenance), and secondary data collectors when needed. Maintenance data collection procedures were identical to those used during the baseline and video training conditions.

2.6.8 Post Maintenance Activities

After completing maintenance or at the end of the school year, whichever came first, the survey tracker emailed the director and teacher participants the link to their respective post-study surveys. As with the pre-study survey there were two versions, one for directors and one for teachers (Appendix 4). In addition to the Likert-rated statements

and open-ended question included in the pre-study survey, post-study surveys included statements and questions about the acceptability study's procedures. The survey tracker deidentified the pre-and post-study survey results and sent them to the trainer. Upon reviewing the qualitative survey and field note data with the head of their dissertation committee, the trainer concluded that there was insufficient data for coding and theme development. Participants who completed the study, defined as engaging in the teacher observations and completing the pre- and post-study surveys, received compensation. Director participants received $100 compensation. Teacher participants received $50 compensation.

2.7 Answering the Research Questions

The NCMB design and field notes were used to answer the primary research question (i.e., what types of support do HS directors need to provide teacher follow-up support with PF) and drive experimental decisions. These data also addressed the first DV, practical feasibility. The first criterion used to evaluate director mastery was maintaining 100% PF across two teachers for three consecutive observations. The second criterion used to evaluate director mastery was that could miss no more than one scheduled block of teacher observations every two weeks without contacting the trainer to reschedule or cancel. This did not apply if the director did not have time to contact the trainer in advance. Examples include if an adult or child had been seriously injured when the trainer was enroute or if the director had been obliged to take an unexpected phone call from their supervisor after the trainer arrived.

When directors met both mastery criteria, they were moved to the maintenance condition. If directors did not achieve mastery criteria during a condition, they were

moved to the next condition. If any director had achieved three consecutive data points with PF of 100% for a single teacher and no more than one missed observation across two weeks during a condition, that condition would have been extended until data collection occurred for a second teacher. If the director's PF had fallen below 100% or they missed more than one observation across two weeks before they observed a second teacher, they would have been moved to the next condition.

Post-study survey questions and field notes were used to answer the second research question (i.e., were study procedures acceptable to study participants). Directors and teachers completed Likert-rated and open-ended questions about study procedures. Additionally, the trainer used field notes to record director and teacher behaviors related to the procedures.

Pre- and post-study survey data were used to answer research questions three through six (i.e., did the way HS directors rated their ability to support teachers change from the beginning to the end of the study; did the way HS teachers rated their director's ability to support them change from the beginning to the end of the study; did the way HS directors described their professional relationships with the teachers they supervise change from the beginning to the end of the study; did the way HS teachers described their professional relationships with their director change from the beginning to the end of the study).

Finally, the seventh research question (i.e., is there difference survey responding between teachers who do and do not identify themselves and their directors as being of the same race) was answered using teachers' pre- and post-surveys responses. Teacher

surveys were sorted by those who said they did and those who said they did not identify as being the same race as their director and their responses were compared.

2.8 Data Analysis

PF data for each director were graphed and visually analyzed throughout the study. Data patterns were analyzed within each condition of the NCMB (i.e., baseline, video training, maintenance) and three data patterns were analyzed across adjacent conditions for each tier (Barton et al., 2018). Within each condition the level, trend, and variability of the data for each director were analyzed. The trend was determined by examining the slope and direction of the data path. The data level represented the percentage of PF behaviors each director engaged in for each teacher observed. The level was used determine which condition-level supports directors needed meet the first mastery criterion (i.e., 100% PF for three consecutive teacher observations with a data point for at least two of the three teachers). Data stability across adjacent conditions consisting of the changes in data patterns, the immediacy of the change in data patterns following a change of the study condition, and the overlap of the level of the data were also examined throughout the study.

After all the NCMB data were collected for all directors (i.e., across tiers), a summative analysis considering the consistency of all six factors described above across tiers was conducted to determine if there was a functional relationship between director trainings and directors meeting the first mastery criterion. If any directors had required self-management support, in addition to the visual analysis of the NCMB graphic display, field notes would have been used to document the self-management plan development for those directors and would also have been considered and discussed in narrative form.

Quantitative Likert-scale survey statements were analyzed using descriptive statistics; the mean, mode, and range of these answers were examined. Due to the brevity of open-ended survey responses and limited field note data, the trainer met with their dissertation committee chair to discuss the appropriateness of data coding. After reviewing the data, they determined there was insufficient data to develop codes and themes. Therefore, qualitative responses were explored in narrative form.

Research questions three through six addressed directors' ability to support teachers and director-teacher relationships. Learning habits that are malleable and allow for creativity allow learners to adapt to different environmental variables (Östman & Öhman, 2019). This aligns with applied behavior analysis's focus on examining environmental variables that impact behavior change (Cooper et al., 2020). Transactional learning theory provides a framework for understanding how director-teacher relations may have been impacted by interactions between directors and teachers within the study context and their respective attitudes regarding study activities. As with question two, pertinent quantitative and qualitative survey response data were analyzed using descriptive statistics and frequency of qualitative responses, respectively.

The potential impact of racial identity on teachers' survey answers was analyzed by sorting the survey responses of teachers who said they identified as being the same race as their supervisor and those who said they did not. Descriptive statistics were used to identify the mean and range for each group's quantitative survey data. These data were compared across groups. Qualitative data provided by teachers regarding their relationship with their director was also examined.

2.8.1 Reliability

2.8.1.1 Director PF Data

The primary DV was director PF in implementing teacher observations and providing PD follow-up support. Director PF IOA data, collected in vivo by one of two secondary data collectors, were used to measure reliability and serve as a proxy for data accuracy. The secondary data collectors were naïve to study conditions. IOA data were collected for at least 20% of teacher observations for each director during each condition. PF IOA was calculated as a percentage by dividing the number of PF agreements by the number of agreements plus disagreements and multiplying by 100. Agreement was defined as the trainer and secondary data collector scoring the director's behavior in the same way (i.e., occurred, do not occur). Disagreement was defined as these scores differing.

2.8.1.2 Field Notes

Reliability data were not collected for field notes. There were several reasons for this. First, field notes could be recorded at any time during the study. The secondary data collector's presence was limited to teacher observations to decrease the intrusiveness of study procedures. This was to increase the chance that participants became acclimated to the trainer's presence and decrease the impact of the presence of study personnel on director behavior (i.e., reduced Hawthorne effect). Second, field notes are interpretive; they contain the observer's impressions (Bhattacharya, 2017). This means that even if the same event was recorded by two observers, their interpretation of the event may have differed. Had any directors required self-management training, the relevant field note

data would have been discussed with each director. Director would have been encouraged to provide input regarding the accuracy of the information to increase confidence in reliability. Field note data related to survey responses were examined in combination with those responses to provide a more in-depth understanding of participant experiences.

Finally, the PF data quantitatively measured behaviors linked to directors' performance of specific tasks. While it was expected there might be some variation in how well a director performed these tasks across teacher observations, it was expected that performance would be relatively consistent within each NCMB condition. Field notes were used to record environmental data related to inconsistencies in director PF data (e.g., director forgetting their timekeeping device). These notes allowed the trainer to determine if there were identifiable reasons for changes in the level of director data. As a result, the trainer could assume with reasonable confidence that the PF IOA data collected during 20% of observations were representative of the accuracy of the trainer's PF data collection across all teacher observations.

The precedence for a single data collector to collect field notes can be found in the literature. Bishop et al. (2010) used multiple data collectors to take field notes during classroom observations. The observers practiced taking field notes before the study began until they reached agreement, but during the study only one observer recorded field notes at a time. Ruppar et al. (2017) collected IOA data for classroom intervention procedures and student responses but not for field notes. In this study, teachers and student teachers took turns recording field notes related to the intervention, student participation, and the classroom in general when the researchers were not present.

2.8.1.3 Survey Data

There was a permanent record of survey responses, so these data did not require extra steps for reliability.

2.8.1.4 Training Checklists

Checklists were used to support and measure reliability of treatment fidelity (i.e., the trainer's adherence to protocols) during secondary data collector training and director intervention training. If there had been adequate qualitative data for coding, a checklist would also have been used during secondary data coder practice. Ledford and Gast (2014) state that treatment fidelity data are most accurate as an assessment tool when they are collected by direct observation; however, self-reported treatment fidelity may "serve as a cue for implementers to perform the correct steps" (p. 340) and thus increase fidelity. For this study, in all cases, both the trainer and the trainee completed checklists of the trainer's planned behaviors during training. The trainer reviewed the checklists before concluding each training to ensure they completed all planned training activities.

Table 2.1 Director Descriptive Data

Director	EC director	Education	Related experience
1	4 months	Bachelor of Special Education from a university in Central America; Bachelor of Spanish	11 years teaching children with disabilities in Central America 4 years as an EHS teacher 5 years as an HS coach
2	7 years	Masters of Interdisciplinary EC Education	16.5 years as an EC teacher
3	15 years	Bachelor of Child Development and Family Relations; Associate of Early Childhood	5.5 years as an EC teacher
4	13.5 years	Associate of Child Management; Bachelor of Business Administration; Master of Teaching in Interdisciplinary EC Education; Director's Credential	7.5 years as an EC teacher

Note. EC = early childhood; EHS = Early Head Start; HS = Head Start

Table 2.2 Teacher Descriptive Data

Experience		Teachers
Years teaching EC	<5	1b, 2c, 3c, 4b
	5-10	1a, 1c, 2a, 4c
	10-20	2b, 3a
	>20	3b, 4a
Education (EC related)	Working toward Preschool CDA	3c, 4b
	Has Preschool CDA	1c, 2b, 2c, 4c*
	Working toward BA/BS	2a
	Has BA/BS	1a, 1b, 3a, 3b, 4a

Note. EC = early childhood; BA/BS = bachelor's degree; CDA = Child Development Associates; * Teacher 4c asalso had an Infant/Toddler CDA.

Table 2.3 Director PF Second Response Sub-Behaviors

Did the director appropriately provide or refrain from providing behavior specific praise? (score + if both lines in the **same box** below are +; score – if lines in **different boxes** are +)	
___ The teacher engaged in a focus behavior. ___ The director provided BSP.	___ The teacher did not engage in a focus behavior. ___The director did not provide BSP.

Table 2.4 Planned Study Components

Component		Description
Pre-NCMB SCD: *All participants*		Attend PD Briefly interviewed to obtain descriptive demographic information Complete pre-study survey
NCMB SCD: *Directors observe each teacher twice weekly for 5 min*	Condition 1: Baseline	Support provided: Told to observer teachers for 5 min and provide feedback for the focus behaviors from the PD
	Condition 2: Video training + self-management	Support provided (refined according to individual director data): Review of PD focus behavior; handout about focus behavior, BSP, and feedback; brief coaching on providing BSP and feedback with video practice; data sheet; self-management handout; self-management plan developed
	Condition 3: In vivo training + self-management	Support provided (refined according to individual director data): Review of PD focus behavior; brief coaching on providing BSP and feedback with in vivo practice; self-management handout; self-management plan developed/refined
	Condition 4: Maintenance	Support provided: None
Post-NCMB SCD: *All participants*		Complete post-study survey

*Note*s: NCMB SCD = nonconcurrent multiple baseline single case design; PD = professional development' BSP = behavior specific praise; Supports provided during NCMB were informed by individual director data. Criteria to move from any condition to maintenance were 100% PF for three consecutive teacher observations and no more than one scheduled observation missed across two weeks. (See text for specificity regarding mastery criteria.)

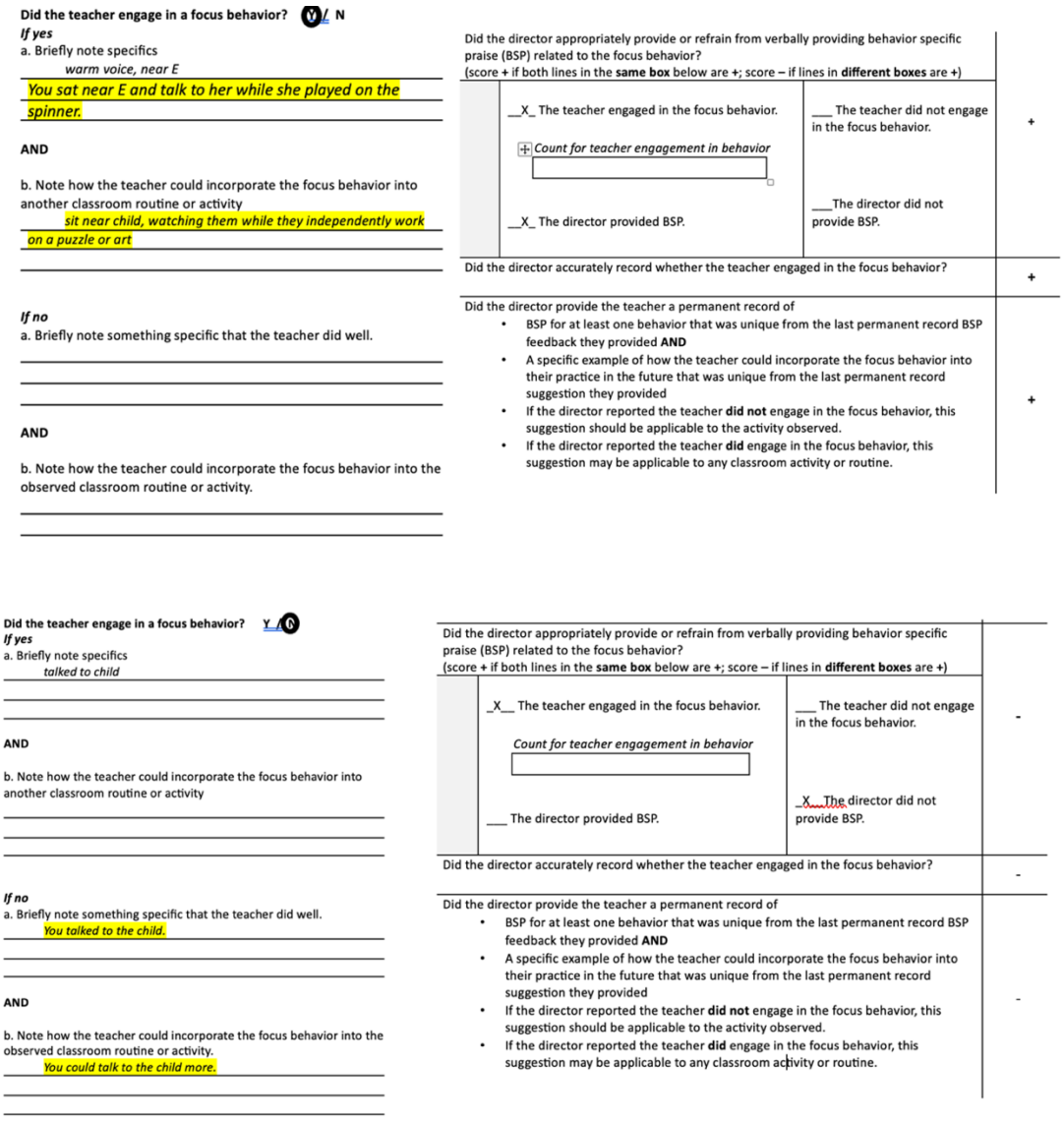


Figure 2.1 Screenshots from Secondary Data Collector Training

CHAPTER 3. RESULTS

The purpose of this study was to explore the practical and social validity feasibility of HS directors providing teachers with PD follow-up support. Direct observation, surveys, and field notes were used to answer the research questions. First, steps taken to increase the rigor of the study are described. Next the director PF observational data, presented in a NCMB design, are visually analyzed. Then director and teacher quantitative and qualitative survey data are discussed. Director and teacher data are compared, as are the data of teachers who did and did not identify as the same race as their director. Field notes are described next. This section includes descriptions of directors' self-management strategies and director permanent record feedback to teachers. Finally, data relating to each research question is summarized.

3.1 Rigor

Several methods were used to enhance study rigor. Director start order and baseline length were randomly assigned for the NCMB. Each director's first initial was entered into List Randomizer to assign them a number, one through four. This number was used to determine the order in which they would begin baseline. The numbers were used to identify directors throughout the study (e.g., Director 1, Director 2). Next the numbers 6, 8, 10, and 12 were entered into List Randomizer to determine how many baseline data points would be collected for each director. List Randomizer ordered the numbers 8, 6, 10, 12. Eight baseline data points were collected for Director 1, six baseline data points were collected for Director 2, and so on. Six baseline data points were set as the minimum number for two reasons. First, it was determined that this would likely be enough data points to predict future data points without intervention. Second, it was

considered likely that even if not all teachers could be observed as scheduled, six observations would be adequate for the director to observe at least two teachers during baseline. For each director, at least three data points were collected in baseline and intervention conditions across at least two different teachers. Precautions were taken to ensure that none of the directors both began and ended baseline on the same days.

PF data IOA were collected for at least 20% of sessions in each condition for each director. See Table 3.1 for the percentage of sessions IOA data were collected for each director and the percentage of agreement. IOA was 100% except for Director 3's baseline observations. The IOA for these data was 50%. It had been just over a month since the secondary data collector had collected study data which may have accounted for the low level of IOA. After the observation, the trainer reviewed the PFDS behaviors and answered the secondary data collector's questions. Following this review, the trainer and secondary data collector reached 100% agreement regarding the director's PF behaviors.

Director training checklists supported the systematic application of the independent variable (video training intervention) across directors. Video training took from 32-50 min per director. Each of these trainings was paused at least once due to someone at the center needing to speak with the director. The time these interruptions took was included in the total training time; these interruptions did not total more than about 10 min in total for any director. Director 2, Director 3, and Director 4 took 36 min, 35 min, and 32 min to train, respectively. Director 1's training took 50 min. Director 1's training took longer for two reasons. First, while Director 1 spoke English fluently, English was her second language, and it took the trainer more time to ensure they understood what they were being asked to do. Secondly, all the directors were offered the

opportunity for additional practice of the PF behaviors at the end of the training; Director 1 was the only director who chose to practice more. For all four director trainings, both the trainer and director indicated the trainer completed 100% of the training behaviors.

3.2 Director PF Observational Data

Director PF data were used to answer research question one (what types of support do HS directors need to provide PD follow-up support with PF). Director data were collected from March 19 to May 23. All observed classrooms had spring break from April 1st through April 5th, so no data were collected during this week. The children in the classrooms where teacher observation took place had two days of school following May 23. The trainer decided it would not be appropriate to conduct observations during the final two days of school because teachers might not follow the typical classroom schedule. Also, end-of-the year celebrations occurred on May 24th, and the final days of school followed a long holiday weekend, so attendance was expected to be low. Director 2 and Director 4 supervised classrooms that met all summer; in the case of low attendance in the participating classrooms, it was likely teachers would be moved to help in year-round classrooms. See Table 3.2 for a summary of data collection by date across directors.

3.2.1 Director 1

Director 1 conducted 13 teacher observations across 6 days. These observations typically occurred on Tuesdays and Thursdays between 11:30am and 12:00pm on the playground or during large group circle, with changes made when necessary. Director 1 was randomly assigned 8 baseline data points. Baseline data for Director 1 were collected over the course of a month. This was due to Director 1 having to serve as a substitute

teacher at the center they supervised and other centers for multiple days and having to provide interpretation services for their employer on one occasion. Their data level remained consistent despite of this large break in data collection. See Figure 3.1 for NCMB graphs.

Director 1's video training data were collected over the course of two weeks. The level of Director 1's data were stable at 25% during baseline. There was an immediate increase in level to 100% following the video training intervention. The data remained stable at 100% through maintenance. Maintenance data were collected on a single day. These data were collected one week early (one week after the last video training data point rather than two weeks after), because Director 1 took a vacation during the final week of data collection. This vacation was not scheduled until after the study began; had it been scheduled in advance; Director 1 would not have met study inclusion criteria. The immediacy of change in data level following baseline and the lack of variability within conditions indicates a relationship between the video training and Director 1's PF behaviors and constitutes one basic demonstration of effect.

3.2.2 Director 2

Director 2 conducted 13 teacher observations across eight days. These observations typically took place on Tuesdays and Thursdays between 9:50am and 10:20am during free play in the classroom. Sometimes the lead teacher conducted brief assessments during this time. Director 2 was randomly assigned 6 baseline data points. These data were collected across two weeks.

Like Director 1, Director 2 consistently observed teachers for the prescribed time of 5 min during baseline, resulting in a constant data level of 25%. Director 2's data level

also immediately increased to 100% following the video training intervention. This level remained consistent across maintenance. Director 2 only had to cancel one observation, enabling the trainer to collect maintenance data at two, four, and six weeks following the final video training data point. The breaks in the maintenance data line indicate data collected at two, four, and six weeks.

The data for Director 2 indicate a relationship between video training intervention and PF behavior change. Director 2's maintenance of 100% PF and their need to cancel only one scheduled observation time block indicate they were able to maintain mastery of the procedures over time and they had time to conduct provide support according to the study protocol.

3.2.3 Director 3

Director 3 conducted 14 teacher observations across 7 days. Unlike Director 1 and Director 2, Director 3's observation days varied by week based on work and personal commitments. All observations occurred between 8:15am and 8:45am, during breakfast. Director 3 was randomly assigned 10 baseline observations and began baseline on 4/18.

Director 3's first three baseline data points were at 75% while the other seven were at 50%. Director 3 observed each teacher for 5 min and provided BSP during each baseline observation. The change in data level during baseline was the result of Director 3 using various HS data sheets to collect data. These were not data sheets associated with the study; they were existing HS data sheets. Director 3 used three different HS data sheets during baseline observations to record teachers' use of focus behaviors. The data sheets Director 3 used for the first three observations had the header "Strengths." The director recorded the focus behaviors she observed under this header. Because this

header's positive connotation indicated that teachers were engaging in focus behaviors, the trainer scored this as the director correctly recording whether the teacher engaged in focus behavior. For the remaining baseline observations, Director 3 used HS data sheets with the headings Comments or Meeting Notes. These headers were neutral and so were not scored as an indication of whether a teacher engaged in focus behavior. Except for the variability arising from the use of various data sheets, Director 3's data were level during baseline.

As with Director 1 and Director 2, the immediate change in Director 3 data level following video training intervention and data stability at 100% across video training and maintenance indicate a relationship between video training and their behavior change. Only one maintenance datum point was collected for Director 3. This was due both to the study ending and the director being called away to discuss access to the center during the upcoming holiday weekend by the host site's security officer during the time schedule for maintenance teacher observations.

Director 3's data indicate a relationship between the video training intervention and teacher observation PF. While maintenance data are limited, the feasibility of Director 3 providing teachers PD follow-up support is indicated by their mastery of the prescribed behaviors and ability to conduct observations and provide support twice a week as planned.

3.2.4 Director 4

Director 4 was randomly assigned to conduct 12 baseline teacher observations; they conducted a total of 15 observations across 6 days. Director 4's observations

occurred on Tuesdays and Wednesdays between 10:30am and 11:00am. Observations occurred on the playground or in the classroom during free play.

Except for observation 4, Director 4's baseline data were consistent at 25%. Director 4 observed teachers for 5 min except during their fourth baseline observation when they forgot their watch. Director 4 observed all three teachers on that day. The Director 4 periodically asked to look at the trainer's watch to check the time during these observations; however, one observation was longer than the prescribed length of time. Director 4's video training data were collected during the final week of data collection, so the trainer was unable to collect maintenance data.

As with the other three directors, Director 4's data level immediately increased to 100% following the video training intervention and remained stable, demonstrating another relationship between the video training intervention and director behavior. Director 4's data indicate it was feasible for them to provide teachers PD follow-up support.

3.2.5 Demonstration of Effect

The NCMB data demonstrate a functional relation between the video training intervention and director PF behavior change. The change was demonstrated with sufficient data to show that it was due to changes between the baseline and video training conditions in each tier. The change was replicated across three tiers (Directors 1, 2, and 4) with three unique intervention starting points and with "similar levels and trends within and across participants" (Barton et al., 2018, p. 194). Director 3 had a higher baseline level than the other participants. None of the tiers had data overlap between baseline and intervention (i.e., the data levels for baseline are unique from the data levels

for intervention in corresponding tiers), indicating a relatively large magnitude of change. These data answer the first research question regarding the types of support directors need to provide teacher follow-up support with PF. All four directors required only the video training intervention support to achieve PF mastery.

3.3 Survey Data

3.3.1 Quantitative Data

Quantitative survey statements utilized a five-point Likert scale. Responses were assigned numerical values, one through five, with one representing the most positive response and five representing to the least positive response. This allowed the trainer to calculate the mean and range for each quantitative question. There were two exceptions to this. The Director Post-Study Survey included one statement and one question with both quantitative and qualitative (open-ended) components. The responses did not utilize Likert scales. They were analyzed with the director qualitative survey responses. Due to the small sizes of the samples and the limited range of the data, the mode for each response can be inferred.

In addition to analyzing the mean and range of quantitative survey questions, pre- and post-study responding was compared, teacher responses for teachers who identified as being the same race as their director were compared to teachers who identified as being a different race than their director, and director and teacher responses to similar questions (e.g., describe your ability to support teachers under your supervision/describe your director's ability to support you) were compared.

3.3.1.1 Pre- and Post-Study Relationship Statements

Directors and teachers rated six statements about their professional relationships on both the pre- and post-study surveys. All the statements contribute to answering research questions five and six, did the way directors and teachers describe their relationships change from the beginning to the end of the study. Statements two and five (comfort level with directors spending time in classrooms and teacher receptiveness to feedback, respectively) address the acceptability of procedures. Statement two also addresses DV three, the continued use of the protocol in the applied setting. See Table 3.3 for the statements, mean participant ratings, and the range of participant ratings.

3.3.1.1.1 Directors

All four directors submitted the pre- and post-study surveys; however, one of the directors did not respond to statement six on the post-study survey. The directors responded to each statement with the most positive and second most positive responses on both surveys, except for the fifth statement on the pre-study survey. Two directors (50%) indicated that the teachers they supervised were receptive to their suggestions or corrective feedback about half the time. This response has a numerical assignment of three. The remaining two directors responded with the most positive and second most positive responses. Directors rated teachers as being more receptive to feedback post-study. Additionally, director ratings of their ability to support teachers and their professional relationships with teachers were more positive on the post-study survey than the pre-study survey. After the study, directors indicated they better understood the challenges faced by teachers. All changes in ratings were minor.

3.3.1.1.2 TEACHERS

All 12 teachers submitted the pre-study survey; however, only 11 teachers responded to pre-study survey statement two. Eleven teachers submitted the post-study survey. Before the survey tracker sent the surveys, the trainer sent reminders to each director-teacher participant group indicating they must complete both pre- and post-study surveys to receive compensation and told them to watch for an email from the survey tracker's university email address as it would contain the post-study survey link. The survey tracker sent multiple reminders to the teacher who did not complete the post-study survey, including one that specified the response must be received by 6/7, two weeks after the final teacher observation.

Like the directors, the teachers responded to all but one relationship statement on both the pre-and post-study surveys with the most positive and second most positive responses. The mean rating for question two on the teacher pre-study survey was 1.27; 81.8% of teachers were comfortable with their director spending time in their classroom. One teacher rated this statement with the second most positive response and one with the neutral (neither comfortable nor uncomfortable) response. Teachers rated their director's ability to support them and their comfort level with directors (statements two and four) slightly more positively on the post-study survey than the pre-study survey. However, teachers rated their professional relationships with their director slightly less positively on the post-study survey. As with the director surveys, all changes were slight.

3.3.1.1.3 RACIAL IDENTITY

Research question seven asked if there were differences in survey responses between teachers who considered themselves to share their director's racial identity and

those who did not. Three teachers indicated they considered themselves to have a different racial identity than their director on pre- and post-study surveys.

Teachers who indicated they did not consider themselves and their director to have the same racial identity had mean ratings that were higher than teachers who did consider themselves and their directors to have the same racial identity for statements one through five on the pre-study survey (Table 3.4). This means they felt more positively about specific aspects of their professional relationships with their directors than the teachers who identified as being the same race as their director.

While the teachers who identified as being a different race than their director had higher mean ratings for their overall professional relationship on both the pre- and post-study surveys (statement three) than the teachers who identified as sharing a racial identity with their director, there was a slight decline in these teachers' perception of this relationship pre- to post-study and a slight positive increase in the perception of the relationship by teachers with shared racial identity.

The comfort level with having their director in their classroom of teachers who identified as different race had a mean and range of one both pre- and post-study, whereas the range of the other teachers narrowed from 1-3 to 1, indicating a positive change. The changes and differences in data by group and differences in means are, like the other comparisons, minute. Additionally, because sample sizes are small, these results should not be interpreted as being representative of the population.

3.3.1.1.4 Relationship Similarities and Differences

The teachers provided slightly better ratings for statements three, five, and six (professional relationship, receptiveness to feedback, and understanding teachers'

challenges) than the directors on the pre-study surveys. Interestingly, 83.3% of teachers considered themselves to always be receptive to suggestions or corrective feedback from their director pre-study while only 25% of directors felt teachers were always receptive. Director and teacher post-study responses to this statement were nearly identical, as were their responses to statement six. Teachers' post-study ratings of statements three through five were slightly more positive than directors' ratings while directors' ratings of statement six were slightly more positive. Post-study responses for both teachers and directors of statements one and two (director's ability to support teachers and comfort with director being in classroom) were the most positive with a mean rating of one for both groups. The range of ratings for all pre- and post-survey statements was 1-3 with most ratings ranging from 1-2; a few had a range of 1.

Overall, there was a slight positive trend in relationship ratings from pre- to post-study for both directors and teachers. At the end of the study, both directors and teachers gave the most positive rating for their comfort level with the director spending time in the classroom. This implies that participants found the study procedures, which required directors to spend time in classrooms, acceptable. This level of comfort also indicates that directors would be comfortable continuing to use the study protocol. Additionally, directors indicated teachers were more receptive to their suggestions and feedback at the end of the study which implies they may continue to use the feedback method prescribed in the protocol.

3.3.1.2 Post-Study Social Validity Statements

Directors rated five and teachers rated four statements about their professional relationships on the post-study surveys. These will be referred to as statements a-e to

avoid confusion with the pre- and post-study statements. Statements a and b were similar to statements one and two; they asked participants to compare director's ability to support teachers and participants comfort level with directors spending time in the classrooms with before the study. These statements contributed to answering research questions five and six (did director-teacher relationship change). Statements c, d, and e (convenience of classroom observations, benefit of BSP, and convenience of data collection for directors) reflected the second DV, acceptability of procedures. As with the pre- and post- study statements, the mean and range were determined by assigning numeric values to the response options. See Table 3.5 for the statements, mean participant ratings, and the range of participant ratings.

3.3.1.2.1 Director and Teacher Responses

Director responses for statements a and b corresponded with their responses to pre- and post-study statements one and two. There was a slight positive change in statement one pre- to post-study data. The pre-study mean for statement one was 1.25 which allowed limited opportunity for post-study responses to reflect director improvement in supporting teachers. However, directors' responses to statement a indicate that 75% believed their ability to support teachers had improved greatly and 25% believed it had improved somewhat. Similarly, all four directors indicated they were comfortable spending time in teachers' classrooms on pre- and post-study statement two (rating of 1) and 50% indicated improvement in their comfort level via statement b. Teacher responses to statements a and b similarly aligned with their pre- and post-study responses to statements one and two. However, directors reported a greater change in their ability to support teachers than teachers reported.

Directors and teacher responding to statement c was mixed; a greater percentage of teachers than directors strongly agreed the observations were convenient, but one teacher indicated they neither agreed not disagreed. The mean rating for directors was 1.5 with a range of 1-2 while the mean for teachers was 1.36 with a range of 1-3. The teachers' responses to statement d was slightly more positive than the directors' responses with 81.8% of teachers and 75% of directors indicating BSP was beneficial. Only directors responded to statement e, as teachers did not collect data for the study; all four directors indicated data collection was convenient.

As with the pre- and post-study statements, director and teacher ratings indicate a positive change in director-teacher relationships. Ratings also indicate that participants found the procedures to be acceptable.

3.3.1.2.2 Racial Identity

There was less differentiation in teacher responses to the post-study participation statements for the teachers who identified as being the same race as their director and those who did not than there were for the pre- and post-study relationship statements (see Table 3.6). One teacher who identified as being the same race as their director gave a neutral rating for statement c (convenience of observations) while all other teachers selected the two positive response options, but the mean response was nearly identical. The ranges for all other responses were identical and the means were similar.

3.3.2 Qualitative Data

Directors and teachers were asked to respond to one open-ended question on the pre- and post-study survey. Directors' post-study surveys contained three additional open-ended questions and two multiple choice questions with open-ended components.

Teachers' post-study surveys contained two additional open-ended questions. Sometimes participants gave neutral responses, such as NA or not at this time. Neutral responses have been noted. There were inadequate qualitative survey data for coding.

3.3.2.1 Pre- and Post-Study Relationship Data

Directors and teachers were asked on the pre- and post-study surveys if there was anything else they would like the trainer to know about their relationship. Three directors responded to this question on the pre-study survey, one with NA. One director noted underlying tension with some of the teachers they supervised "due to relationships with a previous director" while another noted some language barriers. One of the study sites had a large Spanish-speaking child population and several teachers were not fluent in conversational English; none of these teachers were study participants. Three directors responded to the question on the post-study survey, one with NA. Another director noted they were in the classrooms almost daily and the final director indicated the teachers they supervised always "received feedback in a positive way."

Six teachers responded to the question on the pre-study survey. Two provided neutral responses including, "everything is ok." The other two responses were more positive. One teacher said they "get along good" with their director while another praised their director stating, "my Director is encouraging, supportive, and adheres to the agency's policies and procedures as well as following license regulations." Six teachers answered the question post-study. Two gave neutral responses while the other four were overwhelmingly positive. Answers included the phrases, "awesome at her job," "a very fair, considerate, respectful, and honest person…the best," "the best director I have worked under," and "I have a trusting and solid work relationship with my director,"

respectively. These answers suggest teachers' perceptions of their professional relationships with their directors may have improved over the course of the study. One teacher named their director in their response; surveys were deidentified, so it is not possible to know if more than one of the positive responses referred to the same director. However, these four responses refer to at least two directors because there were only three teacher participants per director.

While these data are insufficient to draw conclusions or infer correlation, anecdotally, the post-study participant responses were more positive than the pre-study responses, indicating there may have been a positive change in director-teacher relationships from the beginning to the end of the study.

3.3.2.2 Post-Study Director and Teacher Data

In addition to the open-ended question about director-teacher relationships, post-study all participants were asked how the classroom observations could have been changed to better meet their needs and if there was anything else they would like the trainer to know about their experience with the study. The first question could provide social validity data about the acceptability of procedures (DV two). The second question could provide data about the acceptability of procedure or whether directors would continue to use the protocol (DV three). Depending on responses, they could also provide insight into director-teacher relationships.

The directors were also asked how the data collection procedures could be changed to better meet their needs (DV two). They also completed two items with both quantitative (multiple choice) and qualitative (open-ended) components. Because these items included open-ended components and because the multiple choice response options

did not correspond with the most to least positive arrangement of the Likert-ranked quantitative statements, these responses are included with qualitative data for analysis. The first item had the director indicate if they would continue with teacher observations after the study was over, and if so if and how they would modify the procedures (DV two). The second items asked what, if any, outside resources directors used for the study. This item could reveal if the directors found the protocol challenging to use and how they problem solved. When reviewing survey results, the trainer realized they had asked directors one question twice. The directors answered this question the same way each time it was asked, so the extra question and data were disregarded.

Overall, director feedback was positive. For example, directors indicated BSP was "a nice positive boost for the teachers," the data collection procedures were easy, and the experience "was beneficial for all involved." Several directors reported enjoying their experience with the study. All four directors indicated they would continue teacher observations after the study was over; two indicated they would make modifications. One director noted they would ask teachers how they would like their feedback, and one indicated they would, "maybe observe more than one behavior." One director also indicated the procedures would better meet their needs and their teachers needs if observations occurred at different times of the day. The modifications suggested by directors were additional ways in which the protocol for providing PD follow-up support to teachers could be used (i.e., behaviors observed, observation schedule) rather than changes to the actual protocol. These responses indicate directors found the protocol was socially valid, both in terms of acceptability of procedures and ecological validity (continued use of observation procedures).

Eight teachers responded to the question about data collection procedures. Seven had no suggestions; one of these teachers indicated, “the observations were conducted in a quiet professional manner.” One suggested that the observations be conducted, “at different times of the day.” Six teachers respond to the question about their experience with the study. One provided a neutral response, the teacher who indicated observations should be done at different times of the day reiterated this statement, and four teachers indicated it was a positive experience. One teacher reported that they enjoyed the experience. Two teachers provided feedback for the trainer, one thanking the trainer for allowing them to participate in the study and one commenting on the trainer’s professionalism. As with the directors, the teachers’ responses indicated the procedures were acceptable (DV two). There were no discernable differences in the responses of teachers who did and did not identify as the same race as their director.

3.4 Field Notes

The trainer took focused field notes before, after, and during teacher observations as well as during director trainings. These field notes served several purposes. The trainer noted participant comments, body language, and other indicators related to the acceptability of study procedures. The trainer also used field notes to record instances of a director missing observations for reasons that were within the director’s control (i.e., could have been mitigated by contacting the trainer to let them know they needed to reschedule) to determine if the director met the self-management support criterion. Field notes were also used to document self-management strategies used by the directors. These strategies were noted so they could be used to support development of a self-management plan had any director required this support. Finally, the trainer made notes

regarding the written feedback directors provided to teachers for PFDS scoring purposes (i.e., permanent record for each teacher was unique from the feedback provided following the previous observation). Directors only provided permanent record feedback following their video training intervention.

3.4.1 Study Procedures

Field note data were taken related to the acceptability of the study procedures, including the follow-up support protocol (DV two, research question two). As with the qualitative survey data, field notes provided an inadequate amount of data for coding. The commentary made by directors and teachers consisted primarily of greetings and, in the case of playground observations, talk about the weather. There were a few exceptions. In the first case, Director 1 told the trainer they liked the Example Director Data Collection sheets and that they intended to use them to provide feedback for various teacher behaviors during the following school year. This indicates continued use of the protocol (DV three).

The second instance occurred when Director 3 asked about scheduling observations at different times of the day. The trainer explained that while this would be ideal, and the predetermined time could be changed if needed, due to working with other directors and secondary data collectors, altering observation times to include a variety of routines and activities within the study context was not feasible. When working with the trainer to schedule the video training intervention, Director 3 and Director 4 initially thought that the teacher participants needed to attend the training. When the trainer explained they did not, the directors indicated relief because that made scheduling easier. This indicates acceptability of procedures.

Finally, preceding one of the baseline observations, Teacher 3c asked the trainer, "what are you looking for today?" The tone of this comment was polite but could have been a sign of frustration at so many observations of the same behaviors, particularly because the teacher had almost three decades of EC teaching experience and consistently engaged in the focus behaviors. The trainer reiterated that the behaviors were selected because they were presented during a HS PD and met study requirements, not because the behaviors were necessarily ones the teachers needed to practice. The trainer explained that what the director did based on whether teachers engaged in the behaviors was the focus of the study. Whether the trainer's explanation changed the teacher's attitude or if the statement had not been intended negatively is unclear, but all other interactions with the teacher were positive. This indicates that once the teacher understood why the same behaviors were being observed each time, the procedures may have become acceptable.

It should be noted that two directors indicated of frustration with the number of HS regulations and procedures and that preparing for various HS evaluations took a lot of work, making it difficult for them to complete their other duties. However, their tones indicated that while it required time and organization, they were used to it and considered it more of an inconvenience than a barrier.

Field note data were limited but suggest that participants found the procedures acceptable. However, the lack of teachers' and directors' negative comments or body language while the trainer was there does not mean negative feelings did not exist.

3.4.2 Director Self-Management

Self-management field notes were made to help answer research question one (types of support directors need), should any director require self-management support.

All directors used similar self-management strategies for timing teacher observations throughout the study. Director 1 and Director 3 used their watches or phones across phases, except for one day when Director 3 forgot to bring a time keeping device. After Director 3's first observation ran over the prescribed time, they asked to check the time on the trainer's watch for the two following observations. Director 2 and Director 4 used a watch or wall clock for timekeeping. Another strategy directors used was consulting a physical and/or electronic calendar and recording future observation times. Director 3 also referred to emails from HS to check the times of work obligations before scheduling observations. Director 3's observations always occurred from 8:15-8:45am, but the days of the week varied due to other commitments. Director 3 was the only director who consistently recorded future observations; Director 2 and Director 4 recorded observations more than half of the time. Though Director 1 recorded other obligations in their calendar, they rarely recorded scheduled study observation times.

Director 1 forgot to contact the trainer to cancel or reschedule observations twice, spaced out enough that they did not meet the self-management training criterion. After missing the second observation, they asked the trainer to call to confirm the director would at the HS center before traveling there. This self-management strategy put onus on the trainer, but self-management does not exclude recruiting self-management partners and the strategy was effective. Director 3 failed to cancel one schedule observation block they were unable to attend. Neither Director 2 nor Director 4 missed observations without notifying the trainer in advance. None of the directors required self-management support.

All directors made written notes regarding teacher use of focus behaviors during their first day of baseline observations. Director 2, Director 3, and Director 4 continued

this practice throughout baseline. Director 1 did not. Director 3 made notes on existing HS data sheets, described above. The trainer asked all the directors what they would do with the notes they made. Director 3 showed each teacher the notes, had the teacher sign the document, and asked if the teacher needed anything. They said they would put the data sheets in the teachers' files. Director 1 said they typically discussed observations with teachers individually, asked them what they thought went well, and planned for follow-up, if needed. Director 2 said they would refer to their CLASS scoring document to determine what each teacher did and what they needed to work on then privately discuss it with each teacher. Director 4 said they typically met with teachers one-on-one to discuss observations or would sometimes email feedback. During the second schedule observation block, Director 4 said they met face-to-face with Teacher 4b after the first observation to encourage them to work on actively engaging with the children and making eye contact.

Each director used the Example Director Data Sheet to manage data collection following video training intervention. The directors completed the data sheets during and immediately following observations. Director 1, Director 2, and Director 3 photocopied the data sheets and put them in the appropriate teachers' mailboxes. Director 4 scanned the data sheets and emailed them to the appropriate teachers following observations.

3.4.3 Permanent Record Feedback

All 12 teachers engaged in at least one focus behavior during every observation. Across the course of the video training and maintenance conditions, all four directors provided BSP for each individual focus behavior, often in combination. For example, Director 2 noted that Teacher 2b engaged in both social conversation and matching a

child's affect during free play. All directors provided a range of suggestions for routines and activities during which teachers could use the behavior(s) observed including mealtime, free play, large and small groups, art, restroom transitions, and gross motor play.

3.5 Data Summary

After the data gathered through multiple methods were separately analyzed, data answering each research question was examined together to a wider scope of and a deeper understanding of participant experiences (Axinn & Pearce, 2006; Chamberlain et al., 2011).

3.5.1 Research Question One: Types of Support

The NCMB and field note data indicated the HS directors required only video training intervention to meet mastery criteria for providing teachers PD follow-up support with PF. The NCMB demonstrated that directors met criteria immediately following the video training intervention. The field note data indicated that the directors did not require self-management support to achieve mastery.

3.5.2 Research Question Two: Acceptability of Procedures

Likert-rated and open-ended survey data and field note data indicate participants found the procedures acceptable. Further, these data and the NCMB maintenance data for Director 1 and Director 2 indicate they will continue to use the protocol with PF.

3.5.3 Research Questions Three and Four: Directors' Ability to Support Teachers

Pre- and post-study survey data indicated a slight increase in both directors and teachers rating of directors' ability to support teachers. Even though most directors and

teachers gave this ability the highest rating possible on the pre-study survey, most indicated this ability had improved on the post-study survey.

3.5.4 Research Questions Five and Six: Professional Relationships

Following the study, the mean director rating of their professional relationship with the teachers they supervised was slightly more positive than pre-study. There is not an exact equivalent of qualitative data, however pre-study one director mentioned "some underlying tensions" which implies some negativity in the relationships. There were no negative comments on the post-study survey. This suggests there may have been a slight improvement in director-teacher relationships from the directors' perspectives.

The post-study mean teacher ratings of their professional relationship with their director was slightly less positive than pre-study though the range of relationship ratings remained the same. Pre-study one teacher provided positive comments regarding their director, though not about their relationship specifically. Post-study four teachers provided positive comments about their directors one of which was, "I have a trusting and solid work relationship with my director." The increase in positive comments regarding directors suggests positive work relationships. Due to the scarcity of data, and particularly the lack of relationship-specific teacher responses, it is not possible to develop a clear picture of how teacher perceptions of their relationship with their director changed.

3.5.5 Research Question Seven: Racial Identity Response Differentiation

Only the teacher version of the pre- and post-study surveys included the question about racial identity. While there were some differences in the responses of teachers who did and did not identity as being the same race as their director, particularly in the pre-

and post-study relationship data, these differences were minor. There was no meaningful difference in teachers' survey responses regardless of whether they identified as being the same race as their director.

Table 3.1 Reliability

Director	Condition	% of sessions	% agreement	Secondary collector
	Baseline	37.5	100	A
1	Video training	30	100	A
	Maintenance	100	100	A
	Baseline	50	100	A
2	Video training	66.7	100	B
	Maintenance	37.5	100	A
	Baseline	20	50*	A
3	Video training	66.7	100	A
	Maintenance	35.7	100	B
	Baseline	25	100	A
4	Video training	66.7	100	A
	Maintenance	NA	NA	NA

Notes: *disagreements discussed, data collection reviewed; Due to the school year ending, maintenance data were not collected for Director 4.

Table 3.2 Timeline of Data Collection Across Directors

D	Date										
	March			April							
	19	21	26	10	11	18	19	23	24	29	30
1	B	B					B				VT
2	B	B	B	VT	VT			M			
3						B		B	B	B	
4											

D	May									
	1	6	7	8	9	15	16	21	22	23
1					VT		M*			
2					M					M
3	VT	VT							M	
4	B		B	B		B		VT	VT	

Table 3.3 Quantitative Pre- and Post-Study Relationship Results

Question	Mean (Range)			
	Directors		Teachers	
	Pre-study (n = 4)	Post-study (n = 4)	Pre-study (n = 12)	Post-study (n = 11)
1. Describe your ability to support teachers under your supervision.	1.25 (1-2)	1 (1)	1.08 (1-2)	1 (1)
2. Describe your comfort level spending time in the classrooms of teachers under your supervision.	1 (1)	1 (1)	1.27 (1-3)**	1 (1)
3. In general, my professional relationship with the teachers I supervise is…	1.75 (1-2)	1.25 (1-2)	1.08 (1-2)	1.18 (1-2)
4. In general, the teachers I supervise feel comfortable coming to me when they have work related questions.	1.25 (1-2)	1.25 (1-2)	1.25 (1-2)	1.09 (1-2)
5. In general, the teachers I supervise are receptive when I make suggestions or provide corrective feedback.	2.25 (1-3)	1.5 (1-2)	1.17 (1-2)	1.18 (1-2)
6. In general, I understand the challenges faced by the teachers I supervise.	1.5 (1-2)	1 (1)*	1.17 (1-2)	1.18 (1-2)

Notes: *3 of 4 directors answered this question; **11 of 12 teachers answered this question

Table 3.4 Teachers' Quantitative Pre- and Post-Study Relationship Results by Racial Identity Response

Question	Mean (Range)			
	Pre-study (n = 12)		Post-study (n = 11)	
	Same racial ID (n = 9)	Diff racial ID (n = 3)	Same racial ID (n = 8)	Diff racial ID (n = 3)
1. Describe your director's ability to support you.	1.11 (1-2)	1 (1)	1 (1)	1 (1)
2. Describe your comfort level with your director spending time in your classroom.	1.5 (1-3)*	1 (1)	1 (1)	1 (1)
3. In general, my professional relationship with my director is…	1.11 (1-2)	1 (1)	1.13 (1-2)	1.33 (1-2)
4. In general, I feel comfortable going to my director when I have work related questions.	1.36 (1-2)	1 (1)	1.13 (1-2)	1 (1)
5. In general, I am receptive to my director's suggestions and corrective feedback.	1. 22 (1-2)	1 (1)	1.25 (1-2)	1 (1)
6. In general, my director understands the challenges I face as a teacher.	1.11 (1-2)	1.33 (1-2)	1.13 (1-2)	1.33 (1-2)

*8 of 9 teachers who reported having the same racial identity as their director answered this question

Table 3.5 Quantitative Post-Study Participation Results

Question/Statement	Mean (Range)	
	Directors	Teachers
	Post-study (n = 4)	Post-study (n = 11)
a. Compared to before I participated in this study my ability to support teachers under my supervision…	1.75 (1-2)	2.18 (1-3)
b. Compared to before I participated in this study my comfort level spending time in the classrooms of teachers under my supervision…	2.25 (1-3)	2.36 (1-3)
c. Conducting classroom observations for this study was convenient.	1.5 (1-2)	1.36 (1-3)
d. Providing behavior specific praise to teachers was beneficial.	1.25 (1-2)	1.18 (1-2)
e. Collecting data for this study was convenient.	1.25 (1-2)	N/A

Table 3.6 Teachers' Quantitative Post-Study Participation Results by Racial Identity Response

Question/Statement	Mean (Range)	
	Same racial ID (n = 8)	Diff racial ID (n = 3)
a. Compared to before I participated in this study my ability to support teachers under my supervision…	2.13 (1-3	2.33 (1-3)
b. Compared to before I participated in this study my comfort level spending time in the classrooms of teachers under my supervision…	2.38 (1-3)	2.33 (1-3)
c. Conducting classroom observations for this study was convenient.	1.34 (1-3)	1.33 (1-2)
d. Providing behavior specific praise to teachers was beneficial.	1.13 (1-2)	1.33 (1-2)

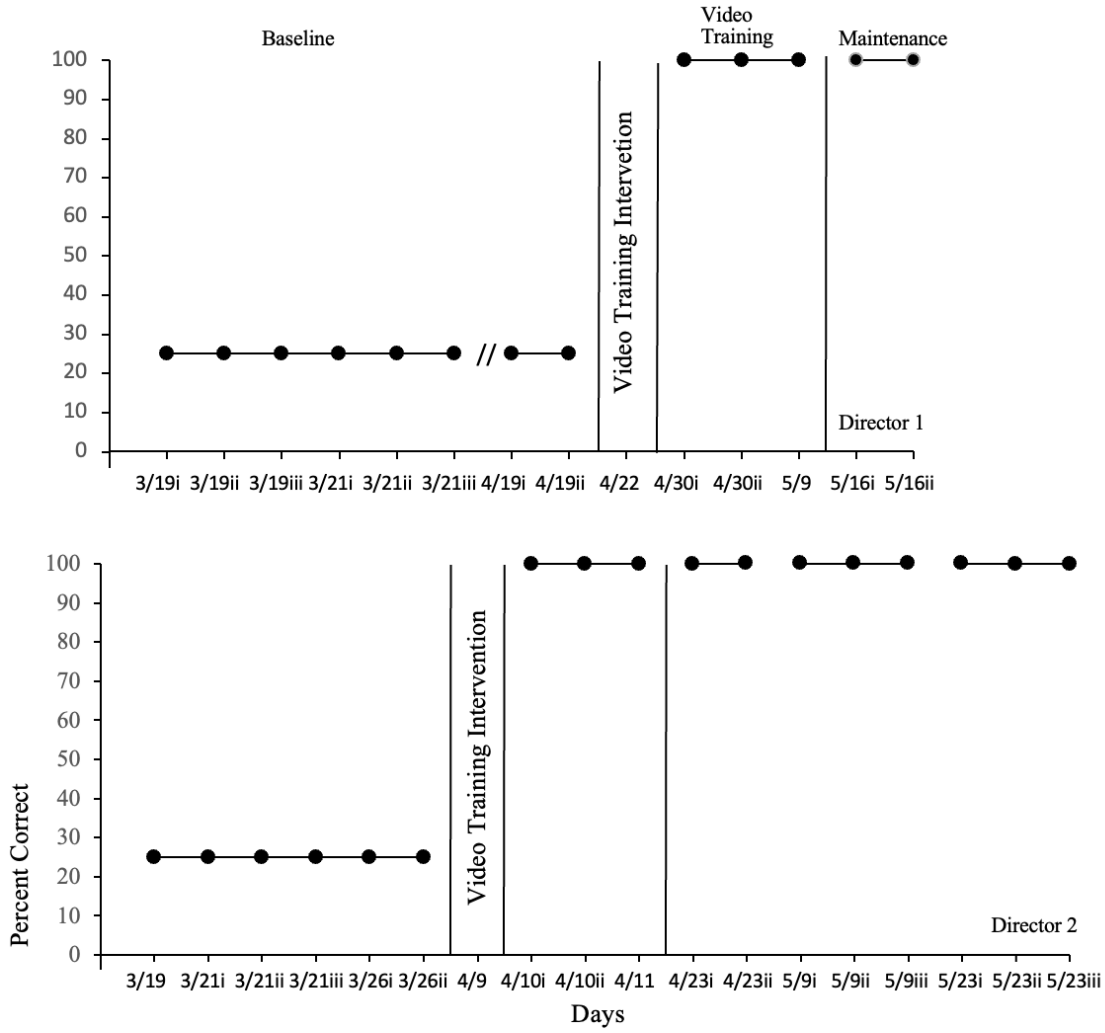


Figure 3.1 Director Procedural Fidelity Data

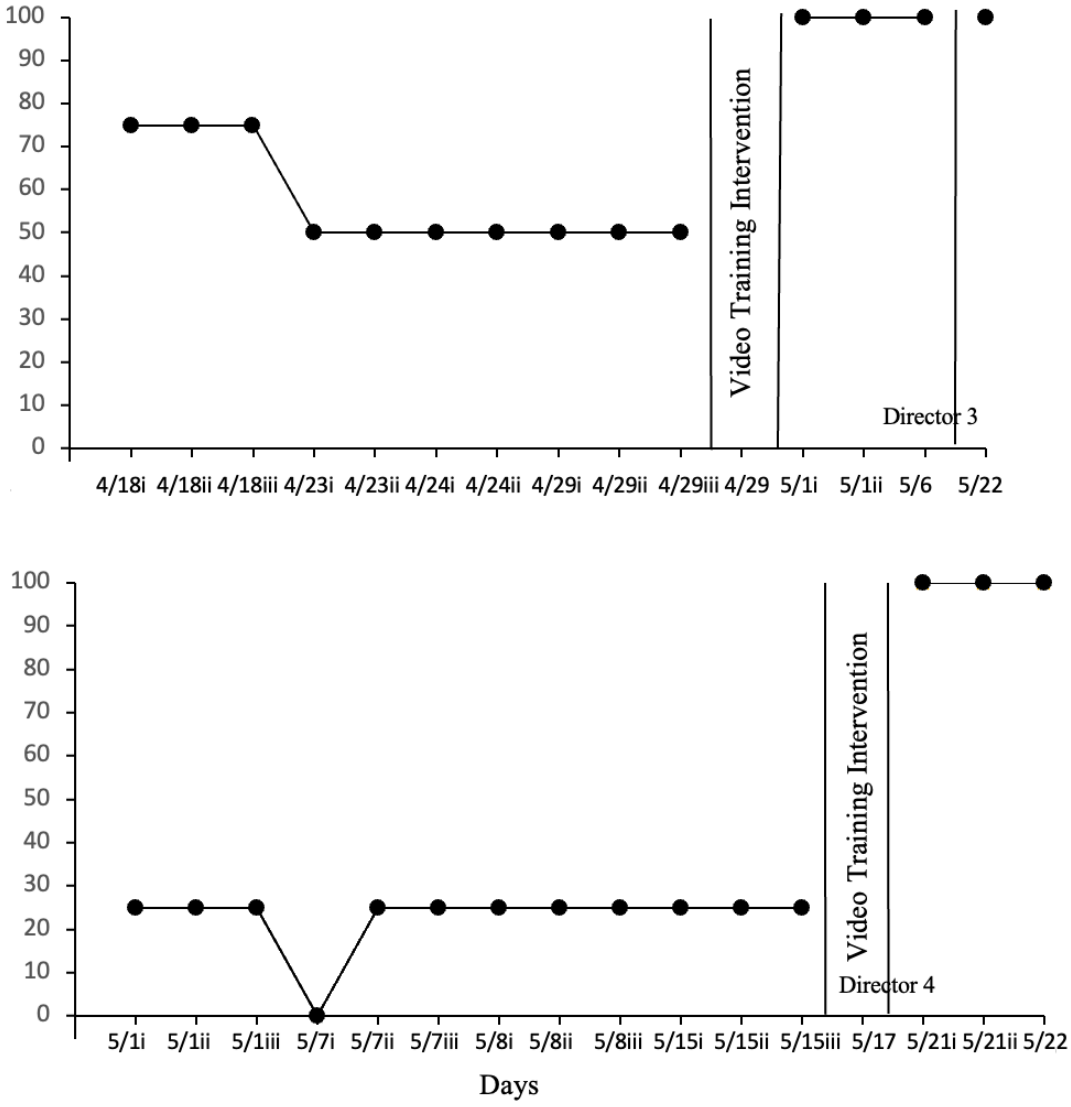


Figure 3.1 Director Procedural Fidelity Data (continued)

CHAPTER 4. DISCUSSION

This pilot study explored the feasibility of HS directors providing PD follow-up support to teachers they supervise. The behaviors to be supported were presented by a typical PD provider during a PD which all CAC HS directors and teachers were required to attend. Practical feasibility (i.e., were directors able to provide support with PF, did directors have time to provide support) and social validity feasibility (i.e., acceptability of procedures, intent to continue using the follow-up support protocol) were examined. Four HS directors were trained to provide BSP during brief teacher observations and provide simple permanent record feedback afterwards. A NCMB design was used to determine whether directors could provide this support with PF.

4.1 Implications of Findings

This study different from previous research in that HS directors were used to provide PD follow-up support. Similarly, it utilized a required PD presented by HS Education Team personnel. Previous research has used study personnel for these purposes (e.g., Ennis et al., 2020; Landry et al., 2009). The primary investigator in LaBrot (2016) worked in a support role in the center where they provided training and follow-up coaching; however, the researcher was a completing a university internship. While the support provided to the teachers was within the capacity of the internship, it was developed with a team of university faculty which typical PD providers would not be able to access.

Using existing PD removes the burden of scheduling new PD within existing structures. Additionally, it increased the social validity of the study because typical EC PD may lack components of high-quality PD. For example, it was planned that

participants in the HS PD used for this study would have reflected on and received feedback on their classroom practices during small group discussions, but this did not occur. These components are more likely to be included in PD planned and provided by researchers since researchers must develop and adhere to evidence-based IRB approved protocol. While these components do not guarantee a PD's quality, they have been shown to contribute to adult behavior change (Darling-Hammond et al., 2017). Directors' ability to provide support following a typical PD is more representative of real-life application than their ability to provide support following a research-provided PD would have been.

Using HS directors to provide support to teachers also lends to the applicability of the protocol used in this study in typical, non-research settings. The procedures took place within ongoing classroom activities and did not disrupt teacher or director schedules. Teachers and directors informed the trainer of times that would work well for conducting observations within their existing workdays. The trainer asked the directors to schedule 10 min per teacher, though observations took only 5 min each. This was so there would be built-in time for the directors to complete the permanent record feedback once they received the video training intervention. Previous research has required participants to sign-up for predetermined observation times, requiring extra staff to cover classrooms while feedback is provided, and/or requiring teachers to review feedback during their free time (e.g., Donegan-Ritter & Van Meeteren, 2018; Hemmeter et al., 2011). The feedback for this study consisted of 2-3 sentences which were presented in the same way following each observation, so it took the teachers minimal time to review their feedback.

All four HS directors were able to meet mastery criteria for providing PD follow-up support after video training intervention. This intervention, including interruptions,

took less than an hour. This is within time range of previous successful brief coaching trainings which have taken from about 10 minutes one time to several hours multiple times over the course of a school year (e.g., Fabiano et al., 2018; Lane et al., 2016; Wasik et al., 2006). This suggests other HS directors could be trained to use this protocol efficiently and without in vivo classroom coaching. This is important because though research has shown that follow-up is a key component of high-quality PD, it often does not occur (Darling-Hammond et al., 2017). Utilizing on-site personnel to provide PD follow-up may increase EC educators' engagement in and maintenance of behaviors that could improve outcomes for children in their care.

4.2 Study Participants

While study findings are promising, it should be noted that the participants in this study were not a representative sample of EC administrators and teachers. Because they were employed by HS, they had experiences and resources not common to all EC education professionals. For example, in Kentucky HS's director qualification requirements exceed those of the state. HS directors are required to have a bachelor's degree and supervisory, administrative, and fiscal management experience (HSECLKC, 2020) which is not the case for all directors. Additionally, HS directors have access to resources other EC directors and administrators may not such as on-going trainings, including trainings around observing teacher behaviors and data collection. Further, the directors that participated in this study had years of experience recording observational data. Directors with less experience and fewer resources might require more support to master the protocol. This is exemplified by Director 3's high level of PF during baseline. Director 3 provided teacher BSP as a form of PD follow-up support without being told to

do so. Another factor in Director 3's high level of PF during baseline was the wording on the HS data sheets that they used to record data during some of their observations.

Due to HS regulations, licensing requirements, and optional accreditations (e.g., NAEYC), HS directors are used to working with a variety of individuals and teachers are accustomed to having observers from outside agencies in their classrooms. The process may have been more disruptive both for teachers and children if they were not used to having strangers in the room. Further, only teachers working in classrooms which received high CLASS scores were eligible to participate, as teachers in other classrooms were receiving CLASS coaching. The teachers in these high-scoring classrooms consistently engaged in most, if not all, of the focus behaviors. The protocol for providing permanent record feedback if a focus behavior was not observed differed from the feedback when a focus behavior was observed. It is possible that directors would have needed more support to reach PF mastery criteria if teachers had failed to engage in the focus behaviors during some observations.

Finally, due to being HS employees, directors and teachers had access to quality of life resources not common to all EC employees such as higher than average rates of pay and employee benefits. These factors may have indirectly contributed to directors' and teachers' positive perceptions of director-teacher relationships.

4.3 Limitations

A limitation to the NCMB design is that one of the directors reported using another director in the study as a resource for data collection. While in practice, it is desirable that directors utilize outside support, this could have caused interference within

the NCMB design. It is not known when the directors interacted, but the communication between directors may have impacted one or both of their PF scores.

Another limitation was that due to the delayed PD date and the school year ending, only Director 2 completed the maintenance condition as planned. Additional maintenance data could be used to inform ecological validity by indicating if directors were able to adhere to the follow-up support protocol with PF over time. Relatedly, the large number of scheduled observations Director 1 had to cancel to due serving as a substitute teacher indicate that while they were able to master the teacher observation procedures, a lack of time served as a barrier to providing teachers PD follow-up support as scheduled and completing the maintenance condition.

A final limitation is that the directors' surveys did not specify that the directors should respond in regard only to the teachers they supervised who were also study participants. This could be rectified in future versions of the study.

4.4 Future Research

High-quality PD follow-up includes a combination of feedback, evaluation, and reflection. Because the purpose of this study was to explore various aspects of the feasibility of EC administrators providing PD follow-up support, the protocol directors were trained to use was relatively simple. In addition to increased specificity for director survey responding, future iterations of this study could improve the quality of the PD follow-up support by adding evaluation and/or reflection components. If teachers do not engage in focus behaviors, strategies such as in-situ prompting could also be included.

Neither the director nor teacher participants in this study were representative of the large EC education professionals. HS personnel are accustomed to having observers

in their HS centers and classrooms and having to meet requirements (including completing paperwork on the directors' part) for CLASS observations, state licensing inspections, Kentucky All STARS rating visits, and NAEYC accreditation observations. Additionally, directors had multiple years of experience supporting EC teachers. Future research should include directors or other administrators with a wider range of experiences and responsibilities to determine if it is feasible for individuals with different backgrounds to provide EC PD follow-up support. For example, elementary school principals sometimes supervise HS and preschool classrooms. They may not have the expertise or training to provide meaningful feedback to EC teachers. A future study could examine the feasibility of elementary school principals providing PD follow-up support after attending an EC PD with teachers. Survey responses regarding administrator-teacher relationships and administrators' ability to support teacher may reveal greater change pre- to post-study.

Future studies should include larger participant groups who are more representative of EC education workforce and to provide more information regarding whether there may be differentiation in survey responding of teachers who do and those do not consider themselves to have the same racial identity as their directors. While there was some slight differentiation in this study, because there was a 1:3 ratio of teacher participants who identified as being a different race than their director to those who identified as being the same race, each of these teachers' responses carried more weight when calculating means. That is, the response of one of these teachers impacted the calculation equivalent to three teachers who identified as being the same race as their

director for the pre-study survey. Only eight teachers who identified as being the same race as their director responded to the post-study, which slightly decreased this ratio.

Overall, the changes in survey ratings pre- to post-study for this group of participants were minor. The range for most statements pre- and post-study was 1-2. Even if the range and changes had been larger, the introduction of director-provided PD support could not be demonstrated to have a causal link to these changes because there was no control group. Future research could include not only more participants in the experimental group, but also a control group. Larger samples would require more funding for participant compensation than was available for this project, as well as a larger research team to maintain observations based on director and teacher schedule preferences.

4.5 Conclusion

This study provides some evidence that it is feasible for HS directors to provide PD follow-up support to teachers they supervise. Practical feasibility was demonstrated by director mastery of observation protocol following the video training intervention and the completion of the study by all director participants. Social validity feasibility was indicated by participants' favorable survey ratings and field note data related to the acceptability of procedures and directors' expressed intent to continue using the protocol.

This study important because it is an initiate study of the feasibility of providing low-cost PD follow-up support for a required PD by utilizing HS directors while working within existing schedules and without requiring additional funding. More research is needed to provide empirical support for these findings. Given the importance of PD follow-up, a replication of this study in a variety of EC settings with participants who

have a wider range of experiences and extended to include measures of teacher behavior and child outcomes is warranted.

APPENDICES

APPENDIX 1. STUDY CONSENT FORMS

Director Consent Form (original)

IRB Approval
2/2/2024
IRB # 92097
NMED

Consent to Participate in a Research Study

KEY DIRECTOR INFORMATION FOR:
DIRECTOR FOLLOW-UP OF EARLY CHILDHOOD PROFESSIONAL DEVELOPMENT

We are asking you to choose whether or not to volunteer for a research study about whether it is feasible for Head Start directors to provide professional development (PD) follow-up support to the teachers they supervise. We are asking you because you are a Head Start director who oversees at least three teachers. This page is to give you key information to help you decide whether to participate. We have included detailed information after this page. Ask the research team questions. If you have questions later, the contact information for the research investigator in charge of the study is below.

WHAT IS THE STUDY ABOUT AND HOW LONG WILL IT LAST?

The purpose of this study is to determine if it is feasible for Head Start directors to provide PD follow-up support during brief school day observations. This study will look at the practical feasibility (i.e., can directors provide support according to protocol) and the social validity feasibility (e.g., how do teachers and directors feel about the procedures). This will be done by analyzing director and teacher pre- and post-study survey data, field notes about the study, and observational data taken across different study conditions.

By doing this study, we hope to learn if it is feasible for directors to provide PD follow-up support to the teachers they supervise. Your participation in this research will last three to four months.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE TO VOLUNTEER FOR THIS STUDY?

Participating in this study could improve your ability to support the teachers you supervise. It could also improve your relationship with teachers. For a complete description of benefits and/or rewards, refer to the Detailed Consent.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE NOT TO VOLUNTEER FOR THIS STUDY?

This study requires you to observe teachers twice a week during the school day which could harm your relationship with teachers. For a complete description of risks, refer to the Detailed Consent.

DO YOU HAVE TO TAKE PART IN THE STUDY?

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any services, benefits, or rights you would normally have if you choose not to volunteer.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS OR CONCERNS?

If you have questions, suggestions, or concerns regarding this study or you want to withdraw from the study contact Katherine Jordan of the University of Kentucky, Department of Education at katherine.jordan@uky.edu.

If you have any concerns or questions about your rights as a volunteer in this research, contact staff in the University of Kentucky (UK) Office of Research Integrity (ORI) between the business hours of 8am and 5pm EST, Monday-Friday at 859-257-9428 or toll free at 1-866-400-9428.

DETAILED CONSENT:

ARE THERE REASONS WHY YOU WOULD NOT QUALIFY FOR THIS STUDY?

If you do not supervise at least three teachers (this includes teaching assistants) or if you plan to take off work for more than one week (i.e., five consecutive workdays) from January to May of 2024, you do not qualify for this study. You must also have been present for at least 90% of school days during the previous months, or for the duration of your time as a Head Start employee if less than 6 months.

WHERE WILL THE STUDY TAKE PLACE AND WHAT IS THE TOTAL AMOUNT OF TIME INVOLVED?

The research procedures will be conducted at the PD site, your workplace, and in teachers' classrooms/other school locations such as the playground.

The total maximum amount of time you will be asked to volunteer for this study is 11 hours over four months. Your time commitment will vary based on your data. You will participate in a minimum of two conditions for this study, baseline and maintenance. Based on your individual data you may need to participate in additional conditions (i.e., intervention and self-management).

WHAT WILL YOU BE ASKED TO DO?

If you decide to participate, you will be asked to answer background questions, attend a specified PD during a required teacher PD day, complete brief pre-and post-study surveys, and conduct brief teacher observations and provide PD follow up support in the form of feedback. You will conduct scheduled 5-minute observations for three teachers twice weekly during which the primary investigator (PI) will be present to collect data. Based on data collected by the PI, you may receive brief training(s) then resume observing teachers. For all trainings you receive from the PI, you will complete a checklist to ensure the PI completes all trainings as planned.

When the data collected by the PI indicates you have mastered the teacher observation and follow up support protocol, you will enter what is called the maintenance condition during which you will be observed by the PI less frequently.

See Research Timeline (Appendix) for breakdown of research activities.

All training procedures in this research are evidence-based. None of the procedures are experimental. What is being researched is whether it feasible for Head Start directors to provide teachers with PD follow-up support. The PI will use various types of data to determine this.

In addition to background questions and surveys, the PI will make field notes while they are at your workplace and Head Start site(s). The PI and sometimes a secondary data collect will collect observational data regarding your adherence to the teacher observation and follow up support protocol,

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

There are minimal risks associated with this study. There will be a heavy requirement on your time. The relationship you have with participating teachers under your supervision could be negatively impacted due to the frequency of observations.

WILL YOU BENEFIT FROM TAKING PART IN THIS STUDY?

We do not know if you will get any benefit from taking part in this study. However, if you take part in this study, information learned may help others.

IF YOU DON'T WANT TO TAKE PART IN THE STUDY, ARE THERE OTHER CHOICES?

If you do not want to be in the study, there are no other choices except not to take part in the study.

WHAT WILL IT COST YOU TO PARTICIPATE?

There are no costs associated with taking part in this study.

WHO WILL SEE THE INFORMATION THAT YOU GIVE?

When we write about or share the results from the study we will keep your name and other identifying information private.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is.

The surveys will be anonymous and contain no identifying information. You will email a screenshot indicating you have completed the surveys to an individual who will not have access to the surveys and will not inform the other research team members who has completed the surveys. This individual's only responsibility will be tracking who has completed the surveys for purposes of compensation.

Qualtrics will be used to collect survey data. We will make every effort to safeguard your data, but as with anything online, we cannot guarantee the security of data obtained via the Internet. Third-party applications used in this study may have Terms of Service and Privacy policies outside of the control of the University of Kentucky.

Rather than using your name the data sheets used to collect data, a code will be used. The key to this code will be kept in a locked filing cabinet in the PI's office. The PI will maintain control over all paper data sheets and place them in this locked drawer for storage. When the PI graduates, the data will be transferred to a locked cabinet in their academic advisor's office. Any digitized data will be anonymous and stored on the PI's secure university computer in their locked office.

You should know that in some cases we may have to show your information to other people because it is required.

For example, the law may require or permit us to share your information with:

- a court or agencies, if you have a reportable disease/condition;
- authorities, such as child or adult protective services, if you report information about a child or elder being abused;
- authorities or a mental health professional if you pose a danger to yourself or someone else (e.g. suicidal thoughts).

To ensure the study is conducted properly, the University of Kentucky may look at or copy pertinent portions of records that identify you.

CAN YOU CHOOSE TO WITHDRAW FROM THE STUDY EARLY?

You can choose to leave the study at any time. You will not be treated differently if you decide to stop taking part in the study.

If you choose to leave the study early, data collected until that point will remain in the study database and may not be removed.

The investigators conducting the study may need to remove you from the study if you are not able to follow the directions.

WILL YOU RECEIVE ANY REWARDS FOR TAKING PART IN THIS STUDY?

You will receive a $100 compensation for taking part in this study once you have completed both the pre-and post-study surveys.

WILL YOU BE GIVEN INDIVIDUAL RESULTS FROM THE RESEARCH TESTS/SURVEYS?

You will be shown the data used to determine if you will be provided trainings during the study and what type of training you will be provided after each study condition.

WHAT ELSE DO YOU NEED TO KNOW?

If you volunteer to take part in this study, you will be one of about four directors and 12 teachers to do so.

The PI is a doctoral student. They are being guided in this research by their academic advisor, Dr. Jennifer Grisham. There may be other people on the research team assisting at different times during the study.

Science journals and agencies that fund research often ask researchers to share their data. Sharing data lets researchers explore new questions and repeat studies. If researchers conducting similar research ask to see your data, we may share it. We will not include your name and other information that could identify you. No one would know just from looking at the data that the information came from you.

The PI may be reached at katherine.jordan@uky.edu
Dr. Jennifer Grisham may be reached at jennifer.grisham-brown@uky.edu

Appendix: Research Timeline

- January
  - Sign consent and answer background questions (e.g., educational background)
  - Within one week: complete brief survey
  - Attend professional development (PD)
  - Begin baseline teacher observations and providing follow-up support for PD*
- February
  - Begin/continue baseline teacher observations and providing follow-up support for PD
  - Receive brief training(s) and move to next training condition, if indicated by data
    - Continue teacher observations and providing follow-up support for PD
  - Move to/finish final study condition (maintenance), when indicated by data
    - Continue teacher observations and data recording (PI will collect data less frequently)
- March/April
  - Receive brief training(s) and move to next training condition, if indicated by data
    - Continue teacher observations and providing follow-up support for PD
  - Move to/finish final study condition (maintenance), when indicated by data
    - Continue teacher observations and data recording (PI will collect data less frequently)
  - Finish final study condition (maintenance)
  - Complete brief survey

*Note: Not all directors will begin baseline at the same time. Your baseline start time will be randomized. Your start time and individual data will impact when you move to the next study condition, whether you receive brief training(s), and when finish the study.

INFORMED CONSENT SIGNATURES

This consent includes the following:

- **Key Information Page**
- **Detailed Consent**
- **Appendix: Research Timeline**

You are the subject or are authorized to act on behalf of the subject. You will receive a copy of this consent form after it has been signed.

_____	_____
Signature of research subject	**Date**
_____	
Printed name of research subject	

Director Consent Form (with corrected timeline)

IRB Approval
3/1/2024
IRB # 92097
NMED

Consent to Participate in a Research Study

KEY DIRECTOR INFORMATION FOR:
DIRECTOR FOLLOW-UP OF EARLY CHILDHOOD PROFESSIONAL DEVELOPMENT

We are asking you to choose whether or not to volunteer for a research study about whether it is feasible for Head Start directors to provide professional development (PD) follow-up support to the teachers they supervise. We are asking you because you are a Head Start director who oversees at least three teachers. This page is to give you key information to help you decide whether to participate. We have included detailed information after this page. Ask the research team questions. If you have questions later, the contact information for the research investigator in charge of the study is below.

WHAT IS THE STUDY ABOUT AND HOW LONG WILL IT LAST?

The purpose of this study is to determine if it is feasible for Head Start directors to provide PD follow-up support during brief school day observations. This study will look at the practical feasibility (i.e., can directors provide support according to protocol) and the social validity feasibility (e.g., how do teachers and directors feel about the procedures). This will be done by analyzing director and teacher pre- and post-study survey data, field notes about the study, and observational data taken across different study conditions.

By doing this study, we hope to learn if it is feasible for directors to provide PD follow-up support to the teachers they supervise. Your participation in this research will last three to four months.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE TO VOLUNTEER FOR THIS STUDY?

Participating in this study could improve your ability to support the teachers you supervise. It could also improve your relationship with teachers. For a complete description of benefits and/or rewards, refer to the Detailed Consent.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE NOT TO VOLUNTEER FOR THIS STUDY?

This study requires you to observe teachers twice a week during the school day which could harm your relationship with teachers. For a complete description of risks, refer to the Detailed Consent.

DO YOU HAVE TO TAKE PART IN THE STUDY?

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any services, benefits, or rights you would normally have if you choose not to volunteer.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS OR CONCERNS?

If you have questions, suggestions, or concerns regarding this study or you want to withdraw from the study contact Katherine Jordan of the University of Kentucky, Department of Education at katherine.jordan@uky.edu.

If you have any concerns or questions about your rights as a volunteer in this research, contact staff in the University of Kentucky (UK) Office of Research Integrity (ORI) between the business hours of 8am and 5pm EST, Monday-Friday at 859-257-9428 or toll free at 1-866-400-9428.

DETAILED CONSENT:

ARE THERE REASONS WHY YOU WOULD NOT QUALIFY FOR THIS STUDY?

If you do not supervise at least three teachers (this includes teaching assistants) or if you plan to take off work for more than one week (i.e., five consecutive workdays) from January to May of 2024, you do not qualify for this study. You must also have been present for at least 90% of school days during the previous months, or for the duration of your time as a Head Start employee if less than 6 months.

WHERE WILL THE STUDY TAKE PLACE AND WHAT IS THE TOTAL AMOUNT OF TIME INVOLVED?

The research procedures will be conducted at the PD site, your workplace, and in teachers' classrooms/other school locations such as the playground.

The total maximum amount of time you will be asked to volunteer for this study is 11 hours over four months. Your time commitment will vary based on your data. You will participate in a minimum of two conditions for this study, baseline and maintenance. Based on your individual data you may need to participate in additional conditions (i.e., intervention and self-management).

WHAT WILL YOU BE ASKED TO DO?

If you decide to participate, you will be asked to answer background questions, attend a specified PD during a required teacher PD day, complete brief pre-and post-study surveys, and conduct brief teacher observations and provide PD follow up support in the form of feedback. You will conduct scheduled 5-minute observations for three teachers twice weekly during which the primary investigator (PI) will be present to collect data. Based on data collected by the PI, you may receive brief training(s) then resume observing teachers. For all trainings you receive from the PI, you will complete a checklist to ensure the PI completes all trainings as planned.

When the data collected by the PI indicates you have mastered the teacher observation and follow up support protocol, you will enter what is called the maintenance condition during which you will be observed by the PI less frequently.

See Research Timeline (Appendix) for breakdown of research activities.

All training procedures in this research are evidence-based. None of the procedures are experimental. What is being researched is whether it feasible for Head Start directors to provide teachers with PD follow-up support. The PI will use various types of data to determine this.

In addition to background questions and surveys, the PI will make field notes while they are at your workplace and Head Start site(s). The PI and sometimes a secondary data collect will collect observational data regarding your adherence to the teacher observation and follow up support protocol,

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

There are minimal risks associated with this study. There will be a heavy requirement on your time. The relationship you have with participating teachers under your supervision could be negatively impacted due to the frequency of observations.

WILL YOU BENEFIT FROM TAKING PART IN THIS STUDY?

We do not know if you will get any benefit from taking part in this study. However, if you take part in this study, information learned may help others.

IF YOU DON'T WANT TO TAKE PART IN THE STUDY, ARE THERE OTHER CHOICES?

If you do not want to be in the study, there are no other choices except not to take part in the study.

WHAT WILL IT COST YOU TO PARTICIPATE?

There are no costs associated with taking part in this study.

WHO WILL SEE THE INFORMATION THAT YOU GIVE?

When we write about or share the results from the study we will keep your name and other identifying information private.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is.

The surveys will be anonymous and contain no identifying information. You will email a screenshot indicating you have completed the surveys to an individual who will not have access to the surveys and will not inform the other research team members who has completed the surveys. This individual's only responsibility will be tracking who has completed the surveys for purposes of compensation.

Qualtrics will be used to collect survey data. We will make every effort to safeguard your data, but as with anything online, we cannot guarantee the security of data obtained via the Internet. Third-party applications used in this study may have Terms of Service and Privacy policies outside of the control of the University of Kentucky.

Rather than using your name the data sheets used to collect data, a code will be used. The key to this code will be kept in a locked filing cabinet in the PI's office. The PI will maintain control over all paper data sheets and place them in this locked drawer for storage. When the PI graduates, the data will be transferred to a locked cabinet in their academic advisor's office. Any digitized data will be anonymous and stored on the PI's secure university computer in their locked office.

You should know that in some cases we may have to show your information to other people because it is required.

For example, the law may require or permit us to share your information with:

- a court or agencies, if you have a reportable disease/condition;
- authorities, such as child or adult protective services, if you report information about a child or elder being abused;
- authorities or a mental health professional if you pose a danger to yourself or someone else (e.g. suicidal thoughts).

To ensure the study is conducted properly, the University of Kentucky may look at or copy pertinent portions of records that identify you.

CAN YOU CHOOSE TO WITHDRAW FROM THE STUDY EARLY?

You can choose to leave the study at any time. You will not be treated differently if you decide to stop taking part in the study.

If you choose to leave the study early, data collected until that point will remain in the study database and may not be removed.

The investigators conducting the study may need to remove you from the study if you are not able to follow the directions.

WILL YOU RECEIVE ANY REWARDS FOR TAKING PART IN THIS STUDY?

You will receive a $100 compensation for taking part in this study once you have completed both the pre-and post-study surveys.

WILL YOU BE GIVEN INDIVIDUAL RESULTS FROM THE RESEARCH TESTS/SURVEYS?

You will be shown the data used to determine if you will be provided trainings during the study and what type of training you will be provided after each study condition.

WHAT ELSE DO YOU NEED TO KNOW?

If you volunteer to take part in this study, you will be one of about four directors and 12 teachers to do so.

The PI is a doctoral student. They are being guided in this research by their academic advisor, Dr. Jennifer Grisham. There may be other people on the research team assisting at different times during the study.

Science journals and agencies that fund research often ask researchers to share their data. Sharing data lets researchers explore new questions and repeat studies. If researchers conducting similar research ask to see your data, we may share it. We will not include your name and other information that could identify you. No one would know just from looking at the data that the information came from you.

The PI may be reached at katherine.jordan@uky.edu
Dr. Jennifer Grisham may be reached at jennifer.grisham-brown@uky.edu

Appendix: Research Timeline

- Month 1
  - Sign consent and answer background questions (e.g., educational background)
  - Within one week: complete brief survey
  - Attend professional development (PD)
  - Begin baseline teacher observations and providing follow-up support for PD*
- Months 2-3
  - Begin/continue baseline teacher observations and providing follow-up support for PD
  - Receive brief training(s) and move to next training condition, if indicated by data
    - Continue teacher observations and providing follow-up support for PD
  - Move to/finish final study condition (maintenance), when indicated by data
    - Continue teacher observations and data recording (PI will collect data less frequently)
  - Finish final study condition (maintenance)
  - Complete brief survey

*Note: Not all directors will begin baseline at the same time. Your baseline start time will be randomized. Your start time and individual data will impact when you move to the next study condition, whether you receive brief training(s), and when finish the study.

INFORMED CONSENT SIGNATURES

This consent includes the following:

- **Key Information Page**
- **Detailed Consent**
- **Appendix: Research Timeline**

You are the subject or are authorized to act on behalf of the subject. You will receive a copy of this consent form after it has been signed.

_____	_____
Signature of research subject	**Date**
_____	
Printed name of research subject	

Teacher Consent Form

IRB Approval
2/2/2024
IRB # 92097
NMED

Consent to Participate in a Research Study

KEY TEACHER INFORMATION FOR:
DIRECTOR FOLLOW-UP OF EARLY CHILDHOOD PROFESSIONAL DEVELOPMENT

We are asking you to choose whether or not to volunteer for a research study about if it is feasible for Head Start directors to provide professional development (PD) follow-up support to the teachers they supervise. We are asking you because you are a Head Start teacher and your director oversees at least three teachers. This page is to give you key information to help you decide whether to participate. We have included detailed information after this page. Ask the research team questions. If you have questions later, the contact information for the research investigator in charge of the study is below.

WHAT IS THE STUDY ABOUT AND HOW LONG WILL IT LAST?

The purpose of this study is to determine if it is feasible for Head Start directors to conduct brief teacher observations and provide PD follow-up support. This study will look at the practical feasibility (i.e., can directors provide support according to protocol) and the social validity feasibility (e.g., how do teachers and directors feel about the procedures). This will be done by analyzing director and teacher pre- and post-study survey data, field notes about the study, and director observational data taken across different study conditions.

By conducting this study, we hope to learn if it is feasible for directors to provide PD follow-up support to the teachers they supervise. Your participation in this research will last three to four months.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE TO VOLUNTEER FOR THIS STUDY?

Participating in this study could result in your increased use of strategies presented during a PD. It could also improve your director's ability to support you. For a complete description of benefits and/or rewards, refer to the Detailed Consent.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE NOT TO VOLUNTEER FOR THIS STUDY?

This study requires your directors to briefly observe you twice a week during the school day which could harm your relationship with your director. For a complete description of risks, refer to the Detailed Consent.

DO YOU HAVE TO TAKE PART IN THE STUDY?

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any services, benefits, or rights you would normally have if you choose not to volunteer.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS OR CONCERNS?

If you have questions, suggestions, or concerns regarding this study or you want to withdraw from the study contact Katherine Jordan of the University of Kentucky, Department of Education at katherine.jordan@uky.edu.

If you have any concerns or questions about your rights as a volunteer in this research, contact staff in the University of Kentucky (UK) Office of Research Integrity (ORI) between the business hours of 8am and 5pm EST, Monday-Friday at 859-257-9428 or toll free at 1-866-400-9428.

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DETAILED CONSENT:

ARE THERE REASONS WHY YOU WOULD NOT QUALIFY FOR THIS STUDY?

If you plan to take off work for more than one week (i.e., five consecutive workdays) from January to May of 2024, you do not qualify for this study. Additionally, you must work at least 30 hr per week as a teacher in a HS classroom and you must have been present for least 90% of school days during the previous six months or, for the duration of your time as a HS employee if this is less than 6 months.

WHERE WILL THE STUDY TAKE PLACE AND WHAT IS THE TOTAL AMOUNT OF TIME INVOLVED?

The research procedures will be conducted at the PD location, your workplace, and in your classroom/other school locations such as the playground. The PD will occur as part of a required PD day. After the PD, your time commitment will be 10-20 minutes per week. The maximum amount of time you will be asked to volunteer for this study is five hours over the next four months.

WHAT WILL YOU BE ASKED TO DO?

If you decide to participate, you will be asked to answer background questions, attend a specified PD during a required PD day, and complete brief pre-and post-study surveys. You will also be observed at predetermined times by your director twice a week for 5 minutes. The director may give you feedback related to these observations. You will complete a survey before the observations begin and a second survey after all observations have been completed. The survey will take about 15 minutes. In addition to background questions and surveys, the PI will make field notes while they are at your school. Other data collected will focus on your director.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

There are minimal risks associated with this study. The relationship you have with your director could be negatively impacted due to the frequency of observations.

WILL YOU BENEFIT FROM TAKING PART IN THIS STUDY?

We do not know if you will get any benefit from taking part in this study. However, if you take part in this study, information learned may help others.

IF YOU DON'T WANT TO TAKE PART IN THE STUDY, ARE THERE OTHER CHOICES?

If you do not want to be in the study, there are no other choices except not to take part in the study.

WHAT WILL IT COST YOU TO PARTICIPATE?

There are no costs associated with taking part in this study.

WHO WILL SEE THE INFORMATION THAT YOU GIVE?

When we write about or share the results from the study, we will keep your name and other identifying information private.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is.

The surveys will be anonymous and contain no identifying information. You will email a screenshot indicating you have completed the surveys to an individual who will not have access to the surveys and will not inform the other research team members who has completed the surveys. This individual's only responsibility will be tracking who has completed the surveys for purposes of compensation.

Qualtrics will be used to collect survey data. We will make every effort to safeguard your data, but as with anything online, we cannot guarantee the security of data obtained via the Internet. Third-party applications used in this study may have Terms of Service and Privacy policies outside of the control of the University of Kentucky.

Rather than using your name the data sheets used to collect data, a code will be used. The key to this code will be kept in a locked filing cabinet in the PI's office. The PI will maintain control over all paper data sheets and place them in this locked drawer for storage. When the PI graduates, the data will be transferred to a locked cabinet in their academic advisor's office. Any digitized data will be anonymous and stored on the PI's secure university computer in their locked office.

You should know that in some cases we may have to show your information to other people because it is required.

For example, the law may require or permit us to share your information with:

- a court or agencies, if you have a reportable disease/condition;
- authorities, such as child or adult protective services, if you report information about a child or elder being abused;
- authorities or a mental health professional if you pose a danger to yourself or someone else (e.g. suicidal thoughts).

CAN YOU CHOOSE TO WITHDRAW FROM THE STUDY EARLY?

You can choose to leave the study at any time. You will not be treated differently if you decide to stop taking part in the study.

If you choose to leave the study early, data collected until that point will remain in the study database and may not be removed.

The investigators conducting the study may need to remove you from the study if you are not able to follow the directions.

WILL YOU RECEIVE ANY REWARDS FOR TAKING PART IN THIS STUDY?

You will receive a $50 compensation for taking part in this study after you have completed the pre-and post-study surveys.

WILL YOU BE GIVEN INDIVIDUAL RESULTS FROM THE RESEARCH TESTS/SURVEYS?

Generally, tests/surveys done for research purposes are not meant to provide results that apply to you alone. The focus of this study is the feasibility of directors providing PD follow-up support. Teacher data will be compiled.

WHAT ELSE DO YOU NEED TO KNOW?

If you volunteer to take part in this study, you will be one of about four directors and 12 teachers to do so.

The PI is a doctoral student. They are being guided in this research by their academic advisor, Dr. Jennifer Grisham. There may be other people on the research team assisting at different times during the study.

Science journals and agencies that fund research often ask researchers to share their data. Sharing data lets researchers explore new questions and repeat studies. If researchers conducting similar research ask to see your data, we may share it. We will not include your name and other information that could identify you. No one would know just from looking at the data that the information came from you.

The PI may be reached at katherine.jordan@uky.edu
Dr. Jennifer Grisham may be reached at jennifer.grisham-brown@uky.edu

INFORMED CONSENT SIGNATURES

This consent includes the following:

- **Key Information Page**
- **Detailed Consent**

You are the subject or are authorized to act on behalf of the subject. You will receive a copy of this consent form after it has been signed.

_____	_____
Signature of research subject	**Date**
_____	
Printed name of research subject	

APPENDIX 2. MEETING AND RECRUITMENT SCRIPTS

Directors

Director Group Informational Meeting

Hello, everyone. First, I will introduce myself and then I will tell you more about why we are meeting today

My name is Katherine Jordan. I am a University of Kentucky doctoral student focusing on interdisciplinary early childhood education. I have 9 years of experience as an early educator; I worked for Early Head Start for three of those years. I am currently working on my dissertation. I am interested in improving professional development for early educators and the Community Action Council has agreed to allow me to work with their Head Start program.

Research has shown that follow-up is a key component for effective PD. As you may know, PD researchers themselves often provide the PD and PD follow-up used in their research, and this doesn't reflect real life. In real life, there are all kinds of challenges around providing PD follow-up. For example, it is often time and cost intensive. For my dissertation, I will be looking at the feasibility of using professionals who are already in the early childhood environment (in this case, directors) to provide follow-up support for PD from a typical provider.

I'm interested real life solutions. So, I won't just be looking at whether this is practically feasible, as in can directors provide support and can they make it fit into their already busy schedules. I am just as interesting in what I am calling social validity feasibility. This essentially means will directors do it in real life. I'm interested in things like how directors and teachers feel about it the procedures and how they might impact director-teacher relationships. It is important to me to get directors' and teachers' input because however doable an idea is and however great it looks on paper, if it doesn't get buy-in from the people being asked to do it, it's probably not going to be successful. You know this, your bosses know this, your teachers know this. If directors and teachers stick with it through the study, but the thought of it continuing once the study is over makes them cringe, that is important information. I want to know how the process could be improved. I will use anonymized surveys and make observational notes to collect this information.

If you decide to participate, you will observe three teachers briefly twice a week, watch for specific behaviors from the PD, and provide simple feedback. I will work with you

and teacher participants to schedule the observations in advance, as I will be collecting data during this time. The total time you will be involved in the project will depend on the data, as I will be periodically providing you individualized support as indicated by your data. At an estimate, your commitment would be about an hour per week, which will taper off as you wrap up, for 2-3 months. If you complete the study, you will be compensated.

If you have big-picture questions I'd be happy to answer those now, otherwise after you receive my email we can set up a time to meet and I will provide you with a document for you to keep with more detailed information.

Director Recruitment Email

Dear (Ms./Mr. _____),

I am reaching out to you to follow-up regarding our meeting about potentially participating in my dissertation project. To recap, I will be looking at the feasibility of Head Start directors providing professional development support to teachers they supervise. Your commitment would be about an hour per week for 2-3 months. You would receive compensation after you complete the study.

If you would like to learn more, please respond by [provide a date] so we can meet for a more in-depth conversation about the project and what your commitment would mean. Agreeing to meet does not mean you agree to participate. Your participation is voluntary.

Sincerely,

Teacher Recruitment Email

Dear (Ms./Mr. _____),

Hello, I am a doctoral student at the University of Kentucky focusing on interdisciplinary early childhood education. I am reaching out to you because you have been identified by Community Action Council as a potential participant for my dissertation project.

For my dissertation, I will be looking at the feasibility of Head Start directors providing professional development (PD) follow-up support to teachers they supervise. Research has shown that follow-up is a key component for PD to result in improved teacher and child outcomes, but often it is not provided. Additionally, researchers often provide both PD and PD follow-up in their studies which does not reflect real life early childhood education settings. For this reason, I want to see if directors, who are already present in the setting, can provide follow-up support to typical PD. I will examine if Head Start directors can provide PD follow-up and how directors and teachers feel about the process.

If you decide to participate, your director will observe you for 5 minutes twice a week for 2-3 months. These observations would be scheduled in advance, and you would know what behaviors (from a required PD) your director would want to observe. Additionally, you would complete a brief survey before these observations begin and after they end. You would receive compensation after you complete the study.

If would like to learn more, please respond by [provide a date] so I can work with your director to schedule a time we can meet for a more in-depth conversation about the project and what your commitment would mean. Agreeing to meet does not mean you agree to participate. Your participation is voluntary.

Sincerely,

Director and Teacher In-Person Recruitment Script

Good morning/afternoon, I'm Katherine Jordan, it is nice to meet you. You expressed an interest in participating in my study looking at Head Start directors providing teachers professional development follow-up support.

So, I have some information about what participation would look like for you to read over, and I can answer whatever questions you have. [provide appropriate Consent Form] This document has a short summary about the project on the first page then provides more in depth detail. If you do decide to participate, you will sign a copy for me and you will have one to keep for your records. Participation is voluntary; feel free to ask me whatever you need about the study to help you make a decision. [allow time to read document, answering questions and providing clarification as needed]

If Individual Decides Not to Participate

No problem, thank you for taking the time meet with me. Have a good afternoon!

If Individual Decides to Participate: Director

So, our next steps will be determining when you have time in your schedule to observe teachers; we can do this now if you have time. Then, during the next required PD, the three teachers you are observing will sign up for all the time slots that work well for them. I will finalize this schedule and get it to you before you begin observations. Also, before you begin observations, you will also receive a link to a survey to complete before observations begin; you will another survey link receive another one after the observations are done. As far as what you will be expected to do during observations, we will talk about that for about 5 minutes before your first observation and we will go from there. The contact information for myself and for my academic supervisor are at the end of the form; you can reach out to me with any questions, and I will get back to you within 24 hours, or 48 hours on weekends. Thank you for helping me with this project.

If Individual Decides to Participate: Teacher

[have them sign a form for me and tell them to keep the one they have] So, next steps for you will be attending the next required PD. During the PD, you will be reminded to see your director to sign up for possible times to be observed in your classroom. I will make a final schedule and send you your observation times before observations begin. Also, before observations begin, I will send you a link to a survey to complete before observations begin and you will receive another one after the observations are done. The contact information for myself and for my academic supervisor are at the end of the form; you can reach out to me with questions, I will get back to you within 24 hours, or 48 hours on weekends. Thank you for helping me with this project.

APPENDIX 3. DESCRIPTIVE DATA QUESTIONS

Director Descriptive Data Questions

Years as teacher/teaching asst (HS/other)

Education

Other related experience

How do you support teachers' professional growth?

Do the teachers you supervise have access to professional development follow-up support? If so, please describe.

About how many days per school year do you typically spend time in a single teacher's classroom for any reason?

- Why do you typically spend time in teachers' classrooms?
- Do you spend time in teachers' classrooms for any other reasons?

How often do you typically evaluate teachers?

How often do you observe individual teachers?

Do you provide performance feedback, formal or informal, to individual teachers?

IF YES

- How often do you typically provide performance feedback, formal or informal, to individual teachers?
- How to you provide performance feedback?

Teacher Descriptive Data Questions

Years serving as director (HS/other)

Education

Other related experience

About how many days per school year does your typically spend time in your classroom?

- For what reasons does your director spend time in your classroom?

APPENDIX 4: ADDITIONAL TRAINING MATERIALS

Video Examples & Scripts for Director and Secondary Data Collector Trainings

Teacher engaging in focus behaviors

What Does High-Quality Preschool Look Like? (NRP Ed)

https://www.youtube.com/watch?v=wbWRWeVe1XE

- Respect (2:45-3:10): (2:51-2:53), teacher's gaze is directed toward child (eye contact), confirms what child says (calm voice, respectful language)

Understanding Challenging Behavior in Young Children (Connecticut Office of Early Childhood)
https://www.youtube.com/watch?v=acAJsiEKxzg

- Respect (11:20-11:51): teacher moves body to make eye contact, uses a calm voice to explain why they roll the balls to play with them

Setting Up to Support Children's Learning (William Patterson University)

https://www.youtube.com/watch?v=blDMnUVbm8g

- Relationships (3:35-3:53): teacher is still at the table in dramatic play with the children (physical proximity), teacher uses toy phone to call child who is pretending to work in a restaurant to place and order (shared activities)
- Respect (15:53-16:22): teacher asks children to translate what they will be doing into Spanish to help other students (calm voice, respectful language)
  How to Teach Kids (Wattsenglish for children)

  https://www.youtube.com/watch?v=NIk1-ck4c6Q

- Relationships & Respect (0:00-1:20): teacher gives children instructions and follows them himself, laughs and smiles along with the children (shared activities, matched effect); says "please" (respectful language); walks to children who aren't fully participating to support them (physical proximity)

Head Start Teacher's Training Video (Community Action Council of Santa Barbara County)

https://www.youtube.com/watch?v=P8XfjDrAoaA

- Relationships & Respect (4:19-4:45): teacher sat at table with children (physical proximity) and talked with child about losing a tooth, asked other children if they had missing teeth (social conversations), made eye contact & used a warm and calm voice

Teacher not engaging in focus behaviors

Script, Video 1

Setting: child playing with kitchen toys (e.g., cups, plates, pretend food); teacher stands a couple feet away watching the child; director stands off to the side with a clipboard and pen occasionally making notes
Child (pretends to pour liquid into a bowl then takes it to the adult, speaking calmly, but smiling broadly): Here's your soup.

Teacher (briefly glances at the child and takes the cup, holds the cup) Child (still smiling): Eat it!
Teacher (sets the bowl down, speaks in monotone): It's too hot.

Script, Video 2

Setting: child is building with blocks; teacher sits a couple feet away, also building with blocks; director stands off to the side with a clipboard and pen
Child: My castle is big.
Teacher (keeps building): Mm hmm.

Child: Look!
Teacher: I'm building my own castle.
Child (knocks over teacher's castle and walks away) Teacher: Hey, knock down your own castle!

Examples of people providing BSP

Behavior Specific Praise: High School Example and Non-Example (IRIS Center)

https://www.youtube.com/watch?v=oCnZu8sqWhA

- (0:29-0:42)

Positive Behavior Supports: Behavior Specific Praise (Behavior Specialist)

https://www.youtube.com/watch?v=CObkoetpLwM

- (0:08-0:14)

Teacher engaging in focus behavior with director providing BSP

Script, Video 3

Setting: child coloring at a table with art supplies around them; teacher also coloring at table; director stands off to the side with a clipboard and pen
Teacher (looks at child's picture): You picture has bright colors! I think I want to add bright colors to my picture, too.

Child (handing teacher crayon): You can use this color.
Teacher (taking crayon and making eye contact with child): Thank you, that bright color will be perfect!
Director: Ms. Shayne, you looked at Elliot politely thanked them, great!

Script, Video 4

Setting: child arranging toys; teacher sitting near child, also arranging toys; director stands off to the side with a clipboard and pen
Child: My sister got a soccer ball for her birthday. I wish I got one.
Teacher: Maybe you can play soccer with her.

Child (signing): No, she's mean.
Teacher: Sometimes sharing new toys is hard. You can play soccer at school with your friends. Child: But I really like her soccer ball.
Teacher: When I was little, my big brother won't share his toys with me, either.
Director (catching teacher's eye): Great social conversation.

Teacher not engaging in focus behavior with director providing BSP

Script, Video 5

Setting: child playing with kitchen toys (e.g., cups, plates, pretend food); teacher stands a couple feet away watching the child; director stands off to the side with a clipboard and pen occasionally making notes
Child (pretends to pour liquid into a bowl then takes it to the adult, speaking calmly, but smiling broadly): Here's your soup.

Teacher (briefly glances at the child and takes the cup, holds the cup) Child (still smiling): Eat it!
Teacher (sets the bowl down, speaks in monotone): It's too hot. Director: Mr. Nelson, you matched Alex's affect, nice.

Script, Video 6

Setting: child is building with blocks; teacher sits a couple feet away, also building with blocks Child: My castle is big.
Teacher (keeps building): Mm hmm.
Child: Look!

Teacher: I'm building my own castle.
Director: Ms. Mary, nice work sharing in the building activity.

Teacher engaging in focus behavior with director not providing BSP

Script, Video 7

Setting: child coloring at a table with art supplies around them; teacher also coloring at table; director stands off to the side with a clipboard and pen
Teacher (looks at child's picture): You picture has bright colors! I think I want to add bright colors to my picture, too.

Child (handing teacher crayon): You can use this color.
Teacher (taking crayon and making eye contact with child): Thank you, that bright color will be perfect!
Director: Nice work, see you next time.

Script, Video 8

Setting: child arranging toys; teacher sitting near child, also arranging toys; director stands off to the side with a clipboard and pen

Child: My sister got a soccer ball for her birthday. I wish I got one.
Teacher: Maybe you can play soccer with her.

Child (signing): No, she's mean.
Teacher: Sometimes sharing new toys is hard. You can play soccer at school with your friends. Child: But I really like her soccer ball.
Teacher: When I was little, my big brother won't share his toys with me, either.
Director: Thanks for your time, Mr. Eddie.

Teacher not engaging in focus behavior with director not providing BSP

Script, Video 9

Setting: child playing with kitchen toys (e.g., cups, plates, pretend food); teacher stands a couple feet away looking over the child's head; director stands off to the side with a clipboard and pen Child (pretends to pour liquid into a bowl then takes it to the adult): Here's your soup.
Teacher (briefly glances at the child and takes the cup, holds the cup)

Child: Eat it!
Teacher (sets the bowl down): It's too hot. Director: Ms. Mary, it was good to see you today.

Script, Video 10

Setting: child is building with blocks; teacher sits a couple feet away, also building with blocks; director stands off to the side with a clipboard and pen
Child: My castle is big.
Teacher (keeps building): Mm hmm.

Child: Look!
Teacher: I'm building my own castle.
Child (knocks over teacher's castle and walks away)
Teacher (monotone): Hey, knock down your own castle!
Director (checking time): Thanks for letting me observe, Mr. Nelson.

Director In Vivo Coaching Script/Prompts

The in vivo coaching each director receives will be determined by their individual data.

Directors with Individual Data Indicating They Need to Practice Behaviors 2 & 3

Say: You will observe X (teacher) as usual, but for shorter segments of time. I have informed them, so they know what is going on. If the teacher engages in a focus behavior and you don't provide behavior specific praise after a few seconds, I will prompt you to provide it. After you provide praise, we will briefly step out for feedback then start another practice session. If you provide praise when a teacher doesn't engage in a focus behavior, we'll briefly step out and talk about why it wasn't appropriate to provide praise then do another practice session.

Prompt examples [prompts will vary based on teacher behavior]:

- X made eye contact while calmly talking to the child about safety.
- X is talking to the child about their hobbies.
- X is calmly told the child to walk.
- X is working puzzles with the children.

After director has completed this practice, either tell them practice is over and that observations will resume as usual on the next schedule day, or if indicated by their individual data, move on to practice below.

Directors with Individual Data Indicating They Need to Practice Behavior 4

Before beginning practice observations say: You will observe X (teacher) as usual, but for a shorter segment of time. I have informed them, so they know what is going on. Provide behavior specific praise if appropriate, as usual. Then we will practice filling out the data sheet and you will prepare a permanent record for the teacher. Be sure to make any notes you may need during the observation to complete the data sheet.

After each practice observation say: Now work on the permanent feedback record for the teacher and I will help you if you get stuck.

Prompt examples [prompts will vary based on teacher behavior and director need; progress through the points one at a time, if the director needs more support]:

- Let's look at the last permanent record you provided the teacher. You provided behavior specific for [refer to record] behavior last time. So, you need to provide it for something else this time.
    - What is something the teacher did well? Remember, this doesn't have to be about a focus behavior.
- Last time you said the teacher could incorporate a focus behavior by [refer to record]. Did the teacher engage in the focus behavior this time? [After the director completes the sheet as appropriate, have them go back and practice answering for No or Yes, whichever they did not answer, for each practice session.]
    - No, so what focus behavior could they use during what you observed today?
        - What would that look like?
    - Yes, so what is another routine they could incorporate a focus behavior into?
        - What would that look like?

After director has completed this practice, tell them practice is over and observations will resume as usual on the next schedule day.

APPENDIX 5: PRE- AND POST-STUDY DIRECTOR AND TEACHER SURVEYS

The following note and payment information will appear at the beginning of all surveys

Note: Your name and email address are being collected for payment purposes only. The members of the research team who are collecting data will NOT see your name on survey data. The ONLY person who will see your name and email will be Ms. Duncan so that she can confirm you have completed the survey and record this information so you can receive payment. No one else has access to this version of the survey data. Ms. Duncan will use Qualtrics to create a PDF WITHOUT your name and email address. She will send this de-identified version of your data to the primary researcher, Katherine Jordan. It is important to the research team that your survey responses remain anonymous to encourage you to answer honestly.

Payment Information

Name as you would like it to appear on your check: Last, First

Name you go by (if different)

Email address

Director Surveys

Director Pre- and Post-Study Questions

Describe your ability to support teachers under your supervision.

(capable, somewhat capable, neither capable nor incapable, somewhat incapable, incapable)

Describe your comfort level spending time in the classrooms of teachers under your supervision.

(comfortable, somewhat comfortable is the same, neither comfortable nor uncomfortable, somewhat uncomfortable, uncomfortable)

Please complete the following sentence. In general, my professional relationship with the teachers you supervise is… (Positive, mostly positive, Neither positive nor negative, mostly negative, negative)

Please rate the following statements.

In general, the teachers I supervise feel comfortable coming to me when they have work-related questions.

(Always, most of the time, about half of the time, occasionally, never)

In general, the teachers I supervise are receptive when I make suggestions or provide corrective feedback.

(Always, most of the time, about half of the time, occasionally, never)

In general, I understand the challenges faced by the teachers I supervise.

(Always, most of the time, about half of the time, occasionally, never)

Comments

Is there anything else you would like the trainer to know about your relationships with the teachers you supervise?

Director Post-Study Survey Only: Study Participation Questions

Please complete the following sentences.

Compared to before I participated in this study my ability to support teachers under my supervision…

(Likert: has greatly improved, has improved somewhat, has remained the same, has gotten somewhat worse, has gotten somewhat worse)

Compared to before I participated in this study my comfort level spending time in the classrooms of teachers under my supervision…

(Likert: has greatly improved, has improved somewhat, is the same, has gotten somewhat worse, has gotten much worse)

How could the classroom observation procedures used in this study be changed to better meet your needs/the needs of the teachers you supervise?

(open-ended)

Please rate the following statements.

Conducting classroom observations for this study was convenient.

(Strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree)

Providing behavior specific praise to teachers was beneficial.

(Strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree)

Collecting data for this study was convenient.

(Strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree)

I will continue teacher observations after the study is over.

(Yes, according to the study protocol; Yes, but with modifications [please describe] _____; Maybe; No)

Did you use any resources other than those provided by the trainer collecting data for this study?

(Select all that apply: director in the study; director or administrator not in the study; Mentor or teacher; Textbook/course materials; Professional development materials; Other (please specify) _____)

How could the data collection procedures used in this study be changed to better meet your needs/the needs of the teachers you supervise?

(open-ended)

Is there anything else you would like the trainer to know about your experience with this study?

Teacher Surveys

Teacher Pre- and Post-Study Questions: Relationships with Director

Describe your director's ability to support you.

(capable, somewhat capable, neither capable nor incapable, somewhat incapable, incapable)

Describe your comfort level with your director spending time in your classroom.

(comfortable, somewhat comfortable is the same, neither comfortable nor uncomfortable, somewhat uncomfortable, uncomfortable)

Please complete the following statement. In general, my professional relationship my director is…

(Positive, mostly positive, neither positive nor negative, mostly negative, negative)

Please rate the following statements.

I feel comfortable going to my director when you have work-related questions.

(Always, most of the time, about half of the time, occasionally, never)

I am receptive to suggestions or corrective feedback provided by my director.

(Always, most of the time, about half of the time, occasionally, never)

My director understands the challenges I face as a teacher.

(Always, most of the time, about half of the time, occasionally, never)

Demographic Information

Do you consider yourself and your director as being of the same or different races? Please answer based on the racial identity you associate with your director, even if it is not how they racial identify themself.

(I consider my director and myself to have the same racial identity., I consider my director and myself to have different racial identities.)

Is there anything else you would like the trainer to know about your relationship with your director?

Post-Study Survey Only: Study Participation Questions

Compared to before this study my director's ability to support me

(Likert: has greatly improved, has improved somewhat, is the same, has gotten somewhat worse, has gotten much worse)

Compared to before this study my comfort level with having my director spend time in my classroom

(Likert: has greatly improved, has improved somewhat, is the same, has gotten somewhat worse, has gotten much worse)

How could the classroom observations conducted as part of this study be changed to better meet your needs?

(open-ended)

<u>Please rate the following statements.</u>

Classroom observations for this study were convenient.

(Strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree)

Receiving behavior specific praise was beneficial.

(Strongly agree, somewhat agree, neither agree nor disagree, disagree, strongly disagree)

Is there anything else you would like the trainer to know about your experience with this study?

APPENDIX 6: FIELD NOTES

Participant comments and body language related study procedures

Self-management strategies used by director

Other

APPENDIX 7: PROCEDURAL FIDELITY DATA SHEET

Procedural Fidelity Data Sheet

Director ID: _____ Teacher ID: _____ Date: _____ Condition*: _____

Teacher observation start time: _____ End time: _____ Length of observation: _____

Observer's initials: _____ Circle one: Primary Observer / Secondary Observer Reschedule: Y / N

Procedural Fidelity

<table>
<tr><th colspan="3">Behaviors</th><th>Engaged (+/-)</th><th>IOA* (Y/N)</th></tr>
<tr><td colspan="3">Did the director observe the teacher for observation for 5 minutes? (+/- 1 min)</td><td></td><td></td></tr>
<tr><td colspan="3">Did the director appropriately provide or refrain from verbally providing behavior specific praise (BSP) related to the focus behavior?
(score + if both lines in the same box below are +; score – if lines in different boxes are +)</td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td></td><td>___ The teacher engaged in the focus behavior.

Count for teacher engagement in behavior

___ The director provided BSP.</td><td>___ The teacher did not engage in the focus behavior.

___The director did not provide BSP.</td></tr>
<tr><td colspan="3">Did the director accurately record whether the teacher engaged in the focus behavior?</td><td></td><td></td></tr>
<tr><td colspan="3">Did the director provide the teacher a permanent record of
• BSP for at least one behavior that was unique from the last permanent record BSP feedback they provided
AND
• A specific example of how the teacher could incorporate the focus behavior into their practice in the future that was unique from the last permanent record suggestion they provided
  • If the director reported the teacher did not engage in the focus behavior, this suggestion should be applicable to the activity observed.
  • If the director reported the teacher did engage in the focus behavior, this suggestion may be applicable to any classroom activity or routine.</td><td></td><td></td></tr>
<tr><td colspan="3">Number of: Behaviors engaged in | Agreement</td><td>/4</td><td>/4</td></tr>
<tr><td colspan="3">Percentage of: Behaviors engaged in | Agreement</td><td>%</td><td>%</td></tr>
</table>

Note: If the director did not conduct the observation, write "Did not observe" at the top of the PFDS. If the director provided a reason for missing the observation, note this information. *For trainer use only.

APPENDIX 8: SECONDARY DATA COLLECTOR TRAINING HANDOUT AND CHECKLIST

Secondary Data Collector Handout

Focus Behaviors

From the Classroom Assessment Scoring System (CLASS; Emotional Support Domain, Positive Climate)

Relationships: Physical proximity, shared activities, matched affect, and social conversations

Respect: Eye Contact, warm and calm voice, respectful language

Behavior Specific Praise (BSP)

Definition: “Behavior-specific praise is a positive statement directed toward a student or group of students that acknowledges a desired behavior in specific, observable, and measurable terms. An educator using behavior-specific praise explicitly states the exact behavior the student demonstrated to meet expectations” (IRIS Center Peabody College Vanderbilt University, 2023)

Completing the Procedural Fidelity Data Sheet (PFDS)

Complete the situational information at the top of the data sheet.

Teacher observations should last 5 minutes, but we are giving +/- minute (60 seconds) leeway since the director may an analog clock to time the observation.

The director should provide BSP for the focus behavior one time during the observation regardless of how many time the teacher engages in the behavior to keep disruption to a

minimum. We will keep a tally of how often the teacher engages in the focus, but the director does not need to. If the teacher does not engage in the focus behavior, the director should not provide BSP during the observation.

If the director records data during the observation, I will ask to see it so we can complete the last two items on the PFDS. Do not directly ask if the director recorded specific information as that could serve as a prompt for them to do it in the moment or in the future; I want to know what they will do without being prompted.

We will talk through and practice scoring the final item on the PFDS using videos and example director data.

Secondary Data Collector Training Checklist

Date: _____

Person completing checklist (circle one): Trainee / Trainer

√ the Completed box for the behaviors the trainer engaged in. Leave others blank until given further instructions.

Training Activity	Completed (√)	
Behavior Specific Praise (BSP)		
Provided Secondary Data Collector Handout		
Had read Focus Behavior and BSP sections of the Handout		
Had provide 3 examples of BSP for focus behavior		
Had provide specific examples of how focus behavior could be used during 3 different routines/activities		
Provided feedback		
Provided opportunities to ask questions		
BSP Sub-Behaviors		
Provided Procedural Fidelity Data Sheet (PFDS)		
Oriented to sub-behaviors under second PFDS behavior		
Talked through scoring sub-behaviors		
Provided opportunity to ask questions		
Had practice sub-behaviors data collection until interobserver agreement (IOA) is 100% for three consecutive videos		
Provided feedback		
Provided opportunity to ask questions		
IOA Practice		
Had read Completing the PFDS section of the Handout		
Explained 4th PFDS item, permanent record		
Had practice PFDS data collection until 100% IOA across three consecutive videos and example director data		
Provided feedback		
Provided opportunities to ask questions		
Total activities completed (initial)	**/18**	**%**
Total activities completed (final)	**/18**	**%**

APPENDIX 9: DIRECTOR TRAINING HANDOUTS AND CHECKLIST

Teacher Follow-Up Support Protocol

Focus Behavior

From the Classroom Assessment Scoring System (CLASS; Emotional Support Domain, Positive Climate)

- Relationships: Physical proximity, shared activities, matched affect, and social conversations
- Respect: Eye Contact, warm and calm voice, respectful language

Behavior Specific Praise
Definition: "Behavior-specific praise is a positive statement directed toward a student or group of students that acknowledges a desired behavior in specific, observable, and measurable terms. An educator using behavior-specific praise explicitly states the exact behavior the student demonstrated to meet expectations" (IRIS Center Peabody College Vanderbilt University, 2023)

Rationale: ***During teacher observations*** you will use behavior specific praise (BSP) when teacher engage in the professional development (PD)focus behavior. BSP is quick and causes minimal disruption of classroom activities. Providing teachers BSP may increase their use of the in the focus behavior.

After teacher observations you will provide a permanent record of BSP and suggestions for how the teacher can further incorporate the focus behavior into their practice.

Providing Teacher Follow-Up Support and Using the Data Sheet

1. Observe the teacher for 5 minutes during the scheduled observation time. You may use a clock, watch, or other time-keeping device to time your observation.
    *The observation may be rescheduled if you, the teacher, and the researcher come to an agreement.

2. Appropriately provide or refrain from providing verbal BSP during the observation.

If the teacher engages in the focus behavior, verbally provide BSP. To minimize classroom disruption, you only need to provide BSP once during the observation, even if the teacher engages in the focus behavior multiple times.

If the teacher does not engage in the focus behavior, do not provide BSP.

3. Record the data indicated on the Example Director Data Collection Sheet. All feedback should be different from the feedback you provided the teacher following the previous observation.

    If the teacher engages in the focus behavior:

    a. *Briefly note specifics:* Provide BSP feedback about how the teacher used the focus behavior. This may be identical to the BSP you provided verbally.
    AND

b. *Note how the teacher could incorporate the focus behavior into another classroom routine or activity*: Note an activity and provide a specific example of how the focus behavior could be used during this activity.

If the teacher does not engage in the focus behavior:
a. Briefly note something specific that the teacher did well. Provide BSP feedback about a something specific you observed the teacher doing.
AND
b. *Note how the teacher could incorporate the focus behavior into the observed classroom routine or activity:* Note a specific instance during the observed activity when the teacher could have incorporated the focus behavior.

4. Make a permanent record of your feedback according to the teacher's preference (e.g., email, text, handwritten) immediately following the observation. Show it to the research then share it with the teacher. If the teacher prefers paper feedback, you may choose to give the teacher your data sheet.

Checklist for Video Practice Director Training

Director ID: _____ Date: _____ Start Time: _____ End time: _____

Person completing checklist (circle one): Director / Trainer

√ the corresponding Completed column for each training activity the trainer completed. Write the number of total of activities completed (initial) in the appropriate space. The trainer will provide further instructions.

Training Activity	Completed	
Provided Teacher Follow-Up Support Protocol		
Instructed to read Focus Behavior and Behavior Specific Praise (BSP) sections of Protocol		
Shared data for first three items on Procedural Fidelity Data Sheet		
Instructed to read #s 1 & 2 of Providing Teacher Follow-Up... of Protocol		
BSP Practice ***These training activities DO NOT apply to directors who appropriately provided or refrained from providing behavior specific praise during 100% of their observations.***		
Showed BSP example videos		
Pointed out language that made praise behavior specific in videos		
Provided opportunity to ask questions		
Provided video practice providing BSP for focus behavior(s)		
Provided positive feedback		
Provided corrective feedback		
Activities completed (initial|final)		
Provided opportunity to ask questions about BSP and the focus behavior(s)		
Written BSP Feedback Practice		
Instructed to read #3 of Providing Teacher Follow-Up... of Protocol		
Provided Director Data Collection Sheets		
Provided practice writing BSP for focus behavior in videos		
Provided practice writing BSP for other teacher behavior in videos		
Provided positive feedback		
Provided corrective feedback		
Provided opportunity to ask questions		
Written Constructive Feedback Practice		
Provided practice writing how focus behavior could be incorporated into 3 different routines/activities from the videos		
Provided practice writing how focus behavior could be incorporated into 3 different routines/activities not shown in the videos		
Provided positive feedback		
Provided corrective feedback		
Provided opportunity to ask questions		
Total Activities Completed		
Initial	**/**	**%**
Final	**/**	**%**

Note: This checklist will be individualized for each director so that it only includes the Training Activities that apply to them based on their baseline data.

Checklist for In Vivo Practice Director Training

Director ID: _____ Date: _____ Start Time: _____ End time: _____

Person completing checklist (circle one): Director / Trainer

Fill in the start and end time. √ the corresponding Completed column for each training activity the trainer completed. Leave the column blank if the trainer did not complete the activity. Write the number of total of activities completed (initial) in the appropriate row.

Activity	Completed	
Asked how long teacher observations should last		
In Vivo Feedback Practice ***These training activities DO NOT apply to directors who engaged in Procedural Fidelity Behaviors #2 & 3 during 100% of their observations.***		
Ensured has Teacher Follow-Up Support Protocol and Director Data Collection Sheets at hand		
Reviewed data for individual Procedural Fidelity data sheet (PFDS) behaviors 2 & 3		
Reviewed #2 from Teacher Follow-Up Support Protocol		
Provided opportunity to ask questions		
Practiced providing BSP in vivo		
Practiced recording if teacher engaged in focus behavior in vivo		
Provided positive feedback		
Provided corrective feedback		
Provided opportunity to ask questions		
Activities completed (initial|final)		
In Vivo Written Feedback Practice ***These training activities DO NOT apply to directors who engaged in Procedural Fidelity Behavior #4 during 100% of their observations.***		
Ensured has Teacher Follow-Up Support Protocol and Director Data Collection Sheets at hand		
Reviewed data for individual Procedural Fidelity data sheet (PFDS) behavior #4		
Reviewed #s 3 & 4 from Teacher Follow-Up Support Protocol		
Provided opportunity to ask questions		
Practiced completing Director Data Collection Sheet "if yes" after in vivo teacher observation		
Provided positive feedback		
Provided corrective feedback		
Provided opportunity to ask questions		
Practiced completing Director Data Collection Sheet "if no" after teacher observation		
Provided positive feedback		
Provided corrective feedback		
Provided opportunity to ask questions		
Activities completed (initial|final)		
Total Activities Completed		
Initial	**/**	**%**
Final	**/**	**%**

Self-Management Strategies Handout

What is self-management?

- Self-management is using behavior to change behavior.
- It is when we intentionally apply a strategy, such as setting an alarm, to make a change in another behavior, such as what time we wake up in the morning.
- Self-management strategies can be used individually or combined.

Using self-management strategies

- Self-management strategies can be used by anyone.
- You probably already use self-management strategies.
- We will discuss self-management strategies you have used and make a plan for systematically implementing a strategy or strategies to help you successfully conduct teacher observations.

Some types of self-management strategies

- Manipulating motivating operations (MO) o To manipulate the MO you perform a behavior that will increase or decrease your chances of engaging in the behavior you want to change.
    - MO can be difficult to conceptualize, but it plays a part in many of our decisions.
        - For example, maybe you want to make spaghetti for dinner and go to the store to buy meat. You might decide not to buy your usual brand if another brand is on sale.
        - Another example is children's behavior around different adults. A child might want to eat some candy they got during a holiday before dinner. Maybe one of their caregivers never lets them eat candy before dinner. If that caregiver is present, they probably won't ask for the candy. If a caregiver who typically does allow the child to eat candy before dinner is present, they are likely to ask that adult for the candy.
    - When we use MO strategies, we intentionally change something in a way that increases the chances of us engaging in our goal behavior. o Examples
        - packing a delicious and filling lunch rather than your typical so-so lunch so you won't be tempted to eat so many of the amazing donuts your coworker brings back after their lunch break every Friday
        - going to the gym at a time when there aren't many people there so you won't be self-conscious and will be more likely to do all the exercises you plan to do instead of chickening out

        - If your child wants to have a friend over to spend the night and waits until after you've eaten dinner and had a chance to relax to increase the chance you will say yes, they are manipulating the MO!
- Response prompts o Using a cue or reminder to do something
    § Examples: writing a to-do list on a sticky note and putting it somewhere you will be sure to see it; setting an alarm on your phone

    - Self-monitoring
        - Example: periodically checking your behavior and recording whether you are on-task

- Performing the initial steps in a chain of steps that make up a larger task o Example: cutting vegetables for a recipe you want to make the next day

- Accountability partner o Telling someone about your intentions to change your behavior. Keeping this person updated on your progress may help you change your behavior.
    - You can include your accountability partner in your self-management plan.
        - Example: If you don't engage in the desired behavior, you have to treat your accountability partner to a coffee.

- Use time management tools o You can use these create a routine, plan for irregularities within your workday, prioritize tasks, and break large tasks into smaller components.
    § Examples: using an hour-by-hour planner to map out how you intend to limit your time spent on any one task during the workday

    - Decluttering your workspace may also help you focus on the tasks you need to complete.

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Checklist for Director Self-Management Intervention

These activities DO NOT apply to directors who did not miss more than one scheduled observation as defined in mastery criteria.

Director ID: _____ Date: _____ Start Time: _____ End time: _____

Person completing checklist (circle one): Director / Trainer

Self-Management Activities		
Shared data regarding missed observations		
Explained information about missed observations is important for the study		
Discussed personal barriers to conducting observations/barriers to current plan		
Provided self-management document and directed to relevant strategies		
Provided opportunity to ask questions		
Identified one or more strategies to use/how to refine current strategies & plan		
Made/revised plan for strategy use		
Practiced using tools associated with the plan (e.g., app, timer)		
Provided opportunity to ask questions		
Provided feedback		
	Activities Completed	
Initial	**/**	**%**
Final	**/**	**%**

Note: This checklist will be individualized for each director so that it only includes the Training Activities that apply to them based on their intervention data.

APPENDIX 10: DIRECTOR PRACTICE DATA SHEET

Director Practice Data Sheet

Director ID: ________Date: ________ Start Time: ________ End Time: _________Total Time: ________

Example #	Did the director appropriately provide or refrain from providing behavior specific praise? (score **+** if both lines in the **same box** below are **+**; score **–** if lines in **different boxes** are **+**)		Response (+/-)
	___ teacher engaged in focus behavior ___ provided BSP	___ teacher did not engage in focus behavior. ___ did not provide BSP	
	___ teacher engaged in focus behavior ___ provided BSP	___ teacher did not engage in focus behavior. ___ did not provide BSP	
	___ teacher engaged in focus behavior ___ provided BSP	___ teacher did not engage in focus behavior. ___ did not provide BSP	
	___ teacher engaged in focus behavior ___ provided BSP	___ teacher did not engage in focus behavior. ___ did not provide BSP	
	___ teacher engaged in focus behavior ___ provided BSP	___ teacher did not engage in focus behavior. ___ did not provide BSP	
	___ teacher engaged in focus behavior ___ provided BSP	___ teacher did not engage in focus behavior. ___ did not provide BSP	
	___ teacher engaged in focus behavior ___ provided BSP	___ teacher did not engage in focus behavior. ___ did not provide BSP	

APPENDIX 11: EXAMPLE DIRECTOR DATA COLLECTION SHEET

Did the teacher engage in a focus behavior? Y / N

If yes

a. Briefly note specifics

_____

_____

_____

AND

b. Note how the teacher could incorporate the focus behavior into another classroom routine or activity

_____

_____

_____

If no

a. Briefly note something specific that the teacher did well.

_____

_____

_____

AND

b. Note how the teacher could incorporate the focus behavior into the observed classroom routine or activity.

_____

_____

_____

APPENDIX 12: SECONDARY DATA CODER MATERIALS

Data Coding Handout

- We will be coding using grounded theory which means we will not be using pre-determined coding categories; we will determine them as we review the data.

- The data for the study will come from two sources: open-ended survey questions and field notes.
    - The data collected was focused with the purpose of answering specific questions. For this reason, we may be able to work with relatively large pieces of data, such as sentence-by-sentence or paragraph-by-paragraph.

- We will use consensus for intercoder reliability. This means we will independently develop coding categories

- We will code in two rounds. The rounds will extend as long as needed until we have consensus on the coding categories.
    - Round one
        - First, we will independently familiarize ourselves with the data.
        - Then we will develop large categories for the data.
        - Next, we will meet and come to a consensus regarding these categories.
        - We will revisit the data as needed to reach a consensus.
    - Round two
        - We will independently develop smaller coding categories within the larger ones
        - Next, we will meet and come to a consensus regarding these categories.
        - We will revisit the data as needed to reach a consensus.

- Once we have reached a consensus regarding categories, I develop themes based on the findings.

Reference

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Checklist for Secondary Data Coder Reliability Practice

Start Time: _____ Finish Time: _____ Date: _____

Person completing checklist (circle one): Secondary coder / Trainer

√ each Completed box after the trainer completes a behavior. If the trainer skips a step, before beginning to the next, alert them so they can complete it before moving on.

Activities	**Completed** (√)	
Introduction		
Provided Data Coding Handout		
Talked through Data Coding Handout		
Introductory activities completed	**/2**	
Practice		
	Data set 1	**Data set 2**
Provided opportunity to ask questions		
Provided coding practice qualitative data		
Independently did first round coding: familiarized self with data & noted large, general categories		
Compared categories and came to consensus		
Independently developed smaller categories		
Compared categories and came to consensus		
(Repeated process with second set of practice data)		
Total activities completed	**/14**	**%**

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VITA

Katherine Jordan received their Bachelors' degree in Japanese Language and Literature from the University of Georgia. They received their Masters' degree in Applied Behavior Analysis from the University of Kentucky. They working in Early Head Start and other early childhood classrooms. They have received numerous scholarships from the University of Kentucky.