

Professional Development Including Performance Feedback to Support Home Visitors'
Use of Caregiver Coaching Strategies During Home Visits

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Abstract

Purpose: The purpose of the current study was first to evaluate the effects of a multicomponent professional development intervention that included two brief workshops plus a six week performance feedback package on the home visitors' use of specific caregiver coaching strategies and range routines utilized during home-based intervention. The second purpose was to examine the extent to which the home visitors' use of coaching practices related to changes in parent engagement, parental stress, parent self-efficacy, and child developmental progress. An additional secondary purpose was to examine the extent to which home visitors and caregivers reported the professional development and subsequent caregiver coaching to be: (1) acceptable, (2) feasible, and (3) effective in changing practice.

Method: A multiple-baseline design across three home visitors and caregiver/child dyads was used to evaluate the effects of workshops plus a performance feedback package on home visitors' use of caregiver coaching strategies and range of routines. The functional relation between the intervention and the dependent variable of the home visitor's use of caregiver coaching strategies was analyzed based on visual inspection using guidelines established by Kratochwill, Hitchcock, Horner, Levin, Odom, Rindskopf, and Shadish, (2010).

Results: Findings provide support for the use of individualized performance feedback targeting home visitors' use of caregiver coaching strategies as well as support for the use of operationally defined caregiver coaching strategies. All participating home visitors and primary caregivers reported the professional development and subsequent coaching to be acceptable, feasible, and effective.

Conclusions: The results of this study add to emerging data on the use of performance feedback to support teacher implementation of caregiver coaching strategies in the context of early intervention home visits.

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CHAPTER 1: INTRODUCTION

The gap between research and practice in early childhood intervention is wide (Dunst & Trivette, 2009). Kazdin (2008) proposed that researchers and practitioners should maintain a common and clear focus on what needs to be done to support practitioners and caregivers in order for them to feel more competent and confident using practices known to be effective. In Part C, Early Intervention for infants and toddlers with disabilities and their families (Individuals with Disabilities Education Improvement Act [IDEA], 2004), researchers and practitioners are beginning to forge agreement on effective practices to address identified child and family outcomes as well as approaches that home visitors can use to support primary caregivers' to develop their confidence and competence in using those practices themselves. Recommended practices for infants and toddlers with disabilities include incorporating intervention within natural activities through collaboration with caregivers (IDEA, 2004; National Research Council [NRC], 2001; Division for Early Childhood [DEC] Recommended Practices, 2014). Examples of evidence-based practices promoted by the Division for Early Childhood of the Council for Exceptional Children (DEC) include participatory opportunities and experiences that afford families the ability to strengthen existing parenting knowledge and skills and promote the development of new parenting abilities that enhance parenting self-efficacy, as well as practices such as coaching and consultation with primary caregivers to facilitate positive adult-child interactions and instruction intentionally designed to promote child learning and development (Division for Early Childhood, 2014). A family-centered approach is required for early intervention programs funded through Part C (IDEA, 2004) and consistent with practice recommendations published by the DEC

(Division for Early Childhood, 2014) and the National Association for the Education of Young Children (NAEYC; Copple & Bredekamp, 2009). A family-centered approach to Part C's home visiting includes caregiver coaching and collaboration, and strengthens the partnerships with caregivers (DEC, 2014). This approach re-conceptualizes the role of an early intervention home visitor as a collaborative partner, working alongside caregivers, versus the purveyor of child-focused intervention (Hanft, Rush, & Shelden, 2004). Several investigators have reported that early intervention practices ought to promote the active engagement of caregivers, with their children, in meaningful contexts during intervention visits (Dunst, Trivette, & Hamby, 2007; Ridgley & Snyder, 2010). Additionally, these practices should focus on including caregivers as collaborative decision makers in how the intervention is chosen and implemented (Kashinath, Woods, & Goldstein, 2006; Wetherby & Woods, 2006; Woods, Kashinath, & Goldstein, 2004).

Researchers have been providing the evidence base to support home visitors moving toward these practices for providing special education services for infants, toddlers, and their families since the early 1990s. Additionally, legislation and policy has increased the impetus for collaborative relationships with caregivers (IDEA, 2004). The provision of services for infants and toddlers within natural environments, as mandated by Part C of IDEA (2004), not only intended to change the location of services to being away from clinics and centers to joining caregivers in their homes and communities, but also intended to change the context for delivery of services and support. This intent challenged early intervention home visitors to move from child-focused intervention and planned educational and therapy activities, to supporting family members and other caregivers to embed interventions within their typical daily routines and activities within

their home and community. Central to the recommended practices and policies in early intervention is the recognition that the parents(s) and other caregiver(s), rather than the early intervention home visitor, are the primary agents of change.

Statement of Purpose

Despite existing Part C policies requiring the use of family-centered approaches and recommended practices such as participatory opportunities that strengthen parenting skills and practices such as coaching and consultation, research has consistently demonstrated that limited time in Part C home visit sessions is spent enhancing the interactions between the caregiver-child dyad (Campbell & Sawyer, 2007; Hebbeler et al., 2007; Marturana & Woods, 2012). Several studies found that the typical practices of early intervention home visitors do not match those recommendations (McBride & Peterson, 1997; Wilcox & Lamorey, 2004). For example, several studies including Head Start and Early Intervention home visitors found that the caregiver's role during home visits was to primarily watch, and not interact with the child or interventionist. Caregivers interacted with children less than 20% of the visit time and interventionists spent over half of their time directing the child versus coaching and supporting the caregiver to intervene with the child (Wilcox & Lamorey, 2004; Wilcox, Campbell, & Lamorey, 2006). Sawyer and Campbell (2012) surveyed 1,525 early interventionists across the county and they reported that they spent more time teaching children than teaching or coaching caregivers. There is a paucity of data supporting approaches to caregiver coaching that include evidence of resulting impact on child outcomes in the early intervention literature. Instead, child-focused approaches comprise the bulk of the

available literature (Campbell & Sawyer, 2009; Peterson, Luze, Eshbaugh, Jeon, & Kantz, 2007).

Emerging evidence supports using family-guided practices that incorporate caregiver coaching strategies to support caregivers in feeling more competent and confident in embedding intervention into their daily routines and activities (Brown, 2012; Manturana & Woods, 2012; Woods, 2005; Woods & Brown, 2011). Two dimensions of caregiver capacity-building practices, relational and participatory practices associated with caregiver capacity-building, have been identified through a series of reviews and meta-analyses (Dunst & Trivette, 2009; Trivette, Dunst, & Hamby, 2010; Trivette, Dunst, O'Herin, & Hamby, 2009). Relational practices include behaviors typically associated with effective help-giving (compassion, active listening, etc.) and positive staff attributions about caregiver capabilities. Participatory practices include caregiver choice and decision-making, and meaningfully involving the caregivers (Dunst & Trivette, 2009; Trivette, et al., 2010; Trivette, Dunst, Hamby, & O'Herin, 2009). Findings in the majority of research syntheses indicate capacity-building help-giving practices are related to a host of positive parent, family, parent-child, and child outcomes. The results showed that help-giving practices had both direct and indirect effects on parenting confidence, competence, and enjoyment. The strength of the relationship was the strongest for the indirect effects mediated by self-efficacy beliefs. Additionally, participatory (compared to relational) help-giving practices had stronger direct and indirect effects on parenting (Dunst & Trivette, 2009). However, we know very little about what needs to be done to support early intervention Part C home visitors in shifting their practice and developing the skills they need to use caregiver capacity-building and family-guided approaches. If

early intervention programs are to move toward more consistent and successful large scale implementation of evidence-based and recommended practices, then early intervention home visitors must be provided with systematic supports (Cook, Tankersley, Cook, & Landrum, 2008). Therefore, it is important to examine the effectiveness of feasible approaches to professional development that will focus on building early intervention home visitors' ability to support and empower caregivers to embed intervention, thus enabling home visitors to respond to recommended practices and legislative requirements.

The purpose of the current study was first to evaluate the effects of a multicomponent professional development intervention that included two brief workshops plus a six week performance feedback package consisting of quantitative graphic feedback and qualitative written feedback on Part C early intervention home visitors' use of caregiver coaching strategies associated with a Family Guided Routines-Based Intervention (FGRBI) framework (Woods, 2005) and variety of home routines utilized during home-based intervention. The second purpose was to examine the extent to which the home visitors' use of coaching practices relate to changes in parent engagement, parental stress, parent self-efficacy, and child developmental progress. In addition to the primary and secondary purposes of this study, information was also sought that would be helpful to the future design of professional development interventions. To that end, home visitors reported on the extent to which the professional development was: (a) acceptable, (b) feasible, and (a) effective in changing caregiver practices. Participating caregivers also reported on the extent to which the home visitors' use of coaching strategies was (a) acceptable, (b) feasible, and (c) effective in changing practices. Due to

the fact that few studies have specifically examined the use of performance feedback for increasing practitioner implementation of evidence-based practices in home-based settings, this project fills a critical gap in the Part C implementation literature.

Rationale for Current Study

Several experimental studies and systematic reviews have shown support for caregiver implemented interventions for infants and toddlers receiving Part C services (Dawson et al., 2010; Kashinath et al., 2006; Roberts & Kaiser, 2011; Wetherby & Woods, 2006; Woods & Brown, 2011). Woods and Brown (2011) reviewed a number of studies focused on parent implementation. In all cases, there was evidence supporting parent-implemented intervention in natural routines for social communication outcomes in home contexts for infants and toddlers with Autism Spectrum Disorder (Dawson et al., 2010; Kashinath et al., 2006; Wetherby & Woods, 2006). For example, to support the use of interactional exchanges, communication, and engagement in natural activities, Dawson et al. (2010) studied the effect of parents implementing the Early Start Denver Model in a randomized control trial. Parents were taught behavioral and developmental strategies to support their child's development in everyday routines and the children demonstrated increased scores after the intervention on the Mullen Scales of Early Learning. Similarly, using a multiple baseline design, Kashinath et al. (2006) examined the effects of systematically coaching caregivers to embed developmental and behavioral strategies in a variety of routines. All five parents demonstrated proficient use of the teaching strategies and generalized their use across routines.

A meta-analysis was conducted by Roberts and Kaiser (2011) to evaluate the effects of parent-implemented language interventions on the language skills of children

between 18 months and 60 months of age. The results indicated that parent-implemented language interventions resulted in a significant, positive impact on receptive and expressive language skills of the children with and without intellectual disabilities. The most common language construct measured as an outcome of intervention was expressive vocabulary (n=15). Expressive morphosyntax was measured in 10 studies, and general receptive and expressive language skills were each measured in nine studies. Effect sizes for child measures ranged from -0.15 to 0.82 depending on the outcome measure and comparison group. However, the majority of these studies did not match IDEA Part C service delivery guidelines in that they were conducted in a clinical or therapy setting; the interactions were limited to play activities or used specific toys or materials, and/or included preschool children (Girolametto, Leitzman, & Clements-Baartman, 1998; Kashinath, et al., 2006; Roberts & Kaiser, 2012). Relational and participatory helping practices, acknowledging parents' strengths and involving them as collaborators in the process of achieving desired outcomes, are all related to a host of positive parent, family, parent-child, and child outcomes.

Based on the adult learning literature (Donovan, Bransford, & Pellegrin, 1999; Dunst, Trivette, & Hamby, 2007; Knowles, Holton, & Swanson, 2012), models for how to coach caregivers to implement interventions have been proposed in the field of early intervention. For example, Woods et al. (2011) described a teaching and learning cycle that progresses from (a) observation, problem solving, and reflection to (b) direct teaching and demonstration to (c) practice and feedback opportunities and then completing the cycle with additional (d) observation, problem solving, and reflection. Friedman, Woods, and Salisbury (2012) subsequently proposed definitions of

interrelated, yet differentiated, coaching strategies used in early intervention practice. This coaching process and associated differentiated caregiver coaching strategies is referred to as family-guided routines-based intervention (FGRBI) and will be describe in further detail in chapters two and three.

We know from the literature on adult learning that adults learn best when they are actively involved, when they can relate new information to past experience, and when the learning has a direct application to their daily responsibilities (Knowles, 1980). A recent meta-analysis by Dunst and Trivette (2009) further substantiated these adult learning principles, finding that adult learning approaches that included active learner participation produced larger effect sizes than those that did not. Significant effect sizes were associated with the application of new knowledge or skills; an opportunity to practice is critical to learning a new skill. Furthermore, engaging in this learning through reflection is also a key aspect of adult learning. For example, in this meta-analysis (Dunst & Trivette, 2009), the largest effect sizes were related to the use of evaluation strategies such as self-assessment and encouraging the caregiver to thinking about the impact of their new knowledge and skills. Coaching has been used in many fields and settings to support and enhance the capacity of the person being coached (Knight, 2007). In Early Intervention, coaching is based on a triadic model of the early interventionist supporting the caregiver-child relationship (Campbell & Sawyer, 2009; Rush & Sheldon, 2011; Woods, Wilcox, Friedman, & Murch, 2011) in a way that embeds learning opportunities within naturally occurring interactions and routines.

According to a synthesis of research on staff development (Showers, Joyce, & Bennett, 1987) traditional ‘sit and get’ workshops are insufficient to bring about

sustained, substantive change in teaching practices. On-going professional development, feedback on implementation, and opportunities to collaborate and problem solve with other colleagues give teachers support for learning and integrating new practices (Wanzek & Vaughn, 2006). Similarly, Hemmeter, Snyder, Kinder, and Artman (2011) suggested that to ensure prevention-promotion-intervention frameworks are implemented in early childhood settings, programs must identify and provide ongoing, individualized support and feedback that has been demonstrated to be effective in supporting the teachers' implementation of evidence-based practices. There is a growing body of literature on the effectiveness of performance feedback for supporting teachers to use new practices.

Performance Feedback (PF), a means of initiating and sustaining adult behavior change, has been researched extensively in employment, institutional, and education settings (Alvero, Bucklinm, & Austin, 2001; Balcazar, Hopkins, & Suarez, 1985; Mortenson & Witt, 1998; Noell, Witt, Gilbertson, Ranier, & Freeland, 1997; Noell et al., 2000; Noell, et al., 2005; Witt, Noell, LaFleur & Mortenson, 1997). In education, performance feedback is typically a reinforcement-based treatment in which a consultant delivers a specific feedback package, following a professional development event. The format of performance feedback may take a variety of forms (verbal, e-mail, graphic, checklists, guided self-reflections), and can be individualized and adapted for each unique learner and professional development context (Barton, Kinder, Casey, & Artman, 2011). Direct observations focused on the implementation of the targeted practice, and subsequent data from the observations, are used to provide teachers with clear information about performance standards and the observed implementation of identified

standards (Fox, Hemmeter, Snyder, Binder, & Clarke, 2011). Positive information is shared before negative information, and the feedback should be specific, objective, consistent, and timely (Noell et al., 1997, 2000, 2005).

A number of studies have used performance feedback as a professional development intervention to support teachers' use of practices related to supporting children's engagement, language, or pre-academic skills (e.g., Casey & McWilliam, 2008; Cotnoir-Bichelman, Thompson, McKerchar, & Haremza, 2006; Hsieh, Hemmeter, McCollum, & Ostrosky, 2009; Kaiser, Ostrosky, & Alpert, 1993). In addition, recent studies have examined the use of performance feedback to support teachers' use of practices for promoting children's social, emotional, and behavioral outcomes (Barton & Wolery, 2007; Fullerton et al., 2009; Hemmeter, Snyder, Kinder et al., 2011; Stormont, Covington, Smith, & Lewis, 2007), which will be discussed further in the literature review.

Performance feedback is likely to be a key component of professional development interventions intended to support teachers' implementation of empirically supported practices. Nevertheless, research is limited with respect to demonstrating whether professional development with a performance feedback component is effective for supporting teachers to implement sets of identified practices especially within home-based contexts such as with the provision of Part C services. To date, few published studies have examined specifically the use of performance feedback with early intervention home visitors. Manturana and Woods (2012) evaluated the effects of a Distance Mentoring Model (DMM), including performance-based feedback and technology support, on expanding the use of recommended home visiting practices by

early interventionists. To measure change in practice, Manturana and Woods focused on early intervention providers' use of measurable caregiver coaching strategies and routine contexts that would be visible on video recordings and could occur during home visits. Video recordings were viewed by a mentor, the provider of performance feedback, and observations were used as the basis for providing feedback. Coding procedures followed those outlined in the Family-Guided Routines-Based Intervention Coding System Training and Procedural Manual (Combined FGRBI CFDC Coding Guidelines 10-2010 (Appendix A)). Video recorded early intervention sessions were coded at 30-second intervals. An individual code was assigned to each interval to describe the caregiver coaching strategy used and family routine used as the context for intervention. Twelve operationally defined home visitor strategies were coded. Examples of defined home visitor strategies include: direct teaching, demonstration, caregiver practice with feedback, joint interaction, guided practice with feedback, observation and data collection, and problem solving. Fifteen family routines were operationally defined and coded (Appendix A). Examples of defined routines include play with objects, physical play, pretend play, play with others, and bath/hygiene related. Participating home visitors learned to use specific caregiver coaching strategies and to embed intervention in everyday activities in FGRBI workshops, and participated in ongoing DMM activities (i.e., mentoring, performance-based feedback, e-mail summary, and newsletters) to deepen their knowledge and skills. Dependent measures were the percentage of 30-second intervals using a range of caregiver coaching strategies, and the percentage of 30-second intervals using a range of family routines as the context of intervention. Data from

18 early interventionists indicated that participation in the DMM approach was associated with an increased use of various caregiver coaching strategies and routine contexts.

The current study utilized the same FGRBI Coding System as Manturana and Woods (2012) and builds on this work in a number of ways. This study examines the use of technology in professional development specifically the delivery of qualitative and quantitative performance feedback via e-mail versus in face-to-face coaching sessions. It investigates the feasibility and effectiveness of a brief six week performance feedback package following a brief workshop. Finally, it extends Mantuana and Woods (2012) by examining the extent to which the use of caregiver coaching strategies during home visits relate to changes in parent engagement, parental stress, parent self-efficacy, and child developmental progress.

Research Questions

Primary Research Questions:

1. When conducting home visits does the percentage of time the early intervention home visitors spend using specific caregiver coaching strategies change in relation to workshops provided, and is there an additional change when a performance feedback package is added?
2. Does the number of family routines that form the context for intervention during home visits increase with workshops and with an added performance feedback package?

Secondary Research Questions:

3. To what extent do participating early intervention home visitors report the use of specific professional development approaches to be: (a) acceptable, (b) feasible,

and (c) effective in changing practice? And, to what extent do caregivers report the use of home visitor coaching strategies to be: (a) acceptable, (b) feasible, and (c) effective in changing practice?

4. Does early intervention home visitor use of specific caregiver coaching strategies during home visits relate to increases in parent engagement, parental stress, parent self-efficacy, and child developmental progress?

Terminology

For the purpose of clarifying the terminology used in this study, definitions of the terms are presented below.

Caregiver—The term caregiver is used to describe the primary care provider for the child who is participating in the home visit. The primary caregiver participants in this study include a grandmother, a father, and a mother. In some cases, additional adults such as a girlfriend or the parent of a primary caregiver were present during the home visits and were also referred to as caregivers.

Home Visitor—The term home visitor is used to describe the Part C provider who is conducting the home visits. In all cases, the home visitor participants in this study were Early Childhood Special Education (ECSE) licensed teachers providing home-based early intervention.

Family Guided Routines-Based Intervention (FGRBI)—Family-Guided Routines-Based Intervention (FGRBI) is a model based on the adult learning literature for how to coach caregivers to implement intervention. Woods et al. (2011) describe it as a teaching and learning cycle that progresses from (a) observation, problem solving, and reflection to (b) direct teaching and demonstration to (c) practice and feedback

opportunities and then completing the cycle with additional (a) observation, problem solving, and reflection. Friedman, Woods, and Salisbury (2012) subsequently proposed definitions of interrelated, yet differentiated coaching strategies used in early intervention practice. This coaching process and associated differentiated caregiver coaching strategies is referred to as Family-Guided Routines-Based intervention (FGRBI).

Part C Services—Early intervention services for infants and toddlers with disabilities (birth through three years of age) have been a part of IDEA since 1986. This section of the law is commonly known as Part C of IDEA. For the purpose of this study, the term Part C refers to the provision of home-based services for eligible infants, toddlers, and their families.

Organization of the Remainder of the Paper

Chapter 2 provides a review of the literature on parent-mediated intervention, FGRBI, and professional development including the use of performance feedback. Chapter 3 explains participant demographics, procedures, and methods utilized in this study. Chapter 4 describes the results in relation to the research questions. Finally, Chapter 5 provides a summary of the important findings including a discussion of their relevance to the literature, as well as limitations and implications for future research.

CHAPTER 2: LITERATURE REVIEW

In the first section of this chapter, an examination of the conceptual and empirical literature supporting caregiver-implemented intervention in Part C early intervention services will be discussed. Subsequently, research examining caregiver coaching and Family-Guided Routines-Based Intervention will be described. Next, research examining professional development in using caregiver coaching strategies, with a specific focus on performance feedback, will be reviewed. Finally, limitations of the current empirical literature and future directions for research will be discussed.

Caregiver-Implemented Intervention

Early intervention services are designed to address the developmental needs of eligible infants and toddlers from birth through three years old and their families. Early intervention was authorized by Part C of the Individuals with Disabilities Education Act (IDEA) in 1986, eleven years after Congress passed Public Law 94-142. In the 1970s, attention was directed at parent training and involvement (Field, Widmayer, Stringer, & Ignatoff, 1980; Forgatch & Toobert, 1979). For example, home-based parent training intervention focused on education on developmental milestones and interaction coaching for the parents of preterm infants (Field et al., 1980). In developing parent training curricula, typically professionals determined the content and focus of the parent training based solely on what was understood at the time about developmental needs of preterm infants for example versus also engaging the caregiver in making decisions about training content based on background knowledge, strengths, preferences, and family priorities (McWilliam, McMillen, Sloper, & McMillen, 1997). Dunst, Trivette, & Deal (1994) first applied the term ‘empowerment’ to early intervention, emphasizing the importance of

caregiver decision making in the early intervention process thus setting the stage for what is now referred to as family-centered practices. Over the past 10 years, early intervention has maintained a focus on the importance of family-centered practices which is defined as practices that treat families with dignity and respect; are individualized, flexible, and responsive to each family's unique circumstances; provide family members complete and unbiased information to make informed decisions; and involve family members in acting on choices to strengthen child, parent, and family functioning (Division for Early Childhood Recommended Practices, 2014). The field has made continuous strides toward identifying corresponding practices. The current concept of early intervention emphasizes a family's decision-making authority which has since been built into legislation (the Individuals with Disabilities Education Improvement Act of 2004, PL 108-446) and definitions of recommended practices (Smith et al., 2002). Most recently, the Division for Early Childhood Recommended Practices (2014) called for family capacity-building practices which is defined as practices that include the participatory opportunities and experiences afforded to families to strengthen existing parenting knowledge and skills and promote the development of new parenting abilities that enhance parenting self-efficacy beliefs and practices (Division for Early Childhood Recommended Practices in Early Intervention / Early Childhood Special Education, 2014). The Recommended Practices provide specific guidance in recommending that early interventionists use coaching or consultation strategies with primary caregivers to facilitate positive adult-child interactions and instruction intentionally designed to promote child learning and development. This recommendation, re-conceptualizing the role of an EI home visitor as a collaborative partner, working alongside caregivers, versus

the purveyor of child-focused intervention, reflects a shift that the field has been making over the course of the past 10 years in response to empirical support for caregiver implemented intervention for infants and toddlers (Hanft, Rush, & Shelden, 2004).

Research has established the effectiveness of parent-implemented interventions for children with a variety of developmental disabilities (e.g., Girolametto, 1988; Kaiser, Hancock, & Nietfeld, 2000; Koegel, Bimbela, & Schreibman, 1996; Smith et al., 2000). More recently, experimental studies and systematic reviews have focused on establishing support for caregiver implemented intervention for young children with Autism with a focus on joint attention and other social communication (Dawson et al., 2010; Kashinath et al., 2006; Wetherby & Woods, 2006). Using a multiple baseline design, Kashinath, Woods, and Goldstein (2006) examined the effects of systematically coaching parents to use intervention strategies in parent preferred home routines. The primary dependent variable was the use of specific teaching strategies by parents, and the secondary variable was the frequency of child communication in routines. Communication objectives for each child varied and ranged from use of eye contact or distal gestures, to vocalizations, to use of single words. Five parents learned to use time delay and environmental arrangement strategies in target routines to synchronize with their child's attentional focus and address individualized communication objectives. All five parents demonstrated proficient use of two teaching strategies and generalized their use across routines. Furthermore, the intervention had positive effects on child communication outcomes. Similarly, Wetherby and Woods (2006) examined parent implemented intervention within parent identified home routines; however, this was a much larger scale preliminary investigation of the effects of the Early Social Interaction Project (ESI).

Seventeen children and their families participated in ESI and formed the ESI group. Eighteen children were in the contract group. Results of the quasi-experimental contrast group study indicated parent implemented intervention resulted in significant improvement over the baseline performance in child social communication outcomes, with large effect sizes on 11 of the 13 social communication outcomes. The contrast group's results were comparable on communicative means and play, but as a whole demonstrated significantly poorer performance on all other social communication measures (Wetherby & Woods, 2006). More recently, in an even larger randomized control trial, 49 children between the ages of 18 and 30 months who were diagnosed with ASD were randomly assigned to 1 of 2 groups: (1) Early Start Denver Model intervention (ESDM); or (2) referral to community provider for intervention commonly available in the community. The ESDM is based on developmental and applied behavioral analytic principles and delivered by trained therapists and parents for 2 years (Dawson et al., 2010). The ESDM group was provided with intervention by trained therapists for 2-hour sessions, twice per day, 5 days per week for 2 years. In addition, parents in the ESDM group identified objectives from the curriculum that they viewed as a high priority for their child and were taught to use the basic ESDM strategies in everyday activities such as feeding, bath time, and play. After 2 years of intervention, children participating in ESDM showed significant improvements in IQ, adaptive behavior, and diagnostic status compared with children who received community interventions (Dawson et al., 2010). This study was the first to demonstrate the efficacy of an intensive intervention designed for toddlers with ASD and added further support for parent-implemented intervention.

Roberts and Kaiser (2011) conducted a meta-analysis of 18 studies to evaluate the effects of parent-implemented language interventions on the language skills of children between 18 and 60 months of age with primary and secondary language impairments. Effect sizes for each study were calculated for each of seven language outcome variables. Outcomes were compared for children with and without intellectual disabilities and for parent report and direct observational language measures. The results indicated that parent-implemented language interventions had a significant, positive impact on receptive and expressive language skills of children with language impairments with and without intellectual disabilities. Do parent-implemented interventions positively affect language outcomes of young children with language impairments? This question was answered by examining the effect sizes for each of seven language constructs when parent-implemented intervention was compared with a control group. Furthermore, for the majority of language constructs, there were no significant differences between children with and without intellectual disabilities. However, authors note several weaknesses in the body of studies evaluated; the majority of studies (72%) did not measure treatment fidelity, and half of the studies (50%) did not adequately describe the parent training procedures. Little information was provided about the strategies used to teach parents, how much parent training occurred, or the ‘dose’ on parent-implemented intervention that was actually delivered. Without specific descriptions of the parent training intervention and how it was actually implemented, it is difficult to determine what specific aspects of parent training resulted in changes in child language outcomes. Roberts and Kaiser (2011) called for future research to include detailed descriptions and direct measures of the parent training procedures.

Consistent with the call from Roberts and Kaiser (2011) for enhanced attention to and detail about parent training procedures, Woods and Brown (2011) identified four global strategies to support family capacity-building based on their review of existing research: (a) addressing the families' informational needs, (b) using natural environments as the intervention context, (c) engaging parents to be active participants in the intervention process, and (d) supporting the caregivers' reflection and self-evaluation. However, little attention has been given to explicitly defining the different types of collaboration and coaching used to facilitate caregiver implementation. Further, even with some explicit definitions, little research has been done to examine the efficacy of any given strategy when supporting caregivers to implement interventions that are embedded within their own routines.

Coaching Caregivers in Part C Early Intervention

Supporting caregivers to implement interventions within Part C service delivery is inherently about encouraging caregivers to continue to use strategies that are already working to support their child's development, and to teach them to implement new strategies into existing routines and activities that will further address family-identified priority child learning outcomes. Researchers interested in understanding adult learning suggest that adults learn best when they are actively involved, when they can relate new information to past experience, and when the learning has a direct application to their daily responsibilities (Knowles, 1980). Coaching within settings in which new learning is to be applied is one approach to supporting adult learning. Coaching has been used in many fields and settings to support and enhance the capacity of the person being coached (Knight, 2009). Early intervention coaching is based on a triadic model of the early

intervention provider (e.g., speech-language pathologist, special educator) supporting the caregiver-child relationship (Campbell & Sawyer, 2009; Rush, & Sheldon, 2011; Woods, Wilcox, Friedman, & Murch, 2011). Caregiver coaching is a teaching and learning process designed to build caregiver capacity, competence, and confidence to independently implement strategies and supports within naturally occurring routines, between visits, when the interventionist is not present (Hughes & Peterson, 2008; Lave & Wenger, 1991; Woods et al., 2011). Interventionists can actively engage caregivers in learning through the use of triadic consultation strategies such as guided practice, demonstrations, direct teaching, and through providing caregivers specific and meaningful feedback to enhance their competence (Hanft et al., 2004; Woods & Goldstein, 2003; Woods, Kashinath, & Goldstein, 2004, Ridgley & Snyder, 2010). However, there is a dearth of empirically supported approaches to caregiver-guided or coaching exemplars in the early intervention literature demonstrating the need for expanding research in this area (Campbell & Sawyer, 2009; Peterson et al., 2007; Roberts & Kaiser, 2011; Sawyer & Campbell, 2012). It wasn't until very recently, that researchers began to examine more closely what specific coaching strategies support caregivers in building their capacity to embed intervention into daily routines, and what are early interventionists' perceptions and use of caregiver coaching practices.

Salisbury, Cambray-Engstrom, and Woods (2010) examined the implementation of coaching strategies in a case study designed specifically to investigate agreement between reported and actual use of the following operationalized coaching strategies: conversation and information sharing, observation and data collection, problem solving and planning, joint interaction, demonstration, caregiver practice with feedback, guided

practice with feedback, and direct teaching. Videotape and home visit note data were collected over a six month period and analyzed using structured protocols. Both descriptive and correlation analyses indicated that providers used a range of coaching strategies and used coaching strategies to a greater extent than had been reported previously in literature. Providers demonstrated practices that were primarily collaborative and family-centered, however, an additional and important finding was that agreement between actual and reported use of coaching strategies was variable. Salisbury et al. (2010) suggest that this finding of a lack of agreement acknowledges what others have noted, that the shift from child-focused intervention to caregiver coaching is difficult for providers and likely requires more and/or different types of support for providers over prolonged periods of time. Campbell and Sawyer's survey research was another attempt to understand interventionists' use of strategies to support caregivers to implement interventions (2012).

A national sample of 1,525 multidisciplinary interventionists completed online questionnaire gathering information about interventionists' preferences for the use of caregiver teaching strategies, factors influencing decisions about teaching strategy use, as well as comfort in, frequency of, and barriers to teaching caregivers. Similar to Salisbury et al. (2010), use of a range of teaching strategies across contexts was reported. Related to the selection of caregiver coaching strategies, one theme that emerged was selection based on interventionist preference, caregiver preference, and the preference for the use of a combination of strategies. In addition, interventionists reported undifferentiated use of teaching strategies, providing little to no rationale for the teaching strategy selection

other than the previous success of the strategy or their comfort with using it (Campbell & Sawyer, 2012).

Researchers have begun to paint a picture of the current state of early intervention specifically as it relates to interventionists' perceptions of and their use of caregiver coaching practices. Subsequently, models of approaches to coaching caregivers that are rooted in adult learning principles have been proposed. For example, Woods et al. (2011) described a teaching and learning cycle that progresses from: (a) observation, problem solving, and reflection to; (b) direct teaching and demonstration to; (c) practice and feedback opportunities that bring the learner full circle back to where they started with observation, problem solving, and reflection. Friedman, Woods, and Salisbury (2012) subsequently proposed definitions of interrelated, yet differentiated coaching behaviors. Ten specific coaching behaviors were individually defined within a flexible three phase process for caregiver coaching: (a) setting the stage, (b) application opportunities and feedback, and (c) mastery. Again, derived from the literature on adult learning, examples of these coaching strategies include direct teaching, demonstration, joint interaction, guided practice with feedback, and caregiver practice with feedback.

Within the identified flexible process for caregiver coaching, early interventionists who have mastered the use of these coaching strategies would be able to flexibly adapt to the context and learning needs of the family, and choose from a range of appropriate coaching strategies (Friedman, Woods, & Salisbury, 2012). For example, during setting the stage, an interventionist might engage a caregiver in conversation and information sharing around routines that have been the focus of between-visit interventions. The interventionist may observe the caregiver/child dyad within the

routines, demonstrate an intervention, or use direct teaching to increase caregiver knowledge by sharing information about specific strategies or child development in relation to intervention strategies. The Interventionist may choose to teach verbally, with handouts, visuals, or by watching videotaped illustrations of specific intervention procedures. When using demonstration as a coaching strategy, the interventionist will take a lead in demonstrating an intervention strategy with the child and narrate what she is doing. During the application opportunities and feedback phase, the interventionist focuses on the caregiver/child dyad. The interventionist may support the caregiver to embed an intervention by using joint interaction. During joint interaction, the interventionist and caregiver work as partners with the child. They may take turns, and/or work collaboratively with the child. When a caregiver has a basic understanding of how to embed a strategy the interventionist may choose to use guided practice, or caregiver practice with specific feedback. Guided practice with feedback involves the caregiver taking a lead role in interacting with the child while the interventionist supports the interaction with implementation suggestions or guidance. Caregiver practice with feedback is a strategy that is used when the caregiver is demonstrating the ability to independently embed intervention. The interventionist's role then shifts from that of a guide to that of reinforcer and encourager. At the mastery phase of the coaching process, the interventionist facilitates collaborative problem solving and reflection. This coaching process and associated differentiated caregiver coaching strategies is referred to as Family-Guided Routines-Based Intervention (FGRBI). Several studies have examined early interventionists' use of FGRBI coaching strategies.

Family Guided Routines-Based Intervention (FGRBI) in Part C Early Intervention

The Chicago Early Intervention Project (CEIP), a federally funded model demonstration project, adapted and evaluated the effectiveness of the FGRBI approach developed at Florida State University (Woods & Goldstein, 2004; Woods, Kashinath, & Goldstein, 2004). Objectives of CEIP included a focus on teaching early intervention staff principles, process, and procedures for conducting routines-based intervention, adapting FGRBI to the local context and population, developing administrative and implementation supports, collecting data on provider and caregiver use of family-centered practices in a convenience sample, and evaluating the efficacy of the approach with a diverse sample using multiple methods (U.S. Department of Education, 2010). Implementation of the approach was evaluated in years three and four (2006-2008) with an overlapping sample of 68 families receiving home-based intervention. Analysis of data gathered from interviews, surveys, and coding of videotaped home visit sessions produced the follow findings: (1) providers learned, adopted, and implemented FGRBI coaching strategies for enhancing the caregiver-child relationship and interactions, (2) children in cohorts one and two made significant developmental gains over a two year period (however because these data are based on a sub-set of the total sample and there were variations in the months between pre/post-test, these data have limitations and should be interpreted with caution), (3) based upon responses to the Quality of Services Questionnaire and preliminary analyses of videotape engagement patterns, caregiver participants learned specific growth-promoting strategies to embed within typical routines, reported a generally high level of satisfaction with the CEIP approach, and felt that their priorities and needs had been addressed (2011 CEIP Executive Summary).

As part of the CEIP project, Cambray-Engstrom and Salisbury (2010) conducted an exploratory case study to examine home visitors' use of collaborative intervention strategies in relation to Latina mothers (n=10) participation during home visits. All home visitors received training on key principles and practices of FGRBI service delivery which emphasizes collaborative consultation practices, embedded intervention (Woods, 2005) and the use of culturally responsive intervention practices (Bruns & Corso, 2001; Lynch & Hanson, 1998). Following training, videotapes (n=40) of home visits were clustered into more and less active groups and analyzed using the Routine and Instructional Strategy Coding Protocol-IL (Salisbury, Cambray-Engstrom, Woods, & Friedman, 2008), a structured, interval-based coding protocol that contained operationally defined coaching, teaching, and support behaviors. Home visitors were not provided additional coaching or support aside from the initial training. Using correlation analysis, the authors examined whether and how the use of strategies and routines was related to the participation within sessions where mothers participated more or less activity. As hypothesized, use of child-focused strategy, whereby the provider works directly with the child and the caregiver is not engaged or not present, was strongly and significantly associated with lower levels of participation in less active sessions. Joint interaction and caregiver participation were significantly correlated at equal strengths in both the more active and less active groups. Use of caregiver practice with feedback strategy was also strongly and significantly related to caregiver participation within less active sessions (Cambray-Engstrom & Salisbury, 2010). Over the course of the past 10 years, empirical support for caregiver implemented intervention within the context of an FGRBI service delivery model has been growing steadily (Brown, 2012; Cambray-Engstrom &

Salisbury, 2010, Coston, 2008; Woods & Goldstein, 2004; Woods, Kashinath, & Goldstein, 2004).

Coston (2008) implemented a multiple-baseline design across instructional strategies to examine the effects of an FGRBI program on teaching parents of children adopted internationally to embed communication intervention strategies within existing family routines. The three children included in the study were all females adopted between the ages of 6 and 14 months of age from Asian countries (China and Korean). Each child had two or less English words at the initiation of the study. The independent variable was the use of FGRBI to teach parents how to embed instructional strategies within preferred routines. The primary dependent variable was the frequency with which parents used instructional strategies. Secondary effects were measured by the attainment of child communication goals. The first teaching strategy taught to families was ‘establishing routines’ which included learning how to establish clear beginning/end, a logical sequence, repetition and predictability, etc. This strategy was taught to all three families with the intent to set the stage for interaction and communication. Subsequently, two additional empirically supported teaching strategies were selected by the interventionist to encourage the desired change in the parent and child behavior. Throughout the course of intervention, each parent was introduced to a total of three teaching strategies in a staggered manner. In addition to establishing routines, communication intervention strategies included environmental arrangement, contingent imitation, and contextual support. Observations of three-minute videotaped routines revealed modest increases in all three parents’ use of environmental arrangement strategies. Two of the three parents also learned to use contingent imitation as a strategy.

Improvement in the child's expressive language skills, as measured by progress on goals, could not be specifically attributed to the parent's participation in FGRBI. Child maturation and exposure to the English language over time confounded the results. All three parent participants agreed that the FGRBI intervention model was congruent with the unique needs of families who adopt internationally (Coston, 2008). Similarly, Brown (2012) used a series of multiple-baseline single-case designs across nine parent-child dyads to evaluate the effects of an FGRBI program aimed at increasing parental use of responsive communication strategies with their toddlers. All nine caregivers demonstrated increases in responsive and modeling strategies and maintained averages above baseline. Yule's Q values were used to examine the sequential relationship between coaching strategies and the parents' use of intervention strategies providing a view into which coaching strategies were associated with parent active implementation. Parents were most likely to use specific intervention strategies contingent to interventionists engaging the parent in coaching strategies that are characterized by the parents' active role. Strategies associated with the likelihood of the parents' using intervention at a higher rate than during other times in the intervention included caregiver practice with feedback (medium effect, Yule's Q .37), observation (small effect, Yule's Q .24), and guided practice with feedback (medium effect, Yule's Q .13). In regard to the relationship between intervention strategies and child outcomes, responsive strategies had the highest effect sizes for all communication categories. Single word communication was associated with higher effect sizes than vocalizations and gestures, and multiple word communication for all of the intervention strategies (Brown, 2012).

Emerging evidence supports using family-guided practices that incorporate caregiver coaching strategies to support caregivers in becoming more competent and confident in embedding intervention into their daily routines and activities (Brown, 2012; Cambray-Engstrom & Salisbury, 2010, Coston, 2008; Woods & Goldstein, 2004; Woods, Kashinath, & Goldstein, 2004); however we know very little about what needs to be done to support early interventionists to develop the skills they need to feel competent and confident using caregiver coaching strategies that will result in shifting their practice away from primarily child-focused intervention. Therefore, it is important to examine the efficacy and feasibility of professional development approaches that are aimed at supporting home visitors in developing the knowledge and skills they need to build caregiver capacity to embed interventions for young children in natural routines.

Professional Development to Support Home Visitor's Use of Caregiver Coaching Strategies

According to a synthesis of research on staff development (Joyce, Showers, & Bennett, 1987), traditional 'sit and get' workshops are insufficient to bring about sustained, substantive change in teaching practices. Although the most widely used professional development format, workshops have not been linked to significant changes in providers' practice (Campbell, Chiarello, Wilcox, & Milbourne, 2009; Garet, Porter, Desimone, Birman, & Suk Yoon, 2001; Snyder & Wolfe, 2008). On-going professional development, feedback on implementation, and opportunities to collaborate and problem solve with other colleagues give teachers support for learning and integrating new practices into their work (Wanzek & Vaughn, 2006). Similarly, Hemmeter et al. (2011) suggested that to ensure prevention-promotion-intervention frameworks are implemented

in early childhood, programs must identify and provide ongoing, individualized support and feedback that has been demonstrated to be effective in supporting teachers' implementation of evidence-based practices. There is a paucity of research examining approaches to professional development aimed at supporting Part C early interventionists' use of caregiver coaching strategies.

Recently, Brown and Woods (2012) conducted a program evaluation of an online professional development (PD) course. The purpose of the study was to evaluate the impact, feasibility, and provider satisfaction of the Communication Coach course. The multicomponent PD approach was designed to enhance 24 early intervention providers' knowledge and skills in communication development and in communication intervention within an FGRBI framework. Providers progressed through five online content units sequentially in a self-directed manner within an 8-month time frame. The R.O.P.E. (Read, Observe, Practice, Exhibit) instructional methods were used and were designed to scaffold learning from foundational knowledge to applied skills (Brown & Woods, 2010). Providers completed two pre-post measures: (a) case study application test and (b) communication development and intervention knowledge and skills survey. Post-only measures included video-recorded home visit session segments to demonstrate content application.

All providers reached the competency standard of 80% in the areas of knowledge of developmental communication acts, identification of appropriate communication targets, and development of embedded intervention strategies. Providers used varied caregiver coaching strategies at the completion of the course (post video 1) and maintained the use of varied caregiver coaching strategies 6 to 8 weeks after the course

(post video 2). The participant high ratings of annotated video examples, narrated presentations, overall course satisfaction, the R.O.P.E. organization, and the practice video examples, support providing situated learning opportunities (Lave & Wenger, 1991) within a multicomponent instructional structure based on adult learning principles (Bransford et al., 2000). However, a serious limitation of this program evaluation was the absence of baseline home visit session videos.

Although two pre-post measures provide information about changes in knowledge and the ability to apply that knowledge in case study situations, comparing pre and post videos would be a stronger foundation to make statements about the actual change in practice. The authors stressed that the evaluation was designed to explore the PD program's logic model therefore, definitive causal claims are not appropriate. They went on to suggest that the preliminary results are most appropriately applied in making decisions of refinement of the course, establishing a foundation for a more controlled evaluation, and demonstrating promising PD practices (Brown & Woods, 2011). The professional development approach presented by Brown and Wood (2011) is consistent with recommendations from others, that training meant to support implementation of evidence-based practices, should be cohesive and focused in order to provide the necessary depth about a specific practice or set of practices (Fox, Hemmeter, Snyder, Binder, & Clarke, 2011). Based on the review of the literature, Fox et al. (2014) also suggested that enhanced implementation may be achieved when professional development approaches reflect direct collaboration with the teacher and explicit grounding of the practice in the teachers' work; for example, job-embedded coaching.

Using a third party, someone not directly involved with the interactions that take place between home visitors and caregivers, to observe and deliver performance feedback has been conceptualized as an additional approach to professional development that can enhance implementation of the new practices (Fox et al., 2014). A number of early childhood professional development research studies have documented the importance of coaching in addition to workshop training to support modifications or changes in teacher practices (Fox et al., 2011; Hsieh et al., 2009; Neuman & Cunningham, 2009; Pianta, Mashburn, Downer, Hamre, & Justice, 2008). The provision of instructional coaching with a systematic performance feedback component has been identified as a promising professional development strategy that can be anchored in early childhood practice contexts to support implementation of evidence-based practices (Hemmeter, Snyder, Snell, & Fox, 2010; Snyder et al., 2011).

Performance Feedback

Performance Feedback (PF), a means of initiating and sustaining adult behavior change, has been researched extensively in employment, institutional, and education settings (Alvero, Bucklinm, & Austin, 2001; Balcazar, Hopkins, & Suarez, 1985; Mortenson & Witt, 1998; Noell et al., 1997, 2000, 2005; Witt, Noell, LaFleur, & Mortenson, 1997). Use of systematic performance feedback within the context of instructional coaching has been identified as a promising professional development strategy that can be anchored in early childhood practice contexts to support the implementation of evidence-based practices (Hemmeter, Snyder, Snell, & Fox, 2011; Snyder et al., 2011). In the context of instructional coaching, a performance feedback intervention involves providing the teacher with feedback (verbal, written, and/or

graphical) about the implementation of specific practices using data gathered during observations of the teacher implementing the practices. The format of performance feedback can be individualized and adapted for each unique learner and professional development context (Barton, Kinder, Casey, & Artman, 2011).

There is a growing body of literature on the effectiveness of performance feedback for supporting general educators and special educators, at the elementary and secondary level, to use a variety of practices that are new to them (Mortenson & Witt, 1998; Noell et al., 1997, 2000, 2005; Witt, Noell, LaFleur, & Mortenson, 1997). For example, research has shown that performance feedback can effectively improve treatment integrity for academic (Noell et al., 2000) and behavioral problems treated with single (Noell, Duhon, Gatti, & Connell, 2002) and multiple-component plans (Coddling, Feinberg, Dunn, & Pace, 2005). Studies investigated the use of performance feedback as a professional development intervention, to support the teachers' use of practices related to supporting the children's engagement, language, or pre-academic skills at the early childhood level (e.g., Casey & McWilliam, 2008; Cotnoir-Bichelman, Thompson, McKerchar, & Haremza, 2006; Hsieh, Hemmeter, McCollum, & Ostrosky, 2009; Kaiser, Ostrosky, & Alpert, 1993). In addition, recent studies have examined the use of performance feedback to support the early childhood teachers' use of practices for promoting the children's social, emotional, and behavioral outcomes (Barton & Wolery, 2007; Fullerton et al., 2009; Hemmeter et al., 2011; Pianta et al., 2008; Stormont et al., 2007). Fox, Hemmeter, and Snyder, in summarizing the above mentioned studies conducted within early childhood contexts, identified that in each of these studies, workshops or brief training sessions were followed by direct observations and the

provision of performance feedback to support the teachers' use of evidence-based practices. Direct observations focused on the implementation of the targeted practice and data from the observations were used to provide teachers with performance feedback. Across the studies reviewed, the brief professional development intervention, which included performance feedback, resulted in increases in the teachers' use of the targeted practices (Fox, Hemmeter, Snyder, Binder, & Clarke, 2011). Casey and McWilliam (2011) found similar results in a review of literature on performance feedback conducted in early childhood. Nineteen studies conducted in early childhood (infant/toddler through 4th grade) classroom-based settings (community-based childcare, university-based childcare, inclusive preschool, segregated preschool, Head Start, and 1st-4th grade classrooms) were reviewed to determine the characteristics of performance feedback provided. Across the studies, clear feedback effect was displayed in the majority of tiers (participants, settings, or behaviors) contributing to the conclusion that performance feedback is a promising professional development practice for early childhood educators (Casey & McWilliam, 2011). Performance feedback is likely to be a key component of professional development interventions intended to support the teachers' implementation of empirically supported practices. Nevertheless, research is limited with respect to demonstrating whether professional development with a performance feedback component is effective for supporting the teachers to implement sets of identified practices especially within home-based contexts such as with the provision of Part C services. To date, few published studies have examined specifically the use of performance feedback with early intervention home visitors.

Manturana and Woods (2012) examined the use of performance feedback with early intervention home visitors. The study evaluated the effects of a Distance Mentoring Model (DMM) which included a technology supported performance-based feedback component on expanding the use of recommended home visiting practices by early interventionists. Data from 18 participating home visitors indicated that the DMM approach was associated with the increased use of specific caregiver coaching strategies and routine contexts. Participants spent less time in child-focused intervention and more time using coaching interactions with the caregiver and child as a dyad (Manturana & Woods, 2012). Despite the promise of performance feedback for supporting the implementation of evidence-based practices, there are limitations and drawbacks of such an approach to professional development for educators.

The dose or intensity of individualized instructional coaching and feedback necessary to support teachers in their implementation likely varies and is dependent upon teacher variables such as experience, knowledge of the intervention, baseline levels of implementation, ability and experience with engaging in reflective practice, etc. Casey and McWilliam (2011) found in their review of early childhood performance feedback literature that weekly feedback was more prevalent than daily feedback, but “weekly” feedback varied in intensity. It is likely that differentiated or tiered approaches to the provision of performance feedback are necessary in order to tailor the development to each participant's learning style, prior knowledge, experiences, strengths, and needs. Furthermore, characteristics of the evidence-based practices that are the focus of feedback may also impact the intensity of feedback necessary. For example, the dosage of instructional coaching necessary to support teachers in their implementation of

practices associated with a complex, comprehensive framework, such as the Teaching Pyramid Model (or FGRBI) might be greater than coaching focused on a single practice (Fox et al., 2011). The intensity of support needed to achieve moderate to high levels of implementation fidelity of any given practice has important implications for early childhood professional development with respect to the district allocation of resources and time. Depending on the variables discussed, the provision of individualized performance feedback, while potentially a very effective method of professional development, may not be financially feasible.

Additional potential barriers to the delivery of individualized performance feedback for educators revolve around logistic considerations. Opportunities to observe, in real time, the practice of educators can prove difficult especially in very remote locations. Long travel distances necessary to support individual educators adds time and financial burden to school budgets. Recent research related to the use of technology to increase the effectiveness of professional development is promising (Hemmeter, Snyder, Kinder, & Artman, 2011; Pianta et al., 2008). Technology such as video and e-mail can offer a feasible format for delivering feedback. For example, recent studies used e-mail to provide feedback to pre-service professionals (Barton & Wolery, 2007; Brown & Woods, 2011) and preschool teachers (Hemmeter et al., 2011) to effectively increase their use of specific strategies. Furthermore, the use of video can provide a means for a coach or mentor to offer performance-based feedback and to highlight steps toward the identified practice, providing a scaffold for the learner as they watch and reflect on their progress toward implementation of the practice(s) over time.

Data that informs questions surrounding feasibility of individualized performance feedback are critical to local, state, and national discussions about the use of evidence-informed approaches for the professional development of early educators and how to utilize resources to ensure that educators can implement evidence-based practices. Future research is needed to illustrate various coaching frameworks and to examine the dosage needed to ensure that educators reach criterion levels of implementation fidelity and maintain these levels over time (Fox et al., 2011).

Summary

Caregiver-implemented intervention focused on building caregivers' capacity through a collaborative process that shows promise for enhanced parent and child outcomes. It is believed that early intervention practices ought to promote active engagement of caregivers with their children in meaningful contexts during intervention visits (Dunst, Trivette, & Hamby, 2007; Ridgley & Snyder, 2010), and focus on including caregivers as collaborative decision makers in how the intervention is chosen and implemented (e.g., Kashinath et al., 2006; Wetherby & Woods, 2006; Woods, Kashinath, & Goldstein, 2004). Yet despite recommended practices and Part C policies, research consistently demonstrates that limited time in early intervention sessions is spent enhancing the interactions between the caregiver-child dyad (Campbell & Sawyer, 2007; Hebbeler et al., 2007; Marturana & Woods, 2012). Several studies have found that typical practices of early intervention home visitors do not match those that are recommended (McBride & Peterson, 2007; Wilcox & Lamorey, 2004). The good news is that there is emerging evidence in support of using family-guided practices that incorporate caregiver coaching strategies to support caregivers in feeling more competent

and confident in embedding intervention into their daily routines and activities (Woods & Brown, 2011). However, little is known about how to deliver an efficacious and feasible system to support Part C home visitors to shift their practice and develop the skills they need to feel competent and confident using family-guided caregiver coaching strategies.

A need exists for research focused on identifying promising and feasible professional development practices that are collaborative in nature, grounded in practice, and focused on the implementation of caregiver coaching practices within a family-guided, routines based framework. Performance feedback has been identified as a promising professional development practice for early childhood educators (Barton & Wolery, 2007; Casey & McWilliam, 2011; Fullerton et al., 2009; Hemmeter et al., 2011; Manturana & Woods, 2012; Stormont et al., 2007). Furthermore, the use of video can provide a means for a mentor to offer performance feedback and to highlight steps toward the identified practice, providing a scaffold for the home visitor as they watch and reflect on their progress toward implementation of the practice(s) over time. Therefore, to further extend the literature, the present investigation looked specifically at the use of video and e-mail as a means to provide performance feedback to Part C Early Intervention home visitors. The performance feedback provided focused on supporting home visitors' use of caregiver coaching strategies with caregiver/child dyads.

Research Questions

Primary Research Questions:

1. When conducting home visits does the percentage of time the home visitor spends using specific caregiver coaching strategies change in relation to workshops

provided, and is there additional change when a performance feedback package is added?

2. Does the number of family routines that form the context for intervention during home visits increase with workshops and with an added performance feedback package?

Secondary Research Questions:

3. To what extent do participating home visitors report the use of specific professional development approaches to be: (a) acceptable, (b) feasible, and (c) effective in changing practice? And, to what extent do caregivers report the use of home visitor coaching strategies to be: (a) acceptable, (b) feasible, and (c) effective in changing practice?
4. Does home visitor use of specific coaching strategies during home visits relate to changes in parent engagement, attitude toward their role in parenting, and child developmental progress?

CHAPTER 3: METHODS

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4. Does home visitor use of specific coaching strategies during home visits relate to changes in parent engagement, attitude toward their role in parenting, and child developmental progress?

Overview of Study

A multiple baseline design across three home visitors was implemented to evaluate the effects of two brief workshops and a performance feedback package on home visitors' use of caregiver coaching strategies and range of routines utilized as the context of intervention. Home visits with participating caregiver/child dyads were

videotaped across three phases of the study; throughout each phase the home visitors' use of specific coaching strategies (with caregivers during home visits), served as the primary dependent variable of interest. Home visitors' use of coaching strategies and routine contexts of each visit were coded during baseline, workshop, performance feedback intervention, and maintenance phases. Following baseline, each participating home visitor was the recipient of two –two hour workshops conducted one-to-one. Content of the workshops was derived from FGRBI principles (Woods, 2005). Following a minimum of three consecutive post-workshop home visits with caregiver/child dyads (typically visits are one week apart), naïve home visitors who were not using caregiver coaching strategies to criterion began the performance feedback phase.

Performance feedback intervention consisted of electronically delivered written and graphic feedback on home visitors' use of caregiver coaching strategies with caregiver/child dyads. Feedback was individualized and based on review and coding of the previous week's home visit videotape. Written qualitative and graphic quantitative performance feedback was delivered weekly via e-mail for six weeks and followed a prescribed protocol. The home visitors' use of specific coaching strategies, with caregivers during home visits, served as the primary dependent variable of interest throughout each phase of the study.

Settings and Participants

School districts. The primary participants were three early intervention Part C home visitors who worked for two small suburban school districts in the mid-western region of the United States. Home visitor number one and three worked in the same district which had a total enrollment of 3,500 students (28% students of color, 15%

students with limited English proficiency, and 46% students that qualified for free or reduced lunch). The second home visitor worked for a district which had a total enrollment of 5,000 students (8% students of color, 2% students with limited English proficiency, and 23% students qualifying for free or reduced lunch).

Intervention settings. Intervention procedures with home visitors were implemented in school and home settings, as well as electronically via e-mail. Home visitor training and pre/post interviews took place in school settings. A video camera was placed in the room to tape all sessions. Home visit observations and data collection took place via videotaped home visit sessions. Written and graphic performance feedback was provided to the home visitors electronically via e-mail. Child assessments, caregiver surveys, and caregiver pre/post interviews were conducted in home settings with participating caregivers.

Home visitor selection. Each home visitor participating in the study had previously participated in group professional development led by the primary investigator. Topics of group professional development included positive behavior support and inclusion. These topics were not related to the content that was the focus of professional development in the current investigation. There was no other relationship between the participating home visitors and the primary investigator. In response to a recruitment e-mail sent by the primary investigator, home visitor participants expressed interest in building their capacity to support children and families within a family-guided routines-based approach. All three participants worked as Part C home visitors. Characteristics of participating home visitors are shown in Table 1.

Table 1

Demographic Characteristics of Home Visitors

| Characteristic | Laura | Shelby | Anita |
|----------------------------------|----------------|------------------|----------------|
| Gender | Female | Female | Female |
| Race | White | White | White |
| Home language | English | English | English |
| ECSE teaching experience (years) | 9 | 20 + | 10 |
| Time in current position (years) | 7 | 1 | 5 |
| Highest level of education | Masters Degree | Masters Degree | Masters Degree |
| Educational license(s) | ECSE | Pre K–6, ECSE | EC, ECSE |

Note. ECSE = early childhood special education; EC = early childhood.

Home visitor inclusion criteria included working in a Part C program, holding a minimum of an undergraduate degree and having an ECSE teaching license.

Participating home visitors were only enrolled in the study if they displayed fewer than four different targeted caregiver coaching strategies during less than 25% during baseline.

Caregiver/child dyad selection and caregiver/child participants. Each home visitor participant identified one family with whom they were currently working to participate in the study. Inclusion criteria required the child to be between the ages of 6 - 30 months, and be enrolled in home-based early intervention services. Birth to three Part C programs serve a broad range of children with varied needs, therefore dyad participation was not limited based on child characteristics. Family dyads included a step-grandmother/grandson (family dyad 1), a mother/daughter (family dyad 2), and a father/son (family dyad 3). Table 2 provides caregiver descriptive characteristics. Table 3 provides child descriptive characteristics. For family dyad one and two the primary caregiver present for each home visit remained the same across study phases. However,

for dyad three, the caregiver present for home visits varied. While the father was the primary caregiver who participated in pre/post interviews and completed study measurement tools, home visits occasionally included a grandmother, and/or father's girlfriend. The implications of this variability are discussed in chapter five.

Table 2

Demographic Characteristics of Primary Caregivers

| Characteristic | Caregiver dyad 1 | Caregiver dyad 2 | Caregiver dyad 3 |
|-----------------------------------|------------------|------------------|------------------|
| Gender | Female | Female | Male |
| Race | White | White | White |
| Home language | English | English | English |
| Relationship to child participant | Step-grandmother | Mother | Father |
| Other children living in home | 0 | 1 | 1 |

Table 3

Demographic Characteristics of Children

| Characteristic | Child dyad 1 | Child dyad 2 | Child dyad 3 |
|---|--------------------------------|--|--|
| Gender | M | F | M |
| Age at start of study (months) | 28 | 30 | 17 |
| Race | White | White | White |
| Home language | English | English | English |
| Part C categorical eligibility | DD | DD | DD |
| Medical diagnosis | Fetal alcohol syndrome, autism | Seizure disorder | None |
| Areas screened 'at risk' or 'fail' on ASQ | Fine motor | Communication, Gross Motor, Fine Motor, Problem Solving, Personal-Social | Communication, Gross Motor, Fine Motor, Problem Solving, Personal-Social |

Note. DD = developmental delay.

Primary investigator. The primary investigator held a Master's Degree, an ECSE license, taught in the field for 15 years, and had 10 years of experience teaching and coaching adult educators in both pre-service and in-service formats. In addition, she had been trained using family-guided, routines-based approaches (Woods, 2005). The primary investigator conducted in-person pre and post interviews with participating caregivers and home visitors. The same individual conducted initial trainings for home visitors, viewed and coded home visit video across all phases, and provided performance feedback, via e-mail, to participating home visitors.

Measurement of Dependent Variables

Home visitor use of specific coaching strategies. The primary dependent variable was the percentage of 30-second intervals during each home visit that home visitors used specific coaching strategies as defined by Woods FGRBI materials (Combined FGRBI CFDC Coding Guidelines 10-2010). A total of twelve home visitor behaviors were coded via videotape using a 30-second partial interval recording method. Of these twelve behaviors, five were identified as 'non-target' for performance feedback because they represented behaviors typically present during child-focused approaches and during most home visits whether or not the home visitors have been training in FGRBI. For example, recent findings suggest providers typically spend the majority of their time in child-focused intervention (Campbell & Sawyer, 2007; Peterson, et al., 2007), conversation and information sharing, or joint interaction (Basu, Salisbury, & Thorkindsen, 2010; Manturana & Woods, 2012; Colyvas, Sawyer, & Campbell, 2010). Strategies were identified as 'targets' for performance feedback as they are specific to coaching families to implement intervention strategies with their child during typical family routines and

activities. It was hypothesized that the seven target FGRBI coaching strategies would increase and the other five behaviors would decrease relative to professional development. The twelve home visitor behaviors that were coded are briefly described below. Full definitions and examples of each strategy can be found in Appendix A.

Seven target FGRBI coaching strategies to increase:

1. Direct Teaching (DT): The home visitor's role is to share specific and focused information in order to explain an intervention strategy to a caregiver. This may be done verbally or with handouts, visuals, or by watching videotaped illustrations of the procedure. The child may or may not be present.
2. Demonstration (DEM): The home visitor demonstrates the strategy with the child while the caregiver observes. The home visitor makes comments to set up the demonstration or narrate what she is doing during or after the demonstration. The caregiver's role is to observe.
3. Caregiver Practice with Feedback (CPF): Caregiver interacts with the child as the interventionist supports the interaction with at least one instance of feedback. The home visitor is "hands off" the child but rather supports the interaction by offering feedback while following the caregiver's lead. Feedback is defined as positive encouragers or comments on the caregiver's performance in supporting the child in the interaction (*E.g. Great, you gave her enough of a time delay to take a turn!*) Or, "*She was really excited when you gave her a choice between two snacks!*"), comments to the child that serve as feedback on the caregiver's behavior (*E.g. You like it when mom imitates your sounds, don't you?*), or

comments directed toward the caregiver on how the child is responding to the caregiver interaction (*E.g., She is looking at you and watching for your reaction.*).

4. Observing or Data Collection (OB): The primary role of the caregiver is to work with the child; the role of the home visitor is to observe or gather data. The home visitor does not give specific feedback, suggestions, or comments.
5. Guided Practice with Feedback (GPF): The home visitor and caregiver work as partners with the child, practicing strategies to improve the child's outcomes. There must be at least one instance of GPF feedback which is a specific suggestion about caregiver behavior offered within the context of a routine (*E.g., During snack time, the interventionist says, "Here are two goldfish crackers for her to eat. Let's see what happens if you wait a little longer before offering her more after she eats these." Child eats and looks at mom, and mom reaches out with another goldfish. The interventionist models the word 'more' and asks mom to say 'more' before giving the goldfish. Mom asks the interventionist how long to wait and how many times to repeat the label.*)
6. Problem Solving (PS): The caregiver and the home visitor discuss strategies to improve routines/outcomes; both must be involved in the process. PS is different from CIS in that the exchange includes evaluating alternatives and brainstorming plans specific to the child's goals and objectives.
7. Video Feedback and Reflection (VFR): Home visitor and caregiver watch a video of themselves interacting with the child, jointly reflecting on successes and areas for improvement.

Five non-target FGRBI strategies:

8. Conversation and Information Sharing (CIS): Caregivers and home visitors ask and respond to each other's questions. Topics may include early intervention issues, child development, updates on progress, etc. If the conversation centers upon issues other than early intervention or the child and seems more like chit-chat, it will be coded "other".
9. Joint Interaction (JI): The home visitor and caregiver work as partners with the child. They may take turns, but the home visitor does not give any explicit feedback.
10. Child Focused (CF): The home visitor works directly with the child while the parent is not present or is doing something else (on the phone, cleaning up, etc.). The caregiver may be watching, but the home visitor makes no attempt to seek their involvement, and does not share information.
11. Competitive Interactions (CI): Caregiver and home visitor are working with child, but they are not focused on the same goal or child-directed activity.
12. Other (O): This is a miscellaneous category. Examples would include chit-chat unrelated to the child, times when both the caregiver and the child are not in the room, the home visitor is not in the room, or when the home visitor works exclusively with a sibling of the child or other children.

Coding procedures followed those outlined in the Family-Guided Routines-Based Intervention Coding System Training and Procedural Manual (Combined FGRBI CFDC Coding Guidelines 10-2010) and can be found in Appendix A. Video recorded sessions

were coded at 30-second intervals. An individual code was assigned to each interval to describe the caregiver coaching strategy. Each segment was coded based on what occurred for the majority of the time (i.e. at least 15 seconds). Codes were mutually exclusive; only one strategy was coded per interval.

Range of family routines used by the home visitor. A primary role of the home visitor is to support and provide families with information, resources, and strategies so that caregivers may facilitate their children's participation and learning within and across typical activities and routines. As one measure of the extent to which typical home routines were used as the context for intervention during home visits, 15 pre-specified family routines, or 'no routine' was coded. Coding definitions were derived from Dunst et al. (2001) and Woods (2005). Full definitions of the following 15 routines can be found in the Appendix A: play with objects, physical play, pretend play, play with others, bath/hygiene related, medical equipment, dressing related, eating related, computer/TV/video, reading books, songs and rhymes, writing/drawing, family errands, family activities, recreation/socialization. Coding procedures followed those outlined in the Family-Guided Routines-Based Intervention Coding System Training and Procedural Manual (Combined FGRBI CFDC Coding Guidelines 10-2010) and can be found in Appendix A. Routines were coded when the child was interacting with the caregiver or interventionist within a routine context with the potential for embedded intervention to occur. A code of "no routine" was used when the child was not interacting with the caregiver or interventionist, as the potential for embedded intervention to occur was not present. A routine was coded if at least two turns occurred in the activity/interaction: (1) a child's "turn" was defined by verbalizations and/or actions directed toward an adult; (2)

an adult's "turn" was defined by verbalizations and/or actions directed toward the child. If two routine codes were observed in one 30-second segment, the routine that lasted at least 15 seconds was coded. Transition was coded when the caregiver, home visitor, and child shifted from one routine to another, there was verbal evidence that the triad was moving to a new routine ("now let's move to the kitchen for snack"), and that move lasted at least 15 seconds.

Collateral Changes Related to Home Visitor Strategy Use

Caregiver engagement during home visits. Low parent participation is a common problem associated with less successful child outcomes (Roggman, Boyce, Cook, & Jump, 2001). Caregiver participation during each home visit was rated, via video recorded home visit sessions using the Parent-Engagement During Home Visit subscale of the Home Visit Rating Scales (HOVRS) (Roggman, et al., 2001). Rating of caregivers' participation was completed by the primary investigator and second trained coder, immediately following coding of routines and coaching strategy. The Parent-Engagement During Home Visit subscale can be found in Appendix B.

Parenting self-efficacy. Self-efficacy refers to an individual's perceptions of himself or herself as competent in a given task or domain (Bandura, 1997). Parenting self-efficacy, confidence, and competence in parenting, has been gaining recognition as a family outcome of early intervention (Bailey, et al. (1998) and malleable constructs through which child outcomes may be achieved (Jones & Prinz, 2005). The Early Intervention Parenting Self-Efficacy Scale (Guimond, Wilcox, & Lamorey, 2008), a 16 item measure designed to provide information on the self-efficacy of parents during their child's early intervention program, was completed by primary caregivers at the end of

baseline and intervention phases. The Early Intervention Parenting Self-Efficacy Scale can be found in Appendix C.

Parental stress. High levels of parenting stress can lead to negative parenting practices and childhood outcomes. Parenting Stress Index, Fourth Edition Short Form (Psychological Assessment Resources, Inc.) was designed to evaluate the magnitude of stress in the parent-child system. Thirty-six items are divided into three domains: Parental Distress (PD), Parent-Child Dysfunctional Interaction (P-CDI), and Difficult Child (DC), which combines to form a Total Stress scale. Parenting Stress Index, Fourth Edition Short Form was completed by primary caregivers at the end of baseline and intervention phases. It can be found in Appendix D.

Child developmental progress. Two different measures were used to measure child progress. First, a snapshot of the child participant's overall development was measured using the Ages and Stages Questionnaires (ASQ), Third Edition (Squires & Bricker, 2009). The ASQ is a developmental and social-emotional screener for children from one month to 5 ½ years. The ASQ is used to identify strengths and possible delays across developmental domains by combined use of rating observed behavior and parent report about their child's abilities. The ASQ was completed by primary caregivers at the end of baseline and intervention phases. It can be found in Appendix E. Second, child progress on one identified priority IFSP outcome was measured over the course of the study through the use of individualized goal attainment scales (GAS). Each home visitor in collaboration with their participating caregiver identified one priority target outcome to focus on during the course of the study. Each home visitor provided descriptive input into scaling the target behavior/skill and the scale was subsequently developed by the

primary investigator and approved by both the home visitor and the caregiver. The primary investigator conducted three probes of each child participant target outcome using the GAS. The last home visit session in baseline, training, and intervention, was observed for the scaling of the GAS for each child's target outcome. Goal attainment scales for each child participant target outcome can be found in Appendix F.

Participant interviews. The primary investigator conducted pre and post interviews with participating caregivers and home visitors. Caregiver questions focused on gaining an understanding of the caregiver's experience and attitude toward early intervention as well as their perceptions and knowledge of their child's strengths and needs. Home visitor questions focused on gathering information about prior professional development. Additionally, information was obtained on the home visiting philosophy, visiting practices, and current strengths and hopes for their agency and themselves in these areas. Post interview questions gathered information regarding participant personal feelings about, and reactions to participating in the study. Interviews were videotaped, lasted between 40-60 minutes, and consisted of 15-20 open response questions. Responses to pre and post interviews were analyzed and discussed relative to the study's findings and implications. See Appendix G for the caregiver and home visitor interview protocol.

Social validity. At the end of each baseline, training, and intervention phase, each home visitor and caregiver completed a social validity questionnaire. Using a seven-point, Likert-type scale (modeled from Hemmeter et al., 2011), home visitors rated the professional development to be: (a) acceptable, (b) feasible, and (c) effective in producing an effect. Caregivers reported the home visitors' use of coaching strategies

during home visits to be: (a) acceptable, (b) feasible, and (c) effective in producing an effect. During post-study interviews, home visitors were asked additional questions regarding their perception of the effectiveness of the initial training and performance feedback, habits of looking at the performance feedback e-mails, benefits, and drawbacks of receiving feedback via e-mail, the likelihood of continued use of coaching strategies after formal support/expectation of use is removed, and benefits and struggles of using specific coaching strategies with caregivers. Home visitor and caregiver rating forms can be found in Appendix H.

Inter-rater Reliability. Before the initiation of the study, the primary investigator and a second observer were trained on the operationally defined caregiver coaching strategies and routines by the team that developed the FGRBI Coding System Training and Procedural Manual (Combined FGRBI CFDC Coding Guidelines 10-2010). Following training, both observers practiced coding (separately) the clips of the home visit training video. Codes were reviewed for inter-rater agreement and subsequently discussed with the observers to clarify understanding of the definitions and move toward reliable coding and agreement. Inter-observer reliability was calculated using an exact agreement procedure in which the total number of agreements was divided by the total number of agreements plus disagreements and multiplied by 100. Reliability was assessed separately for measures of coaching strategy and routine. When the primary investigator and second trained observer neared 70% overall reliability, they independently continued the process of viewing video, comparing codes, and discussing agreement until over-all inter-observer agreement of coaching strategies and routines reached a criterion level of 80%.

To monitor reliability throughout the experiment, a second trained observer independently coded home visit videotapes across all phases and participants for 20% of sessions. Percentage of agreement was calculated by dividing agreements by agreements plus disagreements and multiplying by 100. Agreement was calculated for caregiver coaching strategies, routines, and goal attainment scaling. Percentage of agreement for caregiver coaching strategies was 93%, ranging from 73%-100%. Percentage of agreement for routine codes was 95%, ranging from 43%-100%. Percentage agreement for goal attainment scaling was 100%. The reliability of ratings obtained using the parent engagement rating scale was examined by calculating an intraclass correlation coefficient (ICC). A two-way mixed effects model was used to estimate the absolute agreement of the ratings provided on 20% of observations by two independent raters. The interclass correlation coefficient for ratings of parent engagement was .62 (95% CI = 0.07 - .95). As a measure of absolute agreement between ratings, an ICC of .62 is considered low, yet adequate.

Experimental Design

A multiple baseline design across home visitor and caregiver dyad was used to evaluate the effects of a brief training session only and an additional performance feedback package on the use of coaching strategies. Following baseline, each of three Part C home visitors were the recipients of two, one-on-one, two hour training sessions on FGRBI and caregiver coaching strategies. Following a minimum of three baseline home visits, home visitors who were not implementing coaching strategies to the criteria received a six week performance feedback package.

Procedures

Video collection and coding. Participating home visitors recorded each home visit with the participating caregiver/child dyad, during baseline, training, intervention, and maintenance. Home visitor use of specific coaching strategies and range of family routines were coded from video provided by home visitors. In addition, video of home visits were used to complete the Parent-Engagement During Home Visit subscale, and child participant Goal Attainment Scales.

For video collection, home visitors were instructed to position the video camera in the area where the intervention session was held and close enough to capture visual and auditory information. The camera was moved with the home visitor when intervention moved to another area of the home. Immediately following each home visit, home visitors shared the video with the principal investigator through a password secured shared space site on-line. Once the primary investigator confirmed receipt of the video, the home visitor was instructed to delete copies of the video from their camera and computer. Once the video had been viewed for coding purposes, it was uploaded to the University of Minnesota Media Mill password protected and secure media sharing system and deleted from the co-investigators' computers used for viewing, and from the password secure shared space on the cloud. Encrypted video was stored on Media Mill.

Each video was viewed twice in the coding process. During the first viewing, the coder assigned a role to the routine setting for each 30-second segment. During the second viewing, the coder assigned a code to describe the caregiver coaching strategy for each 30-second segment. For example, a 30-second segment may be coded as a *hygiene* routine, with the caregiver coaching strategy coded as *problem solving*. Each segment

was coded based on what occurred for the majority of the time (i.e. at least 15 seconds). Following the second viewing of each video, the coder also rated parent engagement using the Parent-Engagement During Home Visit subscale of the Home Visiting Rating Scales.

Baseline. Baseline consisted of a total of three home visits for each of the three participating home visitors. During baseline, home visitors were instructed to interact as they normally would during home visits. Home visitors recorded the home visit sessions and posted videos on the cloud immediately following each visit. For each videotaped baseline home visit, the home visitor's use of specific coaching strategies, range of routines utilized as the context for intervention, and caregiver participation was coded. Home visitor participant eligibility for enrollment in the intervention phase of the study was determined following three baseline sessions. If a home visitor participant displayed the use of more than four of the seven targeted coaching strategies for more than 25% of intervals during baseline, she was exited from the study. All three home visitors and their identified caregiver/child dyads who participated in baseline continued into the intervention phase of the study following baseline (no participants were exited following baseline). Prior to beginning the intervention phase, caregivers and home visitors participated in a pre-study interview and completed the social validity scale. In addition, caregivers completed the Early Intervention Parenting Self-Efficacy Scale and Parent Stress Index (Abidin, 1995) to rate their own skills and experiences as well as the Ages and Stages Questionnaire to rate their child's skills and experiences.

Workshop phase: Home visitor participants moved to the workshop phase following three home visit video observations that resulted in a 25% or less mean

improvement in seven target coaching strategies. In the one week interval between the third baseline data point and the first workshop data point, home visitors participated in two one-on-one workshops focused on FGRBI and caregiver coaching strategies. Each workshop session lasted between 90 to 120 minutes and was led by the primary investigator. A PowerPoint presentation, video examples, modeling, and practice were incorporated into the training sessions. All workshop sessions were videotaped. Workshop PowerPoint slides, handouts, and an implementation checklist for workshops can be found in Appendix I. Following completion of two workshops, participants entered the workshop phase of the study which consisted of three home visits. For each of the three home visits during workshop condition, the home visitor's use of specific coaching strategies, range of routines utilized as the context for intervention, and caregiver participation was coded via videotape. Home visitor participants received no feedback or coaching during the workshop phase. If at the conclusion of the workshop phase, a home visitor demonstrated less than a 70% mean improvement in their use of the seven target coaching strategies, the home visitor was then offered the next phase of intervention, performance feedback. All three participating home visitors were offered performance feedback. Prior to starting the performance feedback phase, caregivers and home visitors completed the social validity scale.

Intervention phase: performance feedback. A package of six performance feedback sessions was offered following the workshop phase. The number of feedback sessions, the six week 'dose' of performance feedback, was hypothesized to be a sufficiently dense dose to result in changes in practice while being an amount of

individualized support that could be affordable and sustained within a public school professional development budget.

For each of the six home visits during the performance feedback phase, home visitor use of specific coaching strategies, range of routines utilized as the context for intervention, and caregiver participation was coded by the primary investigator via videotape. During the performance feedback intervention phase, feedback was delivered once per week for six weeks. Following the coding of each week's videotape, the home visitor participant received e-mail graphic and written performance feedback. Feedback was provided within six days of the last home visit and prior to the next scheduled home visit. Written performance feedback followed the 5-step protocol described by Snyder et al., (2011): (1) positive opening statement; (2) data-based supportive feedback (graphic feedback); (3) corrective feedback with ideas or suggestions; (4) planned action with embedded response request; and (5) closing encouragement statement. Graphic performance feedback included a pie graph illustrating the percentage of intervals spent using 12 identified behaviors and coaching strategies. Examples of performance feedback can be found in appendices L, M, and N. At the end of the performance feedback phase, caregivers and home visitors completed the social validity scale and participated in a face-to-face post study interview. In addition, caregivers completed the Early Intervention Parenting Self-Efficacy Scale, the Ages and Stages Questionnaire, and the Parent Stress Index.

Maintenance phase. Participants entered into the maintenance phase following the delivery of six weeks of performance feedback. One maintenance probe was conducted four weeks after the last of the six performance feedback sessions. No written

or graphic feedback was delivered during the four weeks prior to or the week of the maintenance probe.

Inter-rater Reliability and Procedural Fidelity

Monitoring and measuring how an intervention is being implemented is important for evaluating outcomes. Two observers independently coded home visit videotapes across all phases and participants for 20% of sessions. Agreement was calculated for caregiver coaching strategies, routines, and engagement. Percentage of agreement was calculated by dividing agreements by agreements plus disagreements and multiplying by 100. The reliability of ratings obtained using the parent engagement rating scale was examined by calculating an intraclass correlation coefficient (ICC). A two-way mixed effects model was used to estimate the absolute agreement of the ratings provided on 20% of observations by two independent raters.

A fidelity checklist was developed to identify the content and duration of the two workshop sessions as well as content and timing of performance feedback. Workshop handouts and PowerPoint can be found in Appendix I. As a measure of procedural integrity, the primary investigator used fidelity checklists to ensure the workshops and e-mail feedback procedures were implemented consistently across the home visits. Procedural fidelity checklists for the workshop and performance feedback can be found in Appendices J and K.

Single-case data analysis. The functional relation between the intervention and the dependent variable of the home visitor's use of caregiver coaching was analyzed based on visual inspection using guidelines established by Kratochwill, Hitchcock, Horner, Levin, Odom, Rindskopf, and Shadish, (2010). Levels were measured with the

means of each phase. Visual analysis of the slope of the best fitting line provided information on the data trends. Variability was measured with a visual inspection of the deviation from the slope. Percentage of non-overlapping data (PND; Scruggs, Mastropieri, & Casto, 1987) was used to assess degree of level change between conditions. Despite lack of agreement over a particular effect size estimator for single-case design, PND is appropriate as a measure of the magnitude of the effect of the intervention on changes to the overall level of the dependent variable (Kratochwill, Hitchcock, Horner, Levi, et.al, 2010). To evaluate changes in the overall level of practitioners' use of caregiver coaching strategies, the comparisons were made with the preceding phase when evaluating change using PND.

CHAPTER 4: RESULTS

The purpose of the current study was first to evaluate the effects of a multicomponent professional development intervention. This intervention included a workshop plus a six week performance feedback package consisting of quantitative graphic performance feedback and qualitative written performance feedback on the home visitors' use of caregiver coaching strategies. The second purpose was to examine the extent to which home visitors' use of coaching practices related to the changes in parent engagement, parental stress, parent self-efficacy, and child developmental progress. An additional secondary purpose was to examine the extent to which home visitors reported the professional development to be: (1) acceptable, (2) feasible, and (3) effective in changing practice, and the extent to which participating caregivers report the home visitor's use of coaching strategies to be: (1) acceptable, (2) feasible, and (3) effective in changing practice.

Primary Research Questions

Research question #1: When conducting home visits does the percentage of time the home visitor spends using specific coaching strategies change in relation to training provided, and is there additional change when a performance feedback package is added? Figure 1 illustrates the effects of workshops and the workshop plus a six week package of performance feedback for each of the three home visitors' use of target (seven combined) and non-target (five combined) caregiver coaching strategies, with one participating caregiver/child dyad each, across phases of the study. Seven target caregiver coaching strategies included: direct teaching, demonstration, caregiver practice with feedback, observation and data collection, guided practice with feedback, problem

solving, and video feedback and reflection. Five non-target caregiver coaching strategies included: conversation and information sharing, joint interaction, child focused interaction, competitive interactions, and other (miscellaneous category). Each data point in Figure 1 represents the percentage of 30-second intervals during each home visit that the home visitors used target and non-target caregiver coaching strategies with participating caregiver/child dyads. All three participating home visitors demonstrated an increased use of target coaching strategies during the performance feedback stage. Described below are the results of the analysis based on visual inspection using guidelines established by Kratochwill et al. (2010).

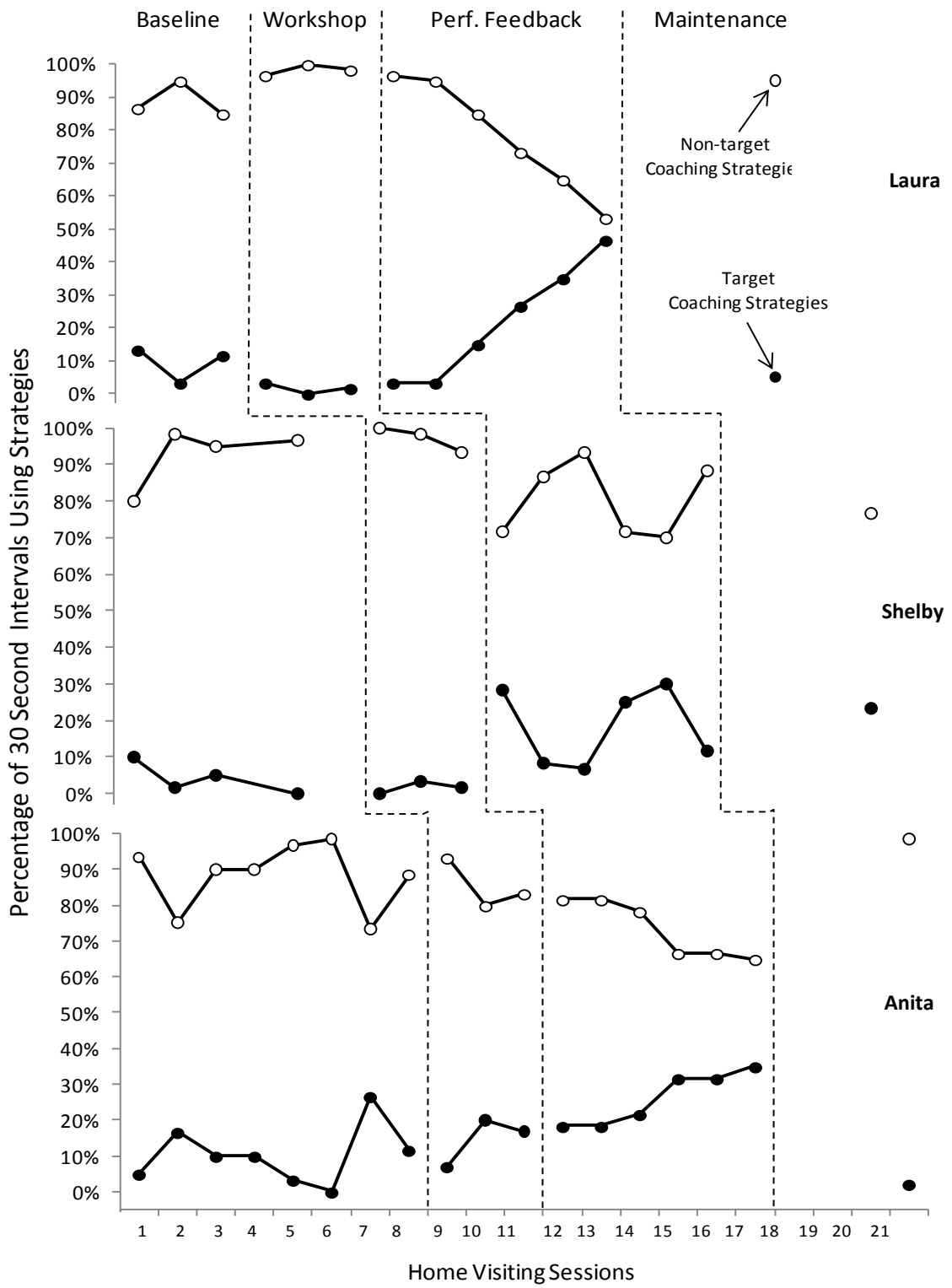


Figure 1: Percentage of intervals using target and non-target caregiver coaching strategies

Home visitor one: Laura with family dyad 1. The top graph (Figure 1) illustrates the percentage of intervals home visitor participant number one, Laura, used target and non-target coaching strategies during home visits with family dyad one across the four phases of the study. Percentage of non-overlapping data (PND; Scruggs et al., 1987) was used to assess degree of level change between conditions. Despite lack of agreement over a particular effect size estimator for single-case design, PND is appropriate as a rough measure of the magnitude of the effect of the intervention (Kratochwill, et.al., 2010). The comparison of PND is with the previous phase to evaluate change. During baseline the use of the target caregiver coaching strategies was low with some variability ($M=9.4$, $SD=5.4$) and a relatively steady state of responding. Inclusion criterion was met when Laura did not display the use of at least four different targeted caregiver coaching strategies more than 25% of intervals during baseline.

Upon completion of two one-on-one workshops on Family Guided Routines-Based Intervention and caregiver coaching, Laura entered the workshop phase of the study. During the workshop phase (Figure 1), use of target caregiver coaching strategies was lower than baseline and stable ($M=1.7$, $SD=1.7$, $PND=0$). The percentage of non-overlapping data points was zero which can be interpreted as no effect (Scruggs et al., 1987), or no change in level from baseline to workshop condition. There was very low use of coaching strategies which remained stable throughout the training phase. Because Laura demonstrated less than a 70% mean improvement in her use of seven target coaching strategies, she moved to performance feedback phase. Visual inspection of Figure 1 suggests that during the six week performance feedback intervention, Laura demonstrated a steep and steady upward trend in her use of target coaching strategies. It

appears that her use of target coaching strategies increased during performance feedback ($M=21.6$, $SD=17.6$, $PND=66.7$) when compared to baseline and workshop phases. There was an overall level gain from workshop to performance feedback phase with 66.7% non-overlapping data points which can be interpreted as a questionable effect on the change in level in relation to now receiving performance feedback (Scruggs et al., 1987).

Following completion of the performance feedback phase, all feedback was stopped for a period of three weeks. One month following completion of performance feedback, one maintenance probe was conducted. Visual inspection (Figure 1) reveals an apparent return to below baseline level use of target coaching strategies (5%) with the percentage of non-overlapping data points being zero.

Figure 2 below illustrates the proportion of intervals each participant spent using seven specific target coaching strategies across baseline, training, and performance feedback phases of the study. During baseline, Laura used only two target coaching strategies at low levels, problem solving and direct teaching. During the workshop phase only direct teaching was used at an even lower level. However, during performance feedback intervention, in addition to increasing the proportion of time spent using target coaching strategies overall, Laura increased the repertoire of coaching strategies she used to five, adding three new strategies: observation, caregiver practice with feedback, and guided practice with feedback.

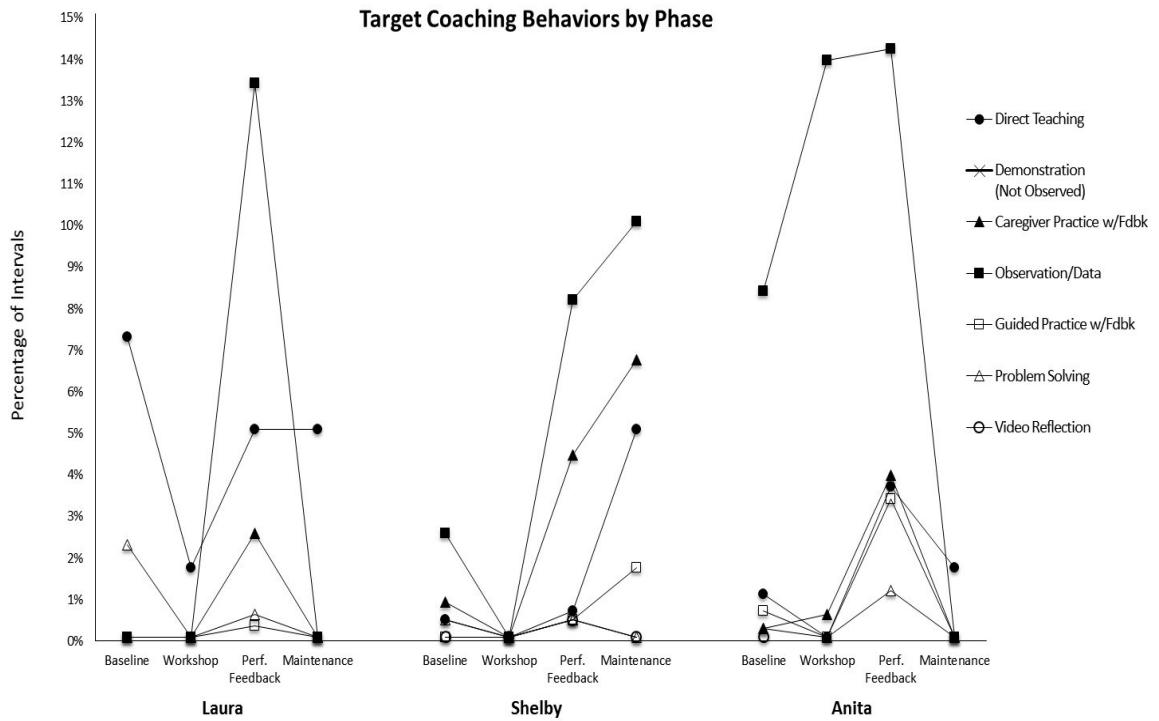


Figure 2: Percentage of intervals using target caregiver coaching behaviors by phase

Home visitor two: Shelby with family dyad 2. The middle graph (Figure 1) illustrates the percentage of time that home visitor participant two, Shelby, used target and non-target coaching strategies during home visits with family dyad two across the four phases of the study. It appears that use of target caregiver coaching strategies during baseline was low with some variability ($M=4.2$, $SD=4.4$) and a relatively steady state of responding. Inclusion criterion was met when Shelby did not display the use of at least four different target caregiver coaching strategies more than 25% of intervals during baseline. Upon completion of two brief workshops on Family-Guided Routines-Based Intervention and caregiver coaching, Shelby entered the workshop phase of the study; use of target caregiver coaching strategies was low and stable ($M=1.6$, $SD=1.7$, $PND=0$). The percentage of non-overlapping data points was zero which can be interpreted as there

was no effect (Scruggs et al., 1987) on use of coaching strategies between the baseline and workshop conditions. Because Shelby demonstrated less than a 70% mean improvement in her use of seven target coaching strategies, she moved to the performance feedback phase. Visual inspection of the graph reveals that during the six week performance feedback intervention, Shelby demonstrated highly variable use of target coaching strategies. However, the percentage of intervals spent using target coaching strategies increased during performance feedback ($M=18.3$, $SD=1.8$, $PND=100$). There was an overall level gain during the intervention phase with 100% non-overlapping data points. This suggests that performance feedback did effectively (Scruggs et al., 1987) relate to changes in the level of coaching strategies used following the workshop phase. Following completion of the performance feedback phase, all feedback was stopped for a period of three weeks. One month following completion of performance feedback, one maintenance probe was conducted. Visual inspection revealed an increase in use of target coaching strategies (23%) which was higher than the mean during the intervention phase.

Figure 2 illustrates the proportion intervals each participant spent using seven specific target coaching strategies across baseline, training, and performance feedback phases of the study. During baseline, Shelby used a total of four target coaching strategies: direct teaching, observation, caregiver practice with feedback, and problem solving. During workshop phase no target coaching strategies were used. However, during performance feedback intervention Shelby increased her coaching repertoire that she used to six, adding two new strategies, video reflection and guided practice with feedback.

Home visitor three: Anita with family dyad 3. The bottom graph in Figure 1 illustrates the percentage of intervals that home visitor participant three, Anita, used target and non-target coaching strategies during home visits with family dyad three across the four phases of the study. Unlike family dyad one and two, the caregiver for dyad three varied across visits. Coding of Anita's coaching behaviors was based on interaction with the caregiver who was present and acting as the child's primary caregiver at the time of the visit. For family dyad three this was the child's father, his father's girlfriend, or the child's grandmother. During baseline, Anita was instructed to interact as she normally would during home visits. It appears that the use of target coaching strategies during baseline was low with some variability ($M=10.4$, $SD=8.4$), and a relatively steady state of responding with the exception of one visit (session 7) at 30%. Inclusion criterion was met when Anita did not display the use of at least four different targeted caregiver coaching strategies more than 25% of intervals during baseline. Upon completion of two brief workshops on Family-Guided Routines-Based Intervention and caregiver coaching, Anita entered the workshop phase of the study. Use of target caregiver coaching strategies was variable during the workshop phase ($M=14.4$, $SD=7$, $PND=0$). Because Anita demonstrated less than a 70% mean improvement in her use of seven target coaching strategies she moved to the performance feedback phase. Visual inspection of the graph during the six week performance feedback intervention suggests that Anita demonstrated a gradual, steady, increasing trend in her use of target coaching strategies ($M=26.1$, $SD=7.5$, $PND=66.7$). There was an overall level gain during intervention phase with 66.7% non-overlapping data points which can be interpreted as a questionable effect (Scruggs et al., 1987) on the degree of level change from workshop to intervention phase.

Following completion of performance feedback, all feedback was stopped for a period of three weeks. One month following completion of the performance feedback, one maintenance probe was conducted. Visual inspection suggests a return to below baseline level use of target coaching strategies (1.6%).

Figure 2 illustrates the percentage of intervals that each participant spent using target caregiver coaching strategies during baseline, workshop, performance feedback, and maintenance phases of the study. During baseline, Anita used five target coaching strategies: direct teaching, observation, caregiver practice with feedback, guided practice with feedback, and problem solving, all of which were used at very low levels with the exception of observation which was used at a much higher rate in comparison. During the workshop phase only two target coaching strategies were used at low levels: observation and caregiver practice with feedback. While Anita increased the average percent of intervals spent using target coaching strategies overall during performance feedback, she did not add any new strategies to her repertoire but rather continued to use, with greater frequency, the coaching strategies she had previously demonstrated during baseline or workshop phase.

Research Question #2: Does the number of family routines that form the context for intervention during home visits increase with training and with an added performance feedback package? Figure 3 below illustrates the proportion of intervals each home visitor used nine routines as the context for intervention during home visits across each phase of the study. Nine of the fifteen coded routines were used with a far higher frequency while six of the routines were used rarely across all home visits.

Consequently, data presented in Figure 3 and the subsequent analysis focused on the nine most frequently used routines.

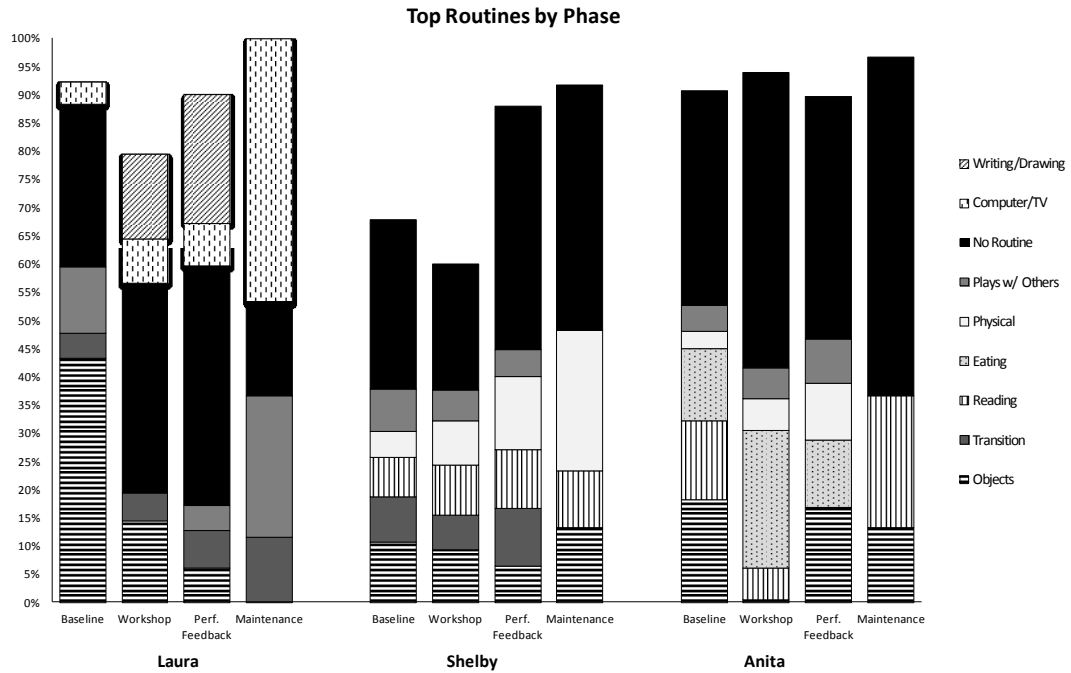


Figure 3: Proportion of time using specific routines as the context for intervention across phases.

Home visitor one: Laura with family dyad 1. Laura demonstrated very little change in the range of routines utilized during home visits across phases of the study. Of the 15 routines coded, Laura used computer/TV, play with others, play with objects, and writing/drawing most frequently across the phases of the study. One notable change is a significant decrease in the use of play with objects from baseline to performance feedback. Laura, like the other two home visitors, spent a significant amount of time in ‘no routine’. A code of ‘no routine’ was used when the child was not interacting with the caregiver or interventionist, as the potential for embedded intervention to occur was not present.

Home visitor two: Shelby with family dyad 2. Shelby's top routines remained relatively consistent across the phases with a significant amount of time coded as 'no routine' (Figure 3) across all four phases. Routines most frequently utilized during intervention included play with others, physical play, reading, and play with objects. One interesting finding was the increasing use of physical play across the phases of the study.

Home visitor three: Anita with family dyad 3. Similar to Laura and Shelby, the range of routines that Anita used as the context for intervention did not vary much across phases. The routines most frequently used included: play with others, physical play, eating/meals, reading, and play with objects. Noteworthy again is the significant amount of time coded as 'no routine'.

Secondary Research Questions

Question #3: *Does home visitor use of specific coaching strategies during home visits relate to changes in caregiver engagement, parental self-efficacy, parental stress, and child developmental progress?*

Caregiver engagement. Caregiver engagement during each home visit was rated by the primary investigator using the seven point Parent-Engagement During Home Visit subscale of the Home Visit Rating Scales (HOVRS; Roggman, et al., 2008). Items were anchored with: (1) Inadequate, (3) Adequate, (5) Good, and (7) Excellent. A copy of the scale is included in Appendix B. All three caregivers demonstrated an increase in mean score from baseline to performance feedback. Caregiver engagement mean and range for each dyad at each phase are presented. Family dyad one: baseline ($M=3$, $R=3$); workshop ($M=3$, $R=3$); performance feedback ($M=3.5$; $R=3-4$). Engagement score dropped to two during one maintenance probe. Family dyad two: baseline ($M=4$, $R=4$); workshop

($M=4.3$, $R=4-5$); performance feedback ($M=5.5$; $R=3-4$). The engagement score increased further to six during one maintenance probe. Family dyad three: baseline ($M=2.3$, $R=1-4$); workshop ($M=2.3$, $R=2-3$); performance feedback ($M=3.7$; $R=3-4$). Engagement score for family dyad three maintained at four for one maintenance probe.

Parental self-efficacy. Self-efficacy refers to an individual's perceptions of himself or herself as competent in a given task or domain (Bandura, 1997). The Early Intervention Parenting Self-Efficacy Scale (EIPSES) consists of 16 items divided into two domains: Parent Outcome Expectations (POE) and Parent Competence (PC), which combine to form a Total Score. See protocol in Appendix C. Each of the three participating primary caregivers completed the scale twice; once at the end of the baseline phase and again at completion of the performance feedback intervention. Table 4 illustrates the mean Total Scores and mean scores for POE and PC factor items for each caregiver. Each caregiver demonstrated a slight increase in total score from pre to post. The average pre-score for this study was 92 with scores ranging from 84 – 104. The average post-score was 98 with scores ranging from 87-109. Results indicate high levels of self-efficacy in the caregivers of this study. This was higher than those reported in Guimond, Wilcox, and Lamorey's (2008) original study ($M=77.12$). These results, both pre- and post-, indicate that the adults within each family dyad experienced moderate to high levels of self-efficacy throughout the duration of this study with little change that may be attributed to their experiences with the home visitor.

Table 4

Pre and post-test raw scores for Early Intervention Parental Self-Efficacy Scale

| Measure | Dyad 1 | | Dyad 2 | | Dyad 3 | |
|-----------------------------------|---------------|-----------|---------------|------------------------|---------------|-----------|
| | Pre | Post | Pre | Post | Pre | Post |
| Adult Performance Measures | | | | | | |
| EIPSES | | | | | | |
| Parent Outcome Expectations | 52 | 53 | 68 | 70 ^a | 54 | 58 |
| Parent Competence | 21 | 23 | 24 | 24 | 24 | 26 |
| Total | 84 | 87 | 104 | 109^a | 88 | 97 |

Note. EIPSES = early intervention parenting self-efficacy scale; POE = parent outcome expectations; PC = parent competence. ^aAdjusted scores were used due to unanswered item(s) for the EIPSES. Adjusted scores were calculated by computing the average score for the completed items within that subscale, rounding to the nearest whole number, and assigning the rounded score to the missing item. Adjusted scores were only used if no more than one item response was missing from any subscale.

Parenting stress. Parenting Stress Index, Fourth Edition Short Form

(Psychological Assessment Resources, Inc.) was designed to evaluate the magnitude of stress in the parent-child system. Thirty-six items are divided into three domains: Parental Distress (PD), Parent-Child Dysfunctional Interaction (P-CDI), and Difficult Child (DC), which combine to form the Total Stress scale. The PSI-SF was completed by the primary caregivers at the end of baseline and at the end of the performance feedback intervention. Table 5 illustrates pre/post raw percentile scores for each caregiver. The normal range of scores for total subscales (PD, P-CDI, DC) and Total Stress is within the 16th to 84th percentiles. Scores in the 85th to 89th percentile are considered high, and scores in the 90th percentile or higher are considered clinically significant. Defensive Responding is clinically significant when the score is 10 or less.

For the pretest, the caregiver within family dyad 1 scored within average range for Parental Distress, Parent-Child Dysfunctional Interaction, and Total Stress. However, Difficult Child scored in the clinically significant range at pretest. Post-test results were similar; the caregiver with family dyad 1 scored within average range for Parental Distress, Parent-Child Dysfunctional Interaction, and Total Stress but scored in the clinically significant range for Difficult Child.

Caregiver within family dyad 2 scored within normal range for all subtests and Total Stress at pretest. It is important to note that Betty scored 8 in Defensive Responding and at the 8th percentile for Total Stress at post-test indicating that she may have been responding in a defensive manner, therefore caution should be exercised in interpreting results. The Defensive Responding scale assesses the extent to which the respondent approaches the questionnaire with a strong bias to present the most favorable impression of him- or herself or to minimize indications of problems or stress in the parent-child relationship (Abidin, 1995). At post-test, the caregiver within family dyad 2 scored below the normal range in Parental Distress (7thile) and Difficult Child (14thile) and within normal range for Parent-Child Dysfunctional Interaction.

Caregiver for dyad 3 scored within normal range for Total Stress and Parental-Child Dysfunctional Interaction at both pre-test and post-test. However, Difficult Child scored within the clinically significant range at both pre-test and post-test. It is important to note the family dyad 3 scored clinically significant in Defensive Responding for the Parental Distress subscale at pre and post-test so results should be interpreted with caution. Extremely low Defensive Responding score suggests one of three hypothesis (a) the parent is trying to portray himself as a very competent individual who is free of the

emotional stresses normally associated with parenting; (b) the parent is not invested in the role of parent and therefore is not experiencing the usual stresses; (c) the parent is a very competent individual who handles responsibilities of parenting well.

Table 5

Pre and Post-test Percentile Scores for Parenting Stress Index (PSI)

| Measure | Dyad 1 | | Dyad 2 | | Dyad 3 | |
|--|--------|------|--------|------|--------|------|
| | Pre | Post | Pre | Post | Pre | Post |
| Total Stress | 77 | 75 | 39 | 8 | 67 | 58 |
| Parental Distress | 62 | 46 | 36 | 7 | 3 | 3 |
| Parent-Child Dysfunctional Interaction | 73 | 59 | 70 | 24 | 63 | 55 |
| Difficult Child | 96 | 98 | 14 | 14 | 99 | 96 |

16-84 Percentile: Normal Range

85-89 Percentile: High Range

90+ Percentile: Clinically Significant Range

Note: Defensive responding is clinically significant when the score is 10 or less.

Child developmental progress. Two different measures were used to examine child progress. First, a snapshot of the child participant's overall development was captured using the Ages and Stages Questionnaires (ASQ), 3rd Edition (Squires and Bricker, 2009). In addition, child progress on one target skill or behavior was measured using individualized Goal Attainment Scales.

The ASQ was completed by the primary caregivers at the end of baseline and at the end of the performance feedback intervention phase. Table 6 illustrates pre/post raw scores, cutoff scores, and interpretation (pass, at risk, fail) across developmental domains. At pre-test, the child in family dyad one scored above cutoff (pass) across all domains with the exception of an 'at risk' score in the area of fine motor. All scores at post-test fell above cutoff (pass). At post-test, scores across all domains fell above cutoff (pass). The child in family dyad two scored below cutoff (fail) across all domains at both pre-test

and post-test. The child within family dyad three scored below cutoff (fail) across all domains at pre-test. However, at post-test Communication and Fine Motor fell close to cutoff (at-risk), and Gross Motor fell above cutoff (pass).

Table 6

Ages and Stages Questionnaire (ASQ) Results

| Domain | Dyad 1 | | | | Dyad 2 | | | | Dyad 3 | | | |
|-----------------|--------------------|-------------------|---------------------|-------------------|--------------------|-------------------|---------------------|-------------------|--------------------|-------------------|---------------------|-------------------|
| | Pre-test raw score | Pass/Fail/At Risk | Post-test raw score | Pass/Fail/At Risk | Pre-test raw score | Pass/Fail/At Risk | Post-test raw score | Pass/Fail/At Risk | Pre-test raw score | Pass/Fail/At Risk | Post-test raw score | Pass/Fail/At Risk |
| Communication | 25.17 | P | 33.30 | P | 30.99 | F | 30.99 | F | 13.06 | F | 13.04 | R |
| Gross Motor | 38.07 | P | 36.14 | P | 36.99 | F | 36.99 | F | 37.38 | F | 27.75 | P |
| Fine Motor | 35.16 | R | 19.35 | P | 18.07 | F | 18.07 | F | 34.32 | F | 29.61 | R |
| Problem-Solving | 29.78 | P | 27.08 | P | 30.29 | F | 30.29 | F | 25.47 | F | 39.30 | F |
| Personal-Social | 31.53 | P | 32.01 | P | 35.33 | F | 35.33 | F | 27.19 | F | 30.07 | F |

P=pass
R=at risk
F=fail

Child progress on one target skill per child was measured using individualized Goal Attainment Scales (GAS). Target skills were identified based on caregiver priority of Individualized Family Service Plan outcomes. The basic elements of GAS are a 5-point scale ranging from +2 to -2 and descriptions of the target behavior. The ratings are as follows: (+2) much greater than expected, (+1) greater than expected, (0) expected level of performance in 3 months, (-1) current level of performance/baseline, (-2) regression from current level of performance/baseline. Individual child scales can be found in Appendix K. For each target skill, a probe was conducted once at the end of

baseline (probe #1), once at the end of training (probe #2), and once at the end of performance feedback intervention (probe #3) for each child.

There are no GAS scores for the child in family dyad one. The family and home visitor identified a priority and the subsequent scale focused on decreasing child aggression toward the family dogs and increasing appropriate interactions with the dogs. Unfortunately, the dogs were either put away or redirected during visits and the identified target skill was not the focus of intervention for the majority of home visits across the study's phases (see discussion). This resulted in no opportunity to observe the child with the dogs in order to score the GAS during the three probes.

Each of three GAS probes of the target skill for family dyad two was scaled -1 which suggests that the child did not make progress toward the target skill but rather remained at baseline level across the course of the study. For the child in family dyad three, GAS probes one and two were scaled at -1 (baseline level), however, probe three was scaled at 0 suggesting that the child progressed to the expected level of performance.

***Question #4:** To what extent do participating home visitors report the use of specific professional development approaches to be: (a) acceptable, (b) feasible, and (c) effective in changing practice? And, to what extent do caregivers report the use of home visitor coaching strategies to be: (a) acceptable, (b) feasible, and (c) effective in changing practice?* At the end of baseline, workshop and performance feedback, each home visitor and caregiver completed a seven-point, Likert scale examining social validity. Table 7 provides mean responses and standard deviations for each question at each phase for caregivers and home visitors. Home visitors rated all six items relatively high across all three phases (response means ranged from 5 to 7), with the exception of

question three which asks how easily the professional development fit into the typical work day. For this question, the response mean across home visitors was 4.67 at baseline, 3.33 at workshop, and 4.33 at performance feedback phase suggesting that home visitor participants found the workshops and performance feedback somewhat difficult to fit within their typical work day. The greatest change in mean score from baseline to performance feedback was question one asking home visitors how acceptable they find the professional development to be regarding priorities for growth; baseline (M=5, SD=1), workshop (M=6, SD=0), performance feedback (M=7, SD=0) suggesting they found the professional development to be acceptable in addressing their priorities. Similar to home visitors, participating caregivers rated all six items relatively high across all three phases (response means ranged from 5 to 7). Caregiver response averages had one point or less variability across phases with slightly increasing scores across items from baseline to the intervention phase suggesting that caregivers found home visits to be (a) acceptable, (b) feasible, and (c) effective in producing an effect across the phases of the study

Table 7

Modified Treatment Acceptability Rating Form (TARF) Item Averages Across Phases

| Item | Question | Baseline | | Workshop | | Performance Feedback | |
|---------------------|---|----------|------|----------|------|----------------------|-----|
| | | <i>M</i> | SD | <i>M</i> | SD | <i>M</i> | SD |
| Caregiver | | | | | | | |
| 1. | To what extent do home visits address your priorities for your child and your family? | 6.6 7 | .58 | 7 | 0 | 6.6 7 | .58 |
| 2. | How likely are you to be <i>actively involved</i> and interacting with your child during home visits? | 6.3 3 | 1.15 | 7 | 0 | 7 | 0 |
| 3. | How likely is it that participating in this home visiting program will result in progress toward your child and | 6.3 3 | 1.15 | 6.6 7 | .58 | 7 | 0 |
| 4. | To what extent do you practice intervention strategies with your child between home visits? | 5 | 0 | 5.3 3 | 1.15 | 6 | 1 |
| 5. | How well does carrying out recommended interventions fit into your daily routines and activities? | 5.3 3 | .58 | 5.3 3 | 1.15 | 6 | 1 |
| 6. | How likely are you to recommend home visiting programs to your family or friends? | 7 | 0 | 7 | 0 | 7 | 0 |
| Home Visitor | | | | | | | |
| 1. | How acceptable do you find the professional development to be regarding your priorities for growth? | 5 | 1 | 6 | 0 | 7 | 0 |
| 2. | How useful do you believe this professional development will be to you? | 6.3 3 | 1.15 | 6.3 3 | .58 | 7 | 0 |

| | | | | | | | |
|----|--|----------|------|----------|------|----------|------|
| 3. | How easily does the professional development fit into your typical work day? | 4.6 7 | 1.15 | 3.3 3 | .58 | 4.3 3 | 1.52 |
| 4. | How reasonable are the time demands for participating in this professional development? Do you find it an efficient method of development? | 5.6 7 | .58 | 5 | 1 | 5.6 7 | 1.53 |
| 5. | How effective do you think the professional development | 6 | 1 | 6.3 | .58 | 7 | 0 |
| 6. | How likely are you to recommend this method of professional development to your peers? | 6 | 1 | 6.3 3 | 1.15 | 7 | 0 |

Note. All items scored 1 (*not at all, unlikely, not at all well, not at all acceptable, not at all easily, not likely*) through 7 (*to a great extent, very likely, very well, very acceptable, very useful, very easily, very reasonable/efficient, very effective*).
M = mean.

Reliability

Two observers independently coded home visit videotapes across all phases and participants for 20% of sessions. Percentage of agreement for caregiver coaching strategies was 93%, ranging from 73%-100%. Percentage of agreement for routine codes was 95%, ranging from 43%-100%. The interclass correlation coefficient for ratings of parent engagement was .62 (95% CI = 0.07 - .95). As a measure of absolute agreement between ratings, an ICC of .62 is considered low, yet adequate. Percentage agreement for goal attainment scaling was 100%.

A fidelity checklist was developed to identify the content and duration of the workshop sessions as well as content and timing of performance feedback. As a measure of procedural integrity, the primary investigator used the fidelity checklists to ensure the initial training and e-mail feedback procedures were implemented consistently across home visits. All fidelity checklists suggest consistency across participants. Checklists can be found in Appendices I and J.

CHAPTER 5: DISCUSSION

The primary purpose of this investigation was to evaluate the effects of a multicomponent professional development intervention that included workshop plus a six week performance feedback package on Part C home visitors' use of caregiver coaching strategies and use of home routines during home-based intervention. Secondary research questions sought to explore the extent to which changes in home visiting practices related to changes in parental engagement, stress, and self-efficacy, as well as child developmental progress. The present study identified several themes related to research questions that will be discussed within the context of the existing literature. This will be followed by a discussion of the limitations of the current investigation as well as implications for future research.

Primary Research Questions

Increasing the use of caregiver coaching strategies. Supporting adult caregivers to adopt new practices and adapt naturally occurring routines to support the learning needs of an infant or toddler with developmental delays has long presented challenges for home visitors. Use of specific caregiver coaching strategies by home visitors within the Family-Guided Routines-Based Intervention (FGRBI) model was selected as the content focus of professional development in the current investigation given recommendations (DEC, 2014; Kashinath et al., 2006; Wetherby & Woods, 2006; Woods & Brown, 2011; Woods, Kashinath, & Goldstein, 2004). This study contributes to emerging research suggesting that home visitors can use a range of coaching strategies within routines and vary their strategy use based on caregiver response and individual contexts when on-going support for using coaching practices is in place (Basu, Salsibury, & Thorkildsen,

2010; Marturana & Woods, 2010; Salisbury, Cambray-Engstrom, & Woods, 2011). Performance feedback was identified as the method of on-going support because it has demonstrated efficacy in a variety of fields and recently in elementary and secondary education (Alvero, Bucklinm, & Austin, 2001; Balcazar, Hopkins, & Suarez, 1985; Mortenson & Witt, 1998; Noell et al., 1997, 2000, 2005; Witt, et al., 1997). More recent findings also support the use of performance feedback focused on the implementation of evidence-based practices in early childhood classroom contexts (Barton & Wolery, 2007; Cambray-Engstrom & Salisbury, 2010; Casey & McWilliam, 2008; Cotnoir-Bichelman, Hemmeter, Snyder, Kinder, & Artman, 2011; Kaiser, Ostrosky, & Alpert, 1993; Marturana & Woods, 2010; Mudd & Wolery, 1987; Schepis, Reid, Ownbey, & Parsons, 2001; Venn & Wolery, 1992). Given previous work establishing that changing teacher practices generally requires more than isolated trainings or workshops (Showers et al., 1987), performance feedback based on direct observation of implementation of the new practice is becoming a key component of professional development interventions intended to support teachers' implementation of empirically supported practices. Despite growing empirical support for performance feedback, research is limited within home-based contexts such as with the provision of Part C services. Very few published studies have examined specifically the use of performance feedback with early intervention home visitors. The current investigation contributes to the emerging evidence in support of the use of performance feedback with early intervention home visitors and extends it in a number of ways.

Past studies have found that a significant proportion of home visit time is spent in provider-child focused strategies and/or conversation and information sharing (Basu,

Salisbury, & Thorkildsen, 2010; Campbell & Sawyer, 2007; Peterson et al., 2007). Findings from this study suggest the same; all three participating home visitors spent 90% or more of their time using non-target strategies such as conversation and child-focused interventions during baseline phase. For two of the three participating home visitors, it appears that participation in workshops also did not result in an increased use of target caregiver coaching strategies. To the contrary, two of the home visitors actually had a reduction in the average percentage of intervals using target strategies during the workshop phase. This is commensurate with a sundry of professional development research suggesting that although ‘sit and get’ teacher trainings/workshops continue to be the most widely used professional development format, that method of professional development is insufficient to bring about sustained, substantive change in teaching practices (Campbell, Chiarello, Wilcox, & Milbourne, 2009; Garet, Porter, Desimone, Birman, & Yoon, 2001; Joyce, Showers, & Bennett, 1987; Snyder & Wolfe, 2008).

While changes in home visitor practices during workshop phase were limited in the current investigation, participants demonstrated an increased use of target caregiver coaching strategies when a performance feedback package was added thus supporting the original hypothesis that performance feedback would increase home visitors’ use of target caregiver coaching strategies and decrease the use of non-target strategies most commonly used such as child-focused intervention and conversation and information sharing. While performance feedback has been researched extensively in employment, institutional, and education settings (Alvero, Bucklinm & Austin, 2001; Balcazar, Hopkins, & Suarez, 1985; Mortenson & Witt, 1998; Noell et al., 1997, 2000, 2005; Witt et al., 1997), this study supports and extends evidence on the use of performance

feedback in early childhood. Casey and McWilliam (2011) reviewed 19 investigations of performance feedback in early childhood classroom contexts with results suggesting an immediate and clear feedback effect for the majority of tiers investigated (participants, settings, or behaviors). Extending the use of performance feedback to early intervention providers working in home contexts, Maturana and Woods (2012) found, similar to the current findings, that early intervention recipients of performance feedback spent less time in child-focused intervention and more time using specific coaching strategies with the caregiver and child as a dyad. Furthermore, the present study adds support for recent findings that performance feedback can be effective when delivered via technology (e.g., Maturana & Woods (2012); Pianta et al., 2008; Powell, Diamond, Burchinal, & Koehler, 2010). Analysis of data and a review of videos, home visitor interviews, and reflective e-mail responses, lead to the identification of several themes related to the primary research question. These themes will be discussed within the context of existing literature.

Increasing use of strategies and a paradigm shift. A primary tenant of FGRBI is a focus on the caregiver-child dyad and use of strategies aimed at increasing successful caregiver-child interaction with an eye toward qualitative and/or quantitative changes in the interactions between the caregiver/child dyad that result in embedded learning opportunities for the child. In the current study, a few patterns can shed light on how individualized performance feedback sought to build on established strengths of each home visitor and how home visitors began to shift their practice and thinking about the importance of caregiver/child dyad over the course of the investigation.

First, all three home visitor participants spent a great deal of time in child-focused interactions at baseline, however, there were home visiting patterns in place that were strengths to build upon from a professional development standpoint. Most notable, participating caregivers were typically present in the same room with the home visitor and child during visits. In addition, there were established routines for visits. Therefore, performance feedback across participants sought to build on this strength and support home visitors to shift their role from a focus on the child to a focus on the caregiver/child dyad. Appendix L provides an example of performance feedback; the second package of performance feedback that Laura received. Notice how feedback focused on helping Laura to reflect on how she might support caregiver-child interaction during “play with objects”, an established home visiting routine. In examining the percentage of intervals spent using target strategies between weeks nine and twelve, an increase in target coaching strategies that fostered caregiver-child engagement is noted and there was a subsequent decrease in non-target strategies such as child-focused strategy. Upon completion of the study, Laura reflected on her own next steps, “With new families I want to not set up bad habits like bringing in toys and focusing on playing directly with the child the whole time.”

Shelby also increased her use of target caregiver coaching strategies; however, baseline and workshop videos revealed that she was already engaging the caregiver and child as a dyad as evidenced by her use of joint interaction which was 35% of intervals during the last point in the workshop phase. During the pre-interview, Shelby described her role as “encourager of child/parent interaction.” Again, performance feedback attempted to build on this strength and on the established home visiting routines of “play

with objects” and “reading books” because they were routines that both the caregiver and Shelby were already comfortable with, making it a safe context for both to practice new ways of interaction through the use of caregiver coaching strategies. Laura’s initial performance feedback was directed at building on existing strengths by supporting Anita to use established joint interaction patterns to set the stage for more coaching opportunities. This is an example of a portion of feedback from Shelby’s first performance feedback package “One simple way to shift from child directed or joint interaction to more caregiver practice with feedback is to let the caregiver take the lead role (that you would typically take). For example, when looking at books, the interventionist might invite the caregiver to hold the book and lead the interaction. The interventionist role would then shift to observer and when there was an opportunity, he/she could offer suggestions or feedback relative to what’s being observed.” At the completion of the study, in explaining her philosophy and how she described home visits to families, Shelby focused on explaining to families the importance of making sure to observe everyday routines and activities, “I check in to see how during the week practice is going...I observe you and your child together and then together we can come up with new strategies.” She added that changing how she viewed her role away from child-focused had been “very freeing” in the sense that she didn’t not need to be singularly focused on keeping the child engaged throughout the whole visit but now saw her role as more broadly in support of the caregiver/child dyad.

A final example of using performance feedback that built on established home visiting strengths in order to support the caregiver/dyad interactions came from Anita whose participating family dyad offered a much more complex family system. In the

case of family dyad three, there were many adults in the home and the primary caregivers present for visits with Anita varied from visit to visit. While there were many factors influencing each visit, Anita was still able to increase her use of caregiver coaching strategies during performance feedback. For Anita, the first and greatest challenge that she tackled was discovering ways to establish the expectation of engagement of the primary caregivers during home visits. During baseline the caregiver was present for only four out of eight visits. As a result, Anita spent a significant amount of time in child focused activities, nearly 40% of intervals during baseline. During the pre-interview, Anita explained she does not bring her own toys but rather “models play using their toys or reading books with the child.” She reported that caregivers typically participated by “being in the room and watching and by reading written feedback.” Anita noted that “caregivers do not always participate although I invite them to play along. I would like to learn more ways to engage parents with their children especially in homes that do not have many toys.” Therefore, performance feedback focused on supporting Anita to increase caregiver/child interactions. Appendix M is the first performance feedback package that Anita received. There are a few important things to note. The feedback focused on the importance of caregiver engagement during visits and encouraged Anita to reflect on the amount of time spent in child focused activities (46% of intervals). Secondly, Anita was directed to a resource on Enhanced Milieu Teaching; an evidence-based, naturalistic intervention that uses child interests and initiations as opportunities to model and prompt language in everyday contexts (Kaiser & Trent, 2007). This is important to note from a professional development perspective. It was evident from viewing eleven home visits prior to the provision of performance feedback that Anita was

limited in the range of intervention strategies she was using with the child and subsequently teaching his caregivers to use with him. Therefore, offering suggestions of intervention strategies, or at least resources to consider was integrated into the performance feedback on several occasions. In order to be an effective coach or guide for caregivers, home visitors must first have a strong grasp on a range of strategies that are known to be effective for supporting the development of young children with disabilities. As Anita made progress in increasing caregiver engagement through joint interaction, and reduced her time spent in child focused activities, performance feedback shifted to supporting her capacity to step back and shift her role to guidance and feedback. Appendix N is Anita's 5th performance feedback package. Note the increase in the range of coaching strategies used, and the subsequent decreased use of child focused strategies (10% of intervals). Feedback focused on reinforcing the use of a range of strategies including setting up activities that required the caregiver to participate while allowing him to stay on the couch (car rolling). Overall, within a complex family system, Anita was able to reduce the average percent of intervals spent in child focused activities to 13% during performance feedback (from 40% at during baseline).

Following completion of the study, in explaining her philosophy and how she described home visits to families, Anita said she explains up front that they need to be present and should "do what they normally would do." She added that she tells caregivers that the "TV, headphones, etc. should be off so they can focus on interacting with their child." Anita noted that for family dyad three, she considered it successful progress that the father was more consistently participating in home visits and was more actively involved, "now he is more engaged; he knows his role during home visits is to

engage with his son.” In addition to a shifting focus on the caregiver/child dyad, analysis of data and a review of videos, home visitor interviews, and reflective e-mail responses, lead to the identification of the role of reflection in changing practice. This theme will be discussed within the context of existing literature.

Facilitating practitioner reflection when changing practices. The purveyor of the workshop and performance feedback, the primary investigator, had positive professional relationships with participating home visitors; all three home visitors had previously participated in large group professional development provided by the primary investigator. The importance of professional development and implementation ‘coaching’ as a relationship-based process is well documented in the adult education literature (NRC; Donovan, Bransford, & Pellegrino, 1999) therefore recruiting home visitor participants who had previously experienced positive and supportive interactions with the primary investigator was an important consideration and may have been a supporting factor in the progress they made. Furthermore, adult learners are most motivated when they can see the usefulness of what they are learning and when they can use that information to do something that has an impact on others, especially their local community (Brandsford et al., 2000). Therefore, inclusion of participants who were motivated to engage in an individualized approach to professional development focused on developing strategies that could be immediately applied to their current teaching context was also an important consideration and may have played a role in the results of the present investigation. Future investigators may wish to explore the impact of established relationship between the coach and coachee and/or identify it as an inclusion factor.

An additional observed trend in the current investigation was the role home visitor reflection played. As identified in the performance feedback fidelity checklist, each dose of performance feedback closed with a question or reflective prompt meant to trigger a response from the participating home visitor. This prompt served two purposes; first to confirm receipt of feedback and evidence of having read it, second it created an opportunity to gain a glimpse into the home visitor's reaction and reflection on feedback. Response to reflective prompts varied considerably across home visitors. Home visitors one and three, did not consistently respond to reflective prompts provided during performance feedback phase. However, they did acknowledge receipt and occasionally offer a comment. For example "I have to say, the visual feedback makes me feel more confident in what I'm doing. Last week felt a little iffy to me, but clearly something is sinking in." Both of these home visitors (Laura and Anita) returned to near baseline levels of caregiver coaching during maintenance phase. Although conclusions about maintenance cannot be drawn from one probe, it is possible that more specific expectations to engage in reflection following receipt of weekly feedback may have further supported learning and maintenance of skills.

Shelby's results, on the other hand, suggest that she maintained and actually increased her use of target caregiver coaching strategies once feedback ended. Analysis of her reflective responses shed light on some important distinction between her and the other two participating home visitors.

Contrary to Laura and Anita, Shelby consistently responded to weekly feedback reflection prompts provided. Her responses demonstrated insightful self-reflection. For example, in response to feedback encouraging her to provide caregiver one with positive

reinforcing feedback for her successful interactions with her child, Shelby offered the following “I thought it would be easy to give the caregiver positive feedback but it felt uncomfortable during the last visit. All of her interactions with her daughter seem so appropriate. I think I worry that my feedback will sound inappropriate because I would not be providing her with insight about her behavior. I think I will tell her that I am working on providing more feedback to her during the home visits.” The following week, she offered further reflection: “I am just realizing that I am hesitant to try coaching strategies with the caregiver because of her background in education. I make assumptions about her knowledge about home visits and coaching which may or may not be true. I worry about looking foolish without explaining to her why I am observing her and her daughter and why I am using coaching strategies. It will be easier for me to practice the strategies if I let her know what I am working on and why.” This is a great example of how, through self-reflection, Shelby was able to better understand her own emotional reaction to the small changes she was making in her practice. This self-awareness and acceptance of her feelings of uncertainty and discomfort led her to identify how to communicate differently with the family in order to facilitate her own professional goal of increasing her use of caregiver coaching strategies.

Furthermore, Shelby’s reflective responses suggested that she was making an effort to generalize coaching strategies she was practicing to other families with whom she was working; noting, like Laura, that it was easier to start with new families: “It has been easier to incorporate the coaching strategies of observing the dyad and giving positive feedback to the new families I just started working with. With the new families, I am beginning to draw attention to redirection strategies after I demonstrate it. Now if I

can just remember to draw attention to it before it occurs. I also provide the new families with information about coaching and family based routines after the IFSP meeting.” One final example of Shelby’s reflective nature and efforts to generalize new learning to other families: “Recently I thought out loud to a parent after I gave them a specific suggestion, ‘I should have asked you how you could provide smaller amounts of string cheese or other foods when your child wants to take a bite of the food but then spits it out.’ She liked my idea of cutting the food lengthwise into narrower strips, however, I know she would have come up with the same idea if I had asked her an “I wonder... question.” Shelby’s tendency toward self-reflection may have been one factor in her ability to maintain and actually increase her use of caregiver coaching strategies once feedback ceased. Future investigations should have clear expectations for reflective response and look more closely at the role reflection plays in learning and maintenance of new skills as home visitors grapple with shifting their practice to include the use of more caregiver coaching strategies.

Home visitor perceptions of barriers and challenges to coaching caregivers.

Several trends were noted regarding home visitor perception of challenges associated with coaching caregivers. Trends were identified through analysis of home visitor responses to reflective questions and pre/post interviews are discussed.

Although all three home visitors demonstrated increased use of observation and guided practice with feedback over the course of the study; several mentioned challenges associated with the use of these strategies. For example, they often felt like they were ‘doing nothing’ when observing and worried what families might think. Another shared that she was uncomfortable with being quiet and frequently wanted to ‘fill the space’ by

talking versus observing or listening. She worried, “Am I doing enough?” if not spending as much time playing with the child each visit. As with Shelby’s realization about the source of her discomfort with offering feedback, reflection can play a role in helping home visitors understand the reasons behind their hesitation and/or discomfort with specific strategies. Collaborating with families to identify strategies for working together that are a good ‘fit’ for both caregiver and interventionist may result in less hesitation as well. Finally, helping families understand the importance of using observation, for example, as a tool can be built into the teaching and learning cycle.

Several comments suggested the home visitors found it easier to incorporate coaching strategies with new families as opposed to families with whom there were established home visiting patterns that were difficult to break. For example, Shelby shared, “It has been easier to incorporate the coaching strategies of observing the dyad and giving positive feedback to the new families I just started working with. I also provide the new families with information about coaching and FGRBI after the IFSP meeting.” Anita commented that she tended to see better caregiver participation if she made it clear from the beginning of the relationship that home visits are not just for the child but are focused on the parent and child interacting together. She added that they establish clear expectations from the outset such as agreeing that TV, headphones, etc. should be off so they can focus on interacting with their child. It would be interesting for future investigations to explore the extent to which providers are more easily able to establish coaching patterns with new families as opposed to those with whom they have long established patterns of interacting that rely heavily on child-focused strategies. In addition, feedback might support home visitors in how to jointly establish clear

expectations for home visits as well as talk with families about the types of strategies their home visitor may use to support the caregiver/child dyad. Furthermore, family contextual variables may play a role in home visitor selection of coaching strategies and/or certain types of strategies may ‘fit’ certain family contexts better than others.

Overall, the results of the current investigation provide evidence to warrant further exploration of the utility of multi-component professional development that includes a relatively brief performance feedback package. Insight gleaned through home visitor reflection and interviews support the use of feedback that is individualized and attempts to build upon the existing home visiting practices in ways that further support a focus on the caregiver/child dyad. However, unlike Maturana and Woods (2012) who found home visitors were able to maintain their use of coaching strategies once performance feedback ended, one probe conducted four weeks after feedback had stopped suggests that changes in practice did not maintain for two out of three participants in this study.

There are several possible explanations for the lack of maintenance of caregiver coaching strategies in this study. First, the dose of six packages of feedback may not have been sufficient. Second, the conclusion of feedback may have been too abrupt to maintain the use of strategies. It is possible that home visitors would have more success maintaining the use of coaching strategies if feedback was faded gradually and/or ‘booster’ feedback was provided proactively. A meta-analysis of adult learning approaches found that the largest effect sizes were related to the use of evaluation strategies such as encouraging adults to reflect on the impact of their new knowledge, and engage in self-assessment about the application of their new skills (Dunst & Trivette

2009). It is possible that a more concerted effort to support home visitors in the current investigation to engage in self-reflection and assessment over the course of the investigation, may have impacted their learning and subsequent maintenance of skills. Although reflective questioning was a component of each performance feedback package, there was not an established expectation that the home visitor respond to the questions other than responding that the feedback had been received. Furthermore, there was no way for the investigator to confirm if each feedback had actually been read, much less reflected upon. Future investigations should establish clear expectations for a response to the receipt of feedback as well as participant reflection upon feedback not only to confirm that the feedback had been read, but to support the adult learning process and in turn glean insight in the learning process that could be applied to subsequent feedback.

Range of routines. In addition to examining the home visitors' use of caregiver coaching strategies during home visits, the current investigation also sought to identify the range of routines utilized during home visits across the phases of the study. Consistent with prior research, play-based routines dominated home-visiting sessions in the current investigation. Cambray-Engstrom, Salisbury, and Woods (2010) found that play-based routines (i.e., plays with objects, physical play, pretend play, and play with others) accounted for more than half of all observed routine contexts. Similar to Manturana and Woods (2012) participants of the current study used a small range of routines during visits (writing, reading, eating) at baseline, with play routines (play with objects, play with people, physical play) being by far the dominant context. When considering the high proportion of intervals all three participants spent engaging in

conversation and information sharing, it is not surprising that a high percentage of intervals across phases and participants was coded as ‘no routine’. A code of ‘no routine’ was used when the child was not interacting with the caregiver or interventionist, as the potential for embedded intervention to occur was not present. An example would be when the caregiver and the interventionist are engaged in conversation with no interaction with the child. In the case of the current study, as home visitors increased their use of specific coaching strategies from baseline to the performance feedback phase, there was not a subsequent reduction in the amount of time spend in ‘no-routine’.

High rates of conversation and information sharing, also documented by others (Salisbury et al., 2010) may reflect a few realities of early intervention. First, home visitors serve many functions and the need for time spent in information sharing varies from family to family based on service coordination needs, family priorities, informational needs, and child developmental needs and progress. For two participating families in particular, complex child and family needs resulted in the need for vast amounts of service coordination, likely impacting the amount of time spent in conversation and information sharing. Second, the social nature of home visiting in general as well as previously established home visiting routines, roles, and expectations likely impacts the amount of time spent in conversation as opposed to supporting interactions between the caregiver/child dyad. For example, when describing what a typical home visit looks like, one home visitor, prior to beginning the study, explained she likes to “have fun playing with the child right away” explaining that caregivers typically participate through dialog, answering questions, and sharing information. Another participant said she typically spends time checking in on how things are going.

As Cambray-Engstrom and Salisbury (2010) suggested, conversation and information sharing are valuable and focusing home visits solely on interactions related to intervention would be inconsistent with family-centered practices. Unfortunately there are no guidelines for how much or how little time to spend in conversation and this likely varies greatly from family to family just as family contextual variables vary greatly from family to family and change over time

For all three participants in the current study, the small range of routines they used from the outset of the study remained fairly stable across phases suggesting the performance feedback did not expand the range of routines utilized. While there were changes in the amount of time spent within established routines such as a significant reduction in play with objects from baseline to performance feedback (Laura) and increased her use of physical play (Shelby), these changes were all in the area of play and intervention did not expand into caregiving (eating, dressing, etc.) or community routines (going to the park, church, etc.). This is contrary to Manturana and Woods (2012) who found performance feedback resulted in the use of a greater range of family routines. This may be explained by the fact that qualitative and quantitative performance feedback that was provided to participants of this study focused primarily on increasing the use of caregiver coaching strategies rather than expanding the range of routines. Because all three participants demonstrated use of very few caregiver coaching strategies at baseline and workshop phase, the decision was made to initially focus feedback on coaching strategies with the intent to extend feedback into expanding routines once providers demonstrated an increase in caregiver coaching. The decision to focus primarily on increasing the use of coaching strategies (versus expanding routines) was based on the

premise that adults learn best when they are able to focus on one skill at a time and when they can connect new learning to prior knowledge and/or experiences (Knowles, 1980).

In the present study, interventionists focused their practice and new learning on one thing, use of coaching strategies, within the familiar context of the routines that had previously been established during home visits. With this approach to performance feedback, the interventionists' use of caregiver coaching strategies did increase, though the use of the strategies did not expand to the application within a broader range of family routines. There are several possible explanations for why the implementation of coaching strategies within a broader range of routines was not observed in this study. First, the dose of professional development, two face-to-face workshops followed by six performance feedback packages over the course of five months may not have been sufficient. While Manturana and Woods (2012) found an expanded range of routines following two face-to-face workshops and a relatively small dose of four performance feedback sessions delivered over eight months, Casey and McWilliam (2011) identified in their review that weekly feedback was by far the most prevalent and the duration varied considerably. Second, though it was hypothesized that interventionists may naturally generalize their use of coaching strategies to more family routines, performance feedback that explicitly supports generalization to new family routines may be needed.

Secondary Research Questions

A secondary purpose of the current investigation was to examine the extent to which the home visitors' use of caregiver coaching strategies related to changes in parental engagement, parental stress, parental self-efficacy, and child developmental

progress. Several trends in the results coupled with caregiver and home visitor pre and post interviews will be discussed within the context of existing literature.

Parental engagement. Emerging evidence supports using family-guided practices that incorporate caregiver coaching strategies to support caregivers in becoming more competent and confident in embedding intervention into their daily routines and activities (Brown, 2012; Cambray-Engstrom & Salisbury, 2010; Coston, 2008; Woods & Goldstein, 2004; Woods, Kashinath, & Goldstein, 2004). Caregiver engagement during early intervention home visiting is therefore a necessary ingredient to support caregivers to build confidence and competence in implementing interventions within existing family routines and activities. In early intervention there is evidence that home visitor reliance on child-focused strategies during home visits is associated with less caregiver engagement. Strategies such as caregiver practice with feedback and joint interaction have been found to be related to increased caregiver engagement (Cambrey-Engstrom & Salisbury, 2010). Strategies associated with the likelihood of parents using intervention at a higher rate than during other times during the home visit included caregiver practice with feedback, observation, and guided practice with feedback.

Using the Parent-Engagement During Home Visit Subscale of the Home Visit Rating Scale (HOVRS), caregivers in the current investigation demonstrated an increase in mean score of engagement from baseline to performance feedback. Family dyads one and two began the study with ‘adequate’ and ‘good’ levels of parent engagement at baseline, and maintained those levels during the workshop phase. As discussed above, this relative strength in terms of caregivers engaging during home visits was built upon during the performance feedback phase. For both family dyad one and two, mean

engagement scores increased to the next level (average to good and good to excellent) during the performance feedback phase. One explanation for increased caregiver engagement is that increased use of target caregiver coaching strategies such as observation and caregiver practice with feedback and decrease use of non-target strategies such as child-focused interventions resulted in the family participating more actively during home visits.

A trend observed in pre and post caregiver interviews suggested that, initially, caregivers saw their role during visits as primarily observational and that they noticed changes the home visitor made and responded by engaging differently during visits. For example, in describing her role during home visits, caregiver two shared that she usually watched, helped keep her child safe, and participated as invited to do so. She went on to add, “It’s nice to have someone else do the therapy and it’s convenient that they do it in the home.” However, during post-interviews, the same caregiver mentioned that her home visitor typically asks what they would like to work on together during the visit and “she watches me and (my child) practice a strategy after which we brainstorm different ways to do it.” She added that “I sometimes feel like I’m taking over the visits.” Similarly, during the pre-interview, the grandma in caregiver/child dyad three described home visits in the following way: “Anita (the home visitor) sits on the floor and plays with (child) and talks with whoever is home with him at that time” further adding that the role of the caregiver present is to watch and then follow through. Post interviews with the child's grandmother and the child's father provided further insight into shifts in caregiver engagement during visits and their perceptions of these changes. The child's father described his role during home visits in the following way: “We read books together and

I play with (child). I show him how to sign.” He added that sometimes he watches the home visitor (Anita) with his son but usually “Anita watches me with my son and encourages me.” He went on to add, “She helped me be more patient and calmer with him.” The child's father added that a change he noticed since initiating the study was that he was interacting more with his son during visits. The child's grandmother commented on this as well: “I noticed Anita inviting and encouraging him (the child’s father) to participate more during visits.” She went on to say that she tried to ‘step back’ from participating in visits and felt that Anita’s encouragement “really helped him (the child’s father) step up.” The child's father demonstrated considerable changes in his engagement levels from baseline to intervention. These responses suggest that he recognized the changes and the ways he was becoming more involved with his son and in his son’s intervention. The results of Anita’s use of caregiver coaching strategies as well as changes in caregiver engagement supported what the child’s father and grandmother reported which is overall increased engagement.

For family dyad three, it should be noted again that caregivers present for home visits varied. Therefore, caregiver engagement scores for dyad three actually reflect three different caregivers. However, the primary caregiver, the child’s father, participated in 5 out of 6 visits during performance feedback. When considering only the engagement scores for the visits the father participated in, average engagement scores increased from 1.3 (inadequate) during baseline and training, to 3.6 (adequate) during performance feedback. Given the previously discussed challenges Anita faced in fostering caregiver participation, this apparent movement toward more consistent participation during visits and with a notable increase in the levels of engagement, was a significant step in the right

direction toward family capacity-building. As discussed previously, a noted trend in changes to home visitor practices over the course of the investigation had to do with shifting from primarily child-focused strategies to establishing more opportunities for caregiver/child interactions. It can be inferred that this shifting in practice toward focusing on the caregiver child/dyad resulted in higher levels of caregiver engagement. To the author's knowledge this is the first investigation of FGRBI caregiver coaching strategies that measured parental engagement therefore extending and adding to the literature base. These findings contribute to emerging evidence that using coaching strategies such as caregiver practice with feedback, observation, and joint interaction, that establish a role for caregiver participation, may be related to increased caregiver engagement during home visits (Brown, 2012; Cambrey-Engstrom & Salsibury, 2010). It would be interesting in future studies to have home visitors score caregiver engagement at the end of each visit which would provide further opportunity to reflect on their practice. Additionally, having caregivers self-assess their own level of engagement as a part of post-visit reflection may also yield interesting information; it is possible that having parents reflect on their own participation may actually support their engagement.

Parental stress. Because high levels of parenting stress can lead to negative parenting practices and childhood outcomes, and there is evidence that participation in early intervention can reduce parenting stress (Kaaresen, Ronning, Ulvund, & Dahl, 2006), the Parenting Stress Index (PSI), Fourth Edition Short Form (Psychological Assessment Resources, Inc.) was used to assess the magnitude of stress in the parent-child system in families participating in the current investigation. The author is aware of no existing literature exploring the impact of FGRBI approaches and caregiver coaching

on parental stress. Overall, results of the PSI suggest that the caregivers in this study had fairly average levels of stress across two of three subscales, Parental Stress and Parent-Child Dysfunctional Interaction. The normal range of scores for total subscales (PD, P-CDI, DC) and Total Stress is within the 16th to 84th percentiles. However, dyad two and three scored in the clinically significant range for the Difficult Child subscale at both pre and post. The Difficult Child subscale focuses on some of the behavioral characteristics of the child that make him or her either easy or difficult to manage (Abidin, 2012).

Because Difficult Child scores produced by caregivers of children ages two years old and older are related to child-behavioral adjustment and to behavioral symptoms (Beg, Casey, & Saunders, 2007), it would be important for home visitors to identify this and adjust their coaching strategies in support of the challenges faced by the family. Parent report of clinically significant scores for family dyad one and three were corroborated by the frequent discussions about challenging behaviors that occurred during home visits. Both caregivers offered additional insight into their challenges during the pre and post interview.

Caregiver one identified child moodiness, screaming, hitting, tormenting the dogs, and other challenges associated with parenting her grandson. She specifically shared that it was hard to get things done around the house or even talk on the phone because of the attention he demanded especially when they couldn't get outside to play. The primary caregiver in dyad two shared frustration with trying to get his son to settle down, sit still, and/or rest. In addition, mealtimes were frequently stressful because he eats a very limited variety of foods and it's hard to know what he wants. For both families with significant Difficult Child subscale results, intervention for challenging behavior was

frequently the topic of conversation and occasionally the focus of child-focused intervention when real opportunities arose during visits. Both home visitors worked with caregivers on developing communicative replacement skills and other replacement skills such as turn taking, however, over the course of the study, on-the-spot coaching of caregivers to respond to challenging behavior was not present. While building replacement skills and antecedent-based interventions are essential components of behavioral intervention, it is also crucial, especially for families experiencing significant challenging behaviors (and subsequently high Difficult Child subscale results), that they have strategies for responding to the challenging behaviors that put the most stress on the family system. For example, use of guided-practice with feedback strategy could be applied whereby the home visitor recognizes an opportunity to intervene for challenging behavior but rather than using intervening herself (child-focused), she guides the caregiver to intervene thus enabling a practice opportunity and chance for feedback and subsequent problem solving and reflection. Unfortunately, drawing conclusions from PSI pre and post results in the current investigation is extremely limited and should be done with caution due to missing data and defensive responding. Future investigations might examine more closely changes in stress in family systems relative to participation in early intervention services that engage and support caregivers through family guided, caregiver coaching practices.

Parental self-efficacy. Parental self-efficacy beliefs, the degree to which parents perceive themselves as capable of the demanding tasks of parenthood, are a powerful predictor of positive parenting practices and according to Coleman and Karraker (1998), can act as a mediator of the effects of maternal depression, child temperament, social

support, and poverty. For these reasons, the present study sought to measure parental self-efficacy in an attempt to add to the existing research on the impact of using family-guided approaches to early intervention on parental self-efficacy. Results of the Early Intervention Parenting Self-Efficacy Scale (Guimond, Wilcox, & Lamorey, 2008) suggested that participating caregivers began the investigation with already moderate to high levels of self-efficacy at baseline. That said, the scores did increase slightly for each caregiver from baseline to performance feedback. Given the slight increase and relatively short duration of the study, it is unlikely these small increases in self-efficacy were a direct result of changes in home visitor practice. It is possible that the relatively high levels of self-efficacy from the start, made it somewhat easier for home visitors to engage this group of caregivers in actively engaging with their child during visits. One could hypothesize that caregivers with high self-efficacy may be 'easier' to bring onboard with the notion of embedded intervention and the use of daily routines because they did in fact already see themselves as capable of supporting their child and positively impacting their development. In other words, relatively high caregiver self-efficacy across all three caregivers may have had a facilitating effect on the home visitor's use of caregiver coaching strategies. It is also possible that moderate to high levels of self-efficacy moderated caregiver engagement. The author is aware of no existing literature exploring the impact of FGRBI approaches and caregiver coaching on parental self-efficacy. In future investigations it would be interesting to examine more closely the relationship between caregiver self-efficacy, parent engagement, and home visitor use of caregiver coaching strategies.

Child developmental progress. Because connecting changes in practitioner behaviors to changes in child outcomes is important for establishing the evidence base and efficacy of intervention practices, a snapshot of the child participant's overall development was captured using the Ages and Stages Questionnaires (ASQ), Third Edition (Squires & Bricker, 2009). The ASQ is used primarily as a screener and is not sensitive enough to reflect incremental developmental changes especially when administered at short intervals as was the case in this study. However, given that child developmental progress was a secondary variable of interest, the tool was selected because of its ease of administration, with the intent of capturing broad developmental levels at baseline, and to demonstrate, at minimum, that participating children did not regress in skills over the course of the study. In addition to pre/post ASQ, probes using individual goal attainment scales (GAS) were used to measure progress toward a caregiver and home visitor identified priority skill. For child participants in dyad two and three, communication scores were of primary interest as it was an area identified by both caregivers and their home visitors as a target for intervention during the duration of the study. Communication scores for the child in family dyad two remained the same from pre to post (Score 0 - below cutoff). No conclusions can be drawn from these results other than there was no regression in communication skills. This is commensurate with goal attainment scale scores for the same child which indicated that the target communication skill maintained at the same level of performance across phases of the study.

There are a number of possible reasons that the observed changes in home visiting caregiver coaching behaviors and caregiver engagement were not reflected in increased

ASQ or GAS scores for the target area of communication. First, there was no mechanism within the existing study to measure the extent to which the participating caregiver was implementing identified communication interventions during visits. The caregiver was able to report and demonstrate how interventions were being implemented between visits but there was not a measure of the amount of intervention the child actually received so it's possible between visit intervention was minimal. Second, the relatively short duration of the study, 4-5 months, may have been insufficient time for the child to make measurable progress on the identified target. Finally, although GAS has been used internationally to evaluate a variety of interventions in a range of contexts (Dunsmuir, Brown, Iyadurai, & Monsena, 2009) only three probes were conducted in the current investigation. There may not have been sufficient number of data samples to clearly examine performance trend.

Ages and Stages results for the child in family dyad three, on the other hand, progressed from 0 (below cutoff) at pre-test to 15 (close to cutoff) at post-test. These results suggested that the child in dyad three may have made developmental progress in his communication skills. Goal attainment scale scores for the communication target indicate that his target skill maintained at the same level of performance across phases of the study, not improving nor regressing. It is possible that the increase in caregiver coaching focused on engaging the caregiver with the child and evidence of increasing caregiver engagement resulted in the child receiving a greater number of opportunities to practice communication skills between home visits. However, this would be strictly speculative and limitations of the use of ASQ and GAS in this investigation that were previously discussed apply here as well.

Finally, ASQ scores for the child participant in dyad one increased across all areas of development from pre to post-test. There were no GAS scores recorded for this child. The target behavior identified by Laura, the home visitor, and the primary caregiver was appropriate interactions with the family dogs (gentle touching, playing, etc.). However, very few visits beyond baseline actually involved the child interacting with the family dogs. Therefore, there was no behavior to observe and scale. At the time the GAS was developed, it was not explicitly stressed that the home visitor should focus home visit activities on the identified target. Future studies should be clear on the expectations of a focus on identified priorities or at a minimum provide reminders to the home visitor when the focus deviates.

The current study attempted to respond to an identified weakness in the body of early childhood performance feedback literature which is a lack of information about child outcomes (Casey & McWilliam, 2001) by incorporating measures of child outcomes. Extending evaluations to examine more closely the effect of professional development on child outcomes would add to the understanding of effective ways to increase the home visitor's capacity to influence families and subsequent child growth. Studies hoping to investigate child developmental progress more closely should utilize more sensitive instruments.

Feasible and acceptable professional development to support home visitors' use of caregiver coaching strategies. Current recommendations for teacher development in general include providing on-going professional development, feedback on implementation, and opportunities to collaborate and problem solve with other colleagues (Wanzek & Vaughn, 2006). Similarly, Fox et al. (2014) suggested that enhanced

implementation may be achieved when professional development approaches reflect direct collaboration with the teacher and explicit grounding of the practice in the teachers' work. Outside of general recommendations of the best practices in professional development, we know very little about what needs to be done to support home visitors to develop the specific skills they need to feel competent and confident using caregiver coaching strategies, nor how such support might feasibly fit within the broader context of administrative and professional development systems. For that reason, it was important to examine the acceptability and feasibility of the workshop and the performance feedback package in the present investigation. All participating caregivers and home visitors completed a treatment acceptability scale at three points over the course of the study. Trends in home visitor and caregiver findings coupled with insight gleaned through interviews will be discussed.

Findings suggest that home visitors found both workshops and performance feedback to be an acceptable, feasible, and effective form of professional development with average scores ranging from 5 to 7 during baseline and intervention for six of seven questions. For each question, average responses increased only slightly from workshop to performance feedback. It could be interpreted that they found performance feedback to be only slightly more acceptable and feasible than the workshops. Home visitor responses to post interviews further substantiated these findings. Laura, for example, reported that she found performance feedback to be the most useful aspects of professional development, adding that the visuals helped her see the progress she was making and the written feedback helped her understand "how" to make additional progress. In addition, Laura described the doses of performance feedback as "digestible

as a learner” and enthusiastically reported that she would “definitely” recommend this type of professional development to a peer. Shelby shared that she initially found the videotaping uncomfortable but appreciated being able to go back and view her own practice. When asked about what she found to be the most/least useful aspects of the professional development, Shelby shared that while the workshop sessions were important to build knowledge, she found them the least useful in terms of supporting her practice. She reported appreciating the positive written feedback and found the visual graphic feedback helpful. She specifically mentioned the “I wonder” questions posed as reflective prompts at the end of each dose of feedback as helpful and shared that she found her own reflection and writing in response to prompts very supportive of her personal learning. Similar to Shelby, Anita shared that she found it very helpful to go back and watch her own videos for examples of coaching strategies that had been pointed out in feedback. She said it felt great to hear “You did this!” and then be able to go back and watch herself being successful. Similarly, participants of the study performed by Manturana and Woods (2012) also reported watching their own videos to be a satisfying aspect of distance mentoring.

One question which asked home visitors how easily the professional development fit within their typical day resulted in slightly lower mean scores than the other questions (baseline 4.67, workshop 3.33, performance feedback 4.33). This suggests that participants may have struggled with finding ways to fit the performance feedback intervention into their day. Manturana and Woods' (2012) participants reported finding the time and scheduling for distance mentoring challenging but did not list technology as a barrier. There are a few possible reasons for this slightly low mean score for

performance feedback in this investigation. First, the technology component of the investigating proved challenging; none of the participants had a great deal of experience loading video files onto the cloud so initial set up and learning the process was a challenge for several of them and took some time. Furthermore, the cloud-based application was a barrier on a few occasions due to space being ‘full’ when home visitors attempted to upload their video. Home visitors may have found the time it took to connect the camera to their computers following each visit and uploading the video file to the cloud to be a disruption to their busy schedules especially in the cases where the internet connection was slow and the uploading process took a long time. Home visitor responses to post interviews substantiate these possible explanations for a slightly lower mean score to question six. For example, one participant indicated that using a camera during visits didn’t change how she conducted visits, but it was somewhat constricting because she hesitated to move to other locations of the house. Another shared that she initially found the videotaping uncomfortable but appreciated being able to go back and view her own practice. Despite slightly lower mean scores for ‘ease of fit’, and similar to Manturana and Woods (2012) finds, all three participating home visitors rated performance feedback to be very acceptable regarding their priorities for growth, very useful, and each would be very likely to recommend performance feedback to their peers.

Although technology can offer a convenient format for timely feedback, and has emerging evidence in early childhood classroom settings for supporting pre-service professionals (Barton & Wollery, 2007; Brown & Woods, 2011), and preschool teachers (Hemmeter et al., 2011; Pianta et al., 2008) it does have its limitations. These limitations may be even more evident when attempting to use technology in a home-based setting.

Future investigations of technology-based professional development in early intervention should very carefully consider the technology demands relative to the participant's experience and comfort, and take care to establish comfort and confidence in the technology aspects prior to initiating the process. Furthermore, experimenting with various methods of capturing video in homes may provide further insight. For example, using cameras versus iPads, having a third party capture the video, or having the participant's videotape the home visits for some time prior to the initiation of the study to build comfort with it in general.

Treatment acceptability and feasibility findings for caregiver participants suggest very little change in caregiver perception over the course of the investigation; caregivers found both pre and post practices and strategies their home visitor used to be acceptable and feasible to carry out between visits and within family routines, and effective in addressing their priorities and actively engaging them during and between visits. However, response means for question four did increase from baseline ($M=5$) to performance feedback ($M=6$). It is possible that home visitor increased use of caregiver coaching strategies positively impacted the amount of time caregivers practiced between visits. Post interview questions revealed that none of the caregivers found the videotaping to be a barrier or a disruption to their home visiting routines. Analysis of caregiver pre and post interviews provided further insight. During a post interview, when asked if she practiced intervention strategies between visits, caregiver two gave an example of a strategy she learned during a home visit that involved pushing her child on a swing and pausing to elicit communication: "We've found something my daughter is responding to...it fits easily into our day ... no materials are needed... I practice daily

now and the skill has generalized across settings.” This is important to note as the same caregiver reported to actually practice strategies between visits “about 25% of the time” prior to initiating the study. It would be interesting in future investigations to more closely examine the impact of caregiver coaching on the amount of between visit practice opportunities.

Limitations

Several limitations to the current study should be noted. First, a limitation is the convenience sample; home visitors ‘opted in’ which suggests they were motivated to engage in the focus of professional development; this motivation likely played a role in their response to professional development. Related and also a limitation is the fact that each home visitor self-selected caregiver/child dyads to recruit to participate. While child participants also had to meet inclusion criteria, it is possible that home visitors chose caregiver/child dyads they felt the most confident and competent working with. It is entirely possible home visitors served other dyads who would have met inclusion criteria but they recruited based on prior positive experience engaging the family, their own feeling of competence, and/or their perceptions of the family’s willingness to actively participate. Furthermore, length of time the providers had worked with the family they selected and their familiarity may have affected the relationship between the caregiver and the provider. Therefore, it is possible that the selection of caregiver/child dyad represent the best-case scenario with regard to the home visitor’s ability to engage the caregivers.

Factors other than the workshop and performance feedback including maturation and other professional development, could have influenced the providers’ performance.

Because the purveyor of the workshops and performance feedback intervention had prior professional experience with participating home visitors, it is possible that this impacted how home visitors received the training and feedback. The relatively small number of participants (3) and failure to extend the maintenance phase are also a limitation of the current study. Because there was no measure of the home visitors' ability to generalize the use of caregiver coaching strategies to other dyads they serve, there is no way to know if coaching strategies that were learned with target families was generalized to other families that the providers served. Finally, while it appears all three home visitors were able to increase their use of target coaching strategies (primary research question), there is not adequate information to determine if these changes in practice directly impacted child developmental progress (secondary research question).

Implications and Future Directions

There is a need for high-quality PD in early intervention focused on supporting home visitors to work within a family-guided context. The current investigation adds to the growing body of evidence in support of the use of qualitative and quantitative performance feedback to increase home visitor implementation of caregiver coaching strategies (Manturana & Woods, 2012). Use of video to document home visits, a dose of 6 performance feedback packages, and the use of e-mail to deliver feedback shows promise as a feasible way to provide individualized professional development. In addition, the current investigation adds to the emerging evidence base for using the operationally defined and theoretically based set of definitions for coaching strategies proposed by Friedman, Woods, and Salisbury (2014). Results of this study appear to provide evidence that the coaching definitions are useful descriptors of what providers do

to coach caregivers and that the coaching definitions can be used in professional development to support the implementation of caregiver coaching strategies.

Several implications for practice seem most salient. First professional development that includes learner reflection has been found to have the largest effect on performance improvement (Dunst & Trivette, 2009). Future investigations should establish clear expectations for response to receipt of feedback as well as participant reflection upon feedback not only to confirm that the feedback has been read, but to support the adult learning process and in turn glean insight in the learning process that could be applied to subsequent feedback. Furthermore, it would be interesting in future studies to have home visitors score caregiver engagement following visits and/or have caregivers reflect on and self-assess their own level of engagement following visits.

It would also be important for future investigations to extend evaluations to examine more closely the effect of professional development on measures of child development that would add to an understanding of effective ways to increase capacity to influence child growth. Studies hoping to investigate child developmental progress more closely should utilize more sensitive instruments. Further investigations should examine how a fading component whereby performance feedback is faded overtime versus ended abruptly impacts maintenance. In addition, a direct measure of generalization across caregiver/child dyads would further inform the extent to which changes in home visitor practices will generalize to the caregivers who are not the focus of feedback. In light of home visitors' feedback about how much easier it would be to start with new families, it would be interesting to investigate the extent to which enrolling new families versus families with a prior history with the home visitor would result in similar changes in

practice. Furthermore, examining the extent to which family contextual variables play a role in home visitor selection of coaching strategies and/or how certain types of strategies may 'fit' certain family contexts better than others would further inform the field.

In addition, performance feedback for participants of the current study focused primarily on increasing the use of a range of caregiver coaching strategies, and did not provide much in the way of feedback aimed at expanding the range of routines utilized during visits. Future studies might identify a target for increased caregiver coaching at which time feedback would shift focus to expanding range of routines. In this way, the home visitor could focus on one thing at a time while the mentor could have established criteria to aid in informing the direction of feedback.

Relative to the secondary research questions, future investigations might examine more closely the relationship between caregiver self-efficacy and home visitor's use of coaching strategies and the relationship between parent stress and parental engagement during home visits.

Finally, the extent to which participating home visitors reported the use of specific professional development approaches to be: (a) acceptable, (b) feasible, and (c) effective in changing practice was relatively high across phases of the study; however, feedback regarding their participation in the study provided insight that might guide future investigations. For example, ensuring that the process and mechanism for sharing video is easy and convenient for participants would minimize frustration with technology. Secondly, several participants suggested that follow-up coaching would be beneficial even if it was on an 'as requested' basis or one video a month. In addition, future research may include strategies that allow for immediate performance feedback such as

handheld devices or bug in ear technology that connects the home visitor and mentor in real time, allowing for immediate feedback and increased opportunities to practice during home visits.

Conclusion

In summary, carefully designed professional development activities for early intervention providers have important implications for meeting the needs of children and families in service in EI programs (Synder et al., 2011). This multiple baseline design study involving three early intervention home visitors appears to have helped home visitors to increase their use of target coaching strategies with participating caregiver/child dyads. A primary tenant of FGRBI is a focus on the caregiver-child dyad and use of strategies aimed at increasing caregiver-child interaction with an eye toward changes in the interactions that result in embedded learning opportunities for the child. Performance feedback sought to build on established strengths of each home visitor and home visitors began to shift their practice and thinking about the importance of caregiver/child dyad over the course of the investigation. Both participating home visitors and primary caregivers reported the professional development and subsequent coaching to be acceptable, feasible, and effective. Because of limitations, findings should be considered with caution; however, they appear to provide support for the use of individualized performance feedback targeting home visitors' use of caregiver coaching strategies as well as support for the use of operationally defined coaching strategies. The results of this study add to the emerging data on the use of performance feedback to support the teacher implementation of caregiver coaching strategies in the context of early intervention home visits.

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APPENDIX A: FAMILY-GUIDED ROUTINES-BASED INTERVENTION

CODING SYSTEM

Training and Procedural Manual

Revised for Krick Oborn Dissertation Study

Communication and Early Childhood Research and Practice Center

School of Communication Science and Disorders

Florida State University

FGRBI Overview and General Protocol

Overview

In accordance with the Individuals with Disabilities Education Act (IDEA), Part C, early intervention supports and services are situated in the child's natural environment. That is, services are provided in home and community settings where children without disabilities live, learn, and play, in the context of the child's typical, everyday routines and activities (such as snack time and hand washing). When early intervention takes place in the context of family routines, the child and his or her family have many opportunities for meaningful practice working toward priorities and outcomes throughout the day. Routines can be categorized into 4 broad categories (play, caregiving, pre-academic, and family/community), each containing 3-4 subcategories. These subcategories are defined in the FGRBI coding system later in this section (Guidelines for Routine Coding).

In addition to routine contexts, it is useful to know how early intervention service providers (also referred to as interventionists) are interacting with caregivers during early intervention sessions. Caregiver coaching coding describes the different ways that the interventionist coaches caregivers to use intervention strategies with their child. Caregiver coaching codes are derived from adult learning literature and include strategies such as *direct teaching* and *guided practice with feedback*.

The FGRBI coding system also looks at the role that the caregiver plays in the interactions with the child and interventionist. Sometimes, the caregiver might observe as the interventionist demonstrates a new strategy. Other times, the caregiver might take the lead and practice newly learned intervention strategies with their child. Caregiver engagement coding helps us gain an understanding of how the three parts of the triad; interventionist, caregiver, and child interact together.

General Protocol

Video recorded early intervention sessions are coded at 30-second intervals. An individual code is assigned to each interval to describe the routine setting, and caregiver coaching strategy. For example, a 30-second segment may be coded as a *hygiene* routine, with the caregiver coaching strategy coded as *problem solving*. Each segment is coded based on what occurs for the majority of time (i.e. at least 15 seconds). Two coaching strategies, Demonstration and Direct Teaching, DO NOT need to last 15 seconds. They are coded by a tally with the opportunity to observe those interventionist behaviors more than one time per 30 second interval.

Trained video coders view each video twice in the coding process. During the first viewing, the coder assigns a role to the routine setting for each 30-second segment. During the second viewing, the coder assigns a code to describe the caregiver coaching strategy for each 30-second segment.

All codes are recorded on the revised FGRBI Coding Form, located in section V (Forms) of this manual (this form is also available as a Microsoft Excel spreadsheet).

Instructions for Completing FGRBI Coding Sheets:

1. In the header of the spreadsheet fill in the session number, child/interventionist initials, source of the video (e.g. hard drive, disk), and the session date in the space provided.
2. Fill in your name (Coder) and the current date (Date Coded) in the space provided.
3. Code at 30-second intervals, assigning a code in each area: Routine, and Coaching for each segment.
4. Caregiver Engagement should be indicated in the final column and row, one time, following the 2nd viewing of the clip.
5. Fill in the routine abbreviation (see Routine Coding Guidelines in Section III of this manual) in the routine column, and mark an **X** in the appropriate coaching strategy box (one per row). Indicate any comments (such as unusual circumstances) in the space provided at the bottom of the form.

Coding Definitions

This section describes coding definitions for the 3 components of revised FGRBI coding:

- Routine
- Caregiver Coaching Strategy
- Caregiver Engagement

General Guidelines for Routine Coding

A routine is an activity that the child participates in that has the potential for identifiable outcomes, a predictable sequence, repetition and turns, and a clear beginning and ending. In the FGRBI coding system routines are coded when the child is interacting with the caregiver or interventionist to describe the context, or potential context for embedded intervention to occur. A code of “no routine” is used when the child is not interacting with the caregiver or interventionist, as the potential for embedded intervention to occur is not present. Routines are categorized into 18 specific codes to describe the type of activity in which interactions are occurring. Please note the following when coding for routine setting:

- A routine is coded if at least 2 turns occur in the activity/ interaction:
 - A child “turn” is defined by verbalizations and/or actions directed toward an adult.
 - An adult “turn” is defined by verbalizations and/or actions directed toward the child.
 - Exception to 2-turn rule: In feeding routines, code as FRR if an adult takes 1 or more turns in interacting with the child
- If two routine codes are observed in one 30-second segment, code the routine that lasts at least 15 seconds.
- When coding play routines reflect on the purpose of the activity to help differentiate the type of play routine.
- When the child does not respond or engage in the routine established or facilitated by adults, code according to what the adults are attempting to engage him/her in (even if there is not a child response).
- Code as Transition when there is verbal evidence that the triad is moving to a new routine, and that move takes at least 15 seconds.

FGRBI Routine Codes:

| Routine | Definition | Examples |
|--|---|--|
| 0.No Routine (NR) | NR: No Routine is established but all three parties interact together NR: No routine is established and the child is not interacting with either adult | NR-T: Mom and the interventionist talk while the baby sits in mom's lap and mom directs at least two turns toward the baby NR-N: Mom and interventionist talk while baby plays alone |
| 1. Play with Objects (POC) | Play with objects that involves constructing, manipulating and/or exploring materials or textures | Container play, stacking blocks, rolling a ball, stacking rings, playing with a shape sorter, etc. |
| 2.Physical Play (PYP) | Play activities that involve large body movements | Running, swinging, sliding down a slide, rocking on a rocking horse, climbing, crawling, sitting up, standing, rolling over, kicking/rolling a ball, etc. |
| 3.Pretend Play (PRE) | Imaginative or dramatic ("make believe") play that involves acting out an action sequence or story. May include objects. | Pretending to be an animal or an action figure, pretending to feed a baby, or cook a meal, etc. |
| 4. Play with Others/ Social Games (SOG) (Note that POC, PYP and PRE are all logically going to include others to be coded as routines, but in SOG social interaction is the focus of the activity) | In this type of play there is turn-taking, a predictable sequence, or actions with partners. Usually this involves social games where each participant has a specific role that is potentially reversible. May also include engaging in conversation in a playful manner. | Playing tag, playing a game of tickle (where there is a tickler and ticklee), playing peek-a-boo (even if an object like a blanket is used), playing Pat-a-Cake or Ring-Around-the Rosie, bubbles, rolling car back and forth, blue tape game (these require partners and have specific turns), etc. |
| 5.Hygiene Related (HYR) | Activities related to ensuring the cleanliness of the child. | Diapering, bathing, hand-washing, wiping face and hands after a meal, etc. |

| | | |
|--------------------------------------|---|--|
| 6. Medical /Comfort Related (MCR) | Activities related to medical equipment, medical procedures, and comforting the child. | G-tube cleaning, breathing treatment for child with asthma, adjustments to walkers or braces, positioning, massage, range of motion exercises, singing to soothe, etc. |
| 7. Dressing Related (DDR) | Activities related to dressing and undressing. | Putting on or taking off shoes, clothes, etc. |
| 8. Eating Related (FRR) | Activities related to nourishment of the child including eating, drinking, and swallowing. | Drinking from a cup or bottle, nursing, spoon feeding, choosing a snack, setting the table, etc. |
| 9. Computer/TV/Video (CTV) | Watching videos or playing games on television or computer. | Playing Leap Frog®, computer/video games, looking at pictures on Facebook, watching T.V., using ipad, etc. |
| 10. Reading Books (REB) | Any reading or pre-literacy activity (interacting with books, pictures, letters, etc.). | Reading books, a recipe, cereal box, milk carton, magnetic letters on the fridge, looking at a photo album, looking at pictures on a choice board, etc. |
| 11. Songs and Rhymes (SOR) | Activities that focus on music or rhymes. An adult may sing to the child, the child may sing to an adult, or singing is choral and does not require turn taking in a predictable sequence. <i>May include objects used as instruments.</i> | Dancing to music, listening to music, playing instruments, singing songs, reciting nursery rhymes, engaging in finger-plays (e.g. “Itsy Bitsy Spider”), etc. |
| 12. Writing/Drawing/Fluid Play (FLP) | Art-based or creative activities that involve media such as markers/pens/pencils/crayons/paint, etc. Fluid play can be play with water/toys in a tub, pouring activities, etc. | Scribbling, coloring, finger painting, painting with brushes, craft projects, sensory play (shaving crème, play dough) etc. |
| 13. Community/Family Errands (CFE) | Activities that must occur (outside of the home) in order to maintain family functioning. | Grocery shopping, going to the doctor’s office, picking up prescriptions, going to |

| | | |
|--|---|---|
| | | the Laundromat. |
| 14. Chores (C) | Activities in, or around the house that caregivers must attend to and that may involve children. | Doing the dishes, laundry, vacuuming, gardening, feeding pets, cleaning, raking leaves, putting away toys, etc. |
| 15. Recreation/ Socialization (RS) | Socialization activities that provide the child and family with opportunities to socialize with extended family or community. Recreational activities are activities that a family engages in for fun and often include opportunities to socialize. | Going to church, eating out at a restaurant, going to grandma's house, a playground, taking a walk in the neighborhood, etc. <i>Note:</i> Other routines may occur before/after RS- code RS when interactions occur in an RS context but do not fit into other codes. For example, the family is sitting on a blanket at a park (code RS), then start to eat snack (code FRR). |
| 16. Transition (TRN) Code TRN if there is a verbal cue that signals a move to a new activity, and that move takes 15 seconds or more. | Caregiver/interventionist and the child shift from one routine to another. In order to code TRN, it must be clear that the caregiver, child, or interventionist is moving toward a new routine with a verbal cue. If not, code as No Routine. | Using a visual schedule to move to a new routine, setting up an activity by gathering materials, talking about what is going to happen as the adults and child move to a different room in the house or outside, etc. |

General Guidelines for Caregiver Coaching Coding

Caregiver coaching codes represent the interventionists' behavior or ways in which he or she teaches the caregiver to use intervention strategies with the child.

- If two caregiver coaching codes are observed in one segment, code the one that lasts at least 15 seconds. If both codes happen for 15 seconds, go with the first one.
- If a coaching strategy lasts for at least 15 seconds, give it a code even if the caregiver leaves immediately after the strategy ends.
- Some sessions include more than one caregiver. During each 30-second segment, decide who the "primary" caregiver is, and then code the interventionist's strategy use in interacting with that caregiver.
- Some sessions include more than one interventionist. Always code caregiver coaching for the primary interventionist.
- If the last segment of the video is less than thirty seconds, do not code it.

FGRBI Caregiver Coaching Codes:

1. Conversation and Information Sharing (CIS)

Caregiver and interventionist ask and respond to each other's questions.

- Topics may include early intervention issues, child development, service coordination, behavior management, updates on progress related to IFSP outcomes, family activities/routines, documentation, or child health since the last session.
- If the conversation centers upon issues other than early intervention or the child and seems more like chit-chat, code as "Other." If conversation centers upon a sibling in a way that does not relate to the target child, code as "Other."
- *E.g., Caregiver and interventionist discuss the child's progress in home/community routines, in other therapies, at school, or new activities/routines/interests.*

2. Direct Teaching (DT)

Aim is to increase caregiver knowledge by sharing information about specific intervention strategies or child development. The intent is for the caregiver to *learn something*. Interventionists may teach verbally or with handouts, visuals, or with a video taped example of an intervention strategy. Direct Teaching does not need to last 15 seconds. If it occurs within another strategy, mark X in that box and a tally mark in the DT box. For instance, if an interventionist makes a teaching comment as she observes the caregiver, mark X in the box labeled OB and a tally in DR. If DT does last 15 or more seconds, mark it within its own box.

- Child may or may not be present.
- The interventionist's role is to share specific and focused information in order to explain or teach an intervention strategy.
- *E.g., Interventionist shares specific information about strategies: "If you help him keep his trunk stable, he is more able to reach for toys. If he isn't steady, he can't reach as easily. And that reaching motion is really beneficial because it helps him extend his back muscles." Or, "It is really important that we pause long enough to give her time to take a turn. If not, she might miss an opportunity to communicate. It's hard to pull back and pause, but it will get easier." It could also include instances of sharing handouts, materials, visuals, etc. with caregivers to explain intervention strategies or other specific information.*

3. Demonstration (DEM)

The interventionist takes the lead in demonstrating the strategy *with* the child or in some other way while the caregiver observes. The interventionist MUST

make comments to set up the demonstration or narrate what she is doing during/after the demonstration in order to code as “Demonstration.” If there is no description/narration (i.e. if the interventionist is not describing what she is doing and why), code as “Joint Interaction.” DEM does not need to last 15 seconds, tally it each time it occurs. If it happens within another strategy that lasts 15 or more seconds, such as CF, then code CF with an X and tally DEM with a tally mark. More than one DEM may occur within a 30 second interval. If the DEM lasts 15 seconds or more, put an X in the DEM box.

- The interventionist comments directly describing a strategy to the parent (i.e. Let me show you how we can use a positioning strategy to help him sit independently).
- The interventionist’s comments do not require a response from the caregiver. The role of the caregiver is passive.
- If caregiver joins into the interaction with the child and the interventionist comments on the interaction, code as “Guided Practice with Feedback.”
- *E.g., “I’m going to wait three seconds while looking at the ball.. Watch me.. ‘Ball’ Wait one, two three.” Interventionist is giving child few blocks at a time and waits for child to ask for more, then she points out to the caregiver that she made sure to give the child time to request, and that she metered out small portions of blocks to elicit communication; A interventionist is using hand-over-hand assistance to help child use a fork to pick up her food while describing the strategies she is using to support the child’s hand movements.*

4. Caregiver Practice with Feedback (CPF)

Caregiver interacts with the child as the interventionist supports the interaction with at least one instance of verbal feedback to the caregiver (see CPF feedback definitions below).

- If CPF occurs, it is coded even if it does not last 15 seconds.
- The interventionist is generally “hands off” the child and supports the interaction by offering feedback and materials while following the caregiver’s lead. Interventionist could hold the child to help support the interaction with the parent/caregiver.
- No real turn-taking between interventionist and caregiver since the caregiver is leading.
- It may be a suggestion of behavior or ‘try this’ given to the caregiver *followed by* a reinforcing statement or feedback. There **MUST** be the feedback component.
- *E.g. Mom is working on pausing to give her child time to take a turn while reading. Mom and the child are looking at a book, and mom waits after the child opens the book...The interventionist says, “Wow, I heard her say doggie and truck... I think the extra time gave her a chance to comment! You did a great job pausing for her!”*

CPF Feedback

1. Positive encouragers or comments on caregiver’s performance in supporting the child in the interaction. *E.g., “Great, you gave her enough of a time delay to take a turn!” Or, “She was really excited when you gave her a choice between two snacks!”*

2. Comments to the child that serve as feedback on caregiver's behavior. *E.g., "You like it when mom imitates your sounds, don't you?"*

3. Comments directed toward the caregiver on how the child is responding to caregiver interaction. *E.g., "She is looking at you and watching for your reaction."*

5. Observing or Data Collection (OB)

Primary role of the caregiver is to work with the child; the role of the interventionist is to observe or gather data. The interventionist does not give specific feedback or suggestions. The interventionist is not a part of the activity though she may be in close proximity; she does not offer comments.

- Interventionist takes one or fewer turns.
- Can be used as baseline, assessment of learning or generalization.
- If interventionist is taking notes while simultaneously talking to the caregiver, code as "Conversation and Information Sharing."
- *E.g., Interventionist writes down updates of child progress, is sitting back from the interaction watching caregiver feed the child.*

6. Guided Practice with Feedback (GPF)

Interventionist and caregiver work as partners with the child, practicing strategies to improve child outcomes. There must be at least one instance of GPF feedback (see below). If not, code as "Joint Interaction." The interventionist's role is more active and is guiding caregiver actions in the routine.

- If GPF occurs, it is coded even if it does not last 15 seconds.
- Code GPF if there is at least one instance of GPF feedback. If the feedback is in the form of an encourager to the caregiver or less directive prompt to child, code as "Caregiver Practice with Feedback."
- The feedback might be explicit or less direct, but at all times interventionist is ACTIVELY involved in the routine.
- Roles are exchanged in GPF, and multiple turns may be taken. There must be the potential for both the interventionist and caregiver to take a role and participate in the routine.
- *E.g., During snack time, the interventionist says, "Here are two goldfish for her to eat. Let's see what happens if you wait a little longer before offering her more after she eats these." Child eats and looks at mom, and mom reaches out with another goldfish. The interventionist models the word 'more' and asks mom to say 'more' before giving the goldfish. Mom asks the interventionist how long to wait and how many times to repeat the label.*

GPF Feedback:

Specific suggestions about caregiver behavior offered within the context of a routine.

If the suggestions last more than 15 seconds, they may be coded as "Direct Teaching" or "Demonstrating," depending on the interventionist's actions. When deciding between "Caregiver Practice with Feedback" and GPF, code as GPF if there is ONE instance of GPF feedback, even if it is accompanied by "Caregiver Practice with Feedback" style feedback like a positive encourager.

7. Joint Interaction (JI)

The interventionist and caregiver work as partners with the child practicing strategies to improve child outcomes.

- They may take turns, but the interventionist does not give any explicit feedback to the caregiver.
- There must be two interventionist actions or comments to count as JI. If not, code as “Observation.”
- Interventionist involvement does not have to be with words, but can be with actions such as pointing or other visual cue or gesture for the child. If the interventionist is sitting back from the dyad and does not appear to be part of a triad, code as “Observation.”
- *E.g., The interventionist joins mom and child in rolling a ball together, pushing the child on a swing at the park, or washing hands after lunch. **Feedback isn’t provided because it isn’t necessary or because it simply isn’t offered.***

8. Problem Solving (PS)

The caregiver and interventionist consider and discuss strategies to improve routines/outcomes.

- If PS occurs, it is coded even if it does not last 15 seconds.
- Both parties must actively contribute content in a discussion aimed to identify potential solutions to a problem, define when or how an intervention strategy will be used in a routine, or consider an alternate option. It may be in invitation to think differently about an approach or strategy.
- A minimum of three verbal turns must occur to be coded as PS. Must be parent initiated OR at least include parent input. Content must be contributed by both parties.
- PS is different from “Conversation and Information Sharing” in that the exchange includes evaluating alternatives and brainstorming plans specific to the child’s goals and objectives.
- PS is usually verbal, but can include simulations or role-play.
- *E.g., Interventionist: “He seems to roll the ball away from you -I wonder how we can help him roll the ball to you. Mom: “Maybe if I hold the basket, he can throw the ball into the basket instead of throwing it at the sofa.” Interventionist: “Great idea- and maybe you can say, ‘ready set go’ to help get his attention.”*

9. Child Focused (CF)

The interventionist works directly with the child while the caregiver is not present or is doing something else (on the phone, cleaning, watching T.V., etc.).

- The interventionist does not make any attempt to seek the caregiver’s involvement and does not share information. The caregiver is either not focused on the interaction because he/she is occupied by other things, or may be observing

the interventionist and child but does not make comments or participate in the activity.

- *If the caregiver says or does two things, directed toward the child, to participate, code as “Joint Intervention.”*
- *If 20 seconds pass without a caregiver turn, code as CF.*
- *E.g., The interventionist and child take turns stacking blocks while mom sits on couch, shifting her attention from the T.V. to the child.*

10. Video Feedback and Reflection (VFR)

The interventionist and caregiver watch a video of themselves interacting with the child, jointly reflecting on successes and areas for improvement.

- *E.g., “Let’s watch to see how he responded when you used environmental arrangement to encourage him to request during breakfast.”*

11. Competitive Interaction (CI)

The caregiver and interventionist are both interacting with the child, but are not focused on the same goal, intervention strategy, or activity.

- Two adults are “out of sync” with one another.
- *E.g., The interventionist is trying to get the child to roll a ball at the same time as mom is trying to get the child to name pictures in a book.*

12. Other (O)

Miscellaneous category that includes chit-chat unrelated to the child, and times when the both the caregiver and child are not in the same room as the interventionist. This code is also used when”

- The interventionist interacts exclusively with a sibling or child other than the target child.
- Caregiver coaching codes do not add up to at least 13 seconds of one code (excluding “Caregiver Practice with Feedback, Guided Practice with Feedback, and Problem Solving”) for a 30-second segment.
- The interventionist is digger in toy bag or organizing materials and NOT interacting
- The interventionist is listening to caregiver and other related service providers talking but does not participate
- All members of the interaction are off camera
- *E.g., The interventionist and caregiver talk about the weather, traffic, shopping, etc. The interventionist plays with the child’s sibling while mom puts the target child into a high chair. The interventionist adjusts the camera or leaves the room to get materials from her car.*

Caregiver Engagement Codes

Caregiver participation represents the extent to which the primary caregiver during the home visit is an engaged participant in the visit. The Parent Engagement During Home

Visit sub-scale of the Home Visit Rating Scale (HOVRS) (Roggman, L., Cook, Gina, A., Jump Norman, V., Christiansen, K., Boyce, L., Innocenti, M., 2008) will be used to capture this information.

- Following the 2nd viewing and coding of routine and coaching strategies, coders will place a number 1-7 in the final row of the final column to indicate level of caregiver engagement.
- If all descriptions of a given row (1,3,5,7) fit what was observed when considering the entire 30 minute clip as a whole, then code 1,2,5, or 7. If only SOME of the descriptions fit, code one number lower (2,4,6)

HOME VISIT RATING SCALES

| Parent-Engagement During Home Visit | | | | | | |
|--|--|---|--|---|--|--|
| Inadequate 1 | | Adequate 3 | | Good 5 | | Excellent 7 |
| Home Visitor: | | | | | | |
| <input type="checkbox"/> Does not indicate interest in material or activities | | <input type="checkbox"/> Is available for interaction with home visitor and child | | <input type="checkbox"/> Appears interested in activities of home visit | | <input type="checkbox"/> Frequently initiates discussions on child's development or family |
| <input type="checkbox"/> Does not initiate activities or conversations with child or home visitor | | <input type="checkbox"/> Occasionally participates in activities | | <input type="checkbox"/> Initiates topics or asks questions | | <input type="checkbox"/> Engages in play and learning activities with child during visits |
| <input type="checkbox"/> Positions self away from home visitor and child | | <input type="checkbox"/> Is in proximity to home visitor and child during most of the visit | | <input type="checkbox"/> Is an active participant with the child and home visitor | | <input type="checkbox"/> Asks questions or provides information related to discussion |
| <input type="checkbox"/> Is distracted, disinterested, physically distant, or involved in another activity | | <input type="checkbox"/> Shows some interest in materials or activities | | | | <input type="checkbox"/> Stays in proximity to child and home visitor throughout visit |
| | | <input type="checkbox"/> Answers questions but does not elaborate | | | | <input type="checkbox"/> Shows enjoyment of activities |

Home Visit Rating Scales (HOVRS), by Lori A. Roggman, Gina A. Cook, Vonda K Jump Norman, Katie Christiansen, Lisa K Boyce, & Mark S. Innocenti
 In *Developmental Parenting: A Guide for Early Childhood Practitioners*, by Lori A. Roggman, Lisa K Boyce, and Mark S. Innocenti
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Overall rating =

**APPENDIX B: PARENT-ENGAGEMENT DURING HOME VISIT SUBSCALE OF
THE HOME VISITING RATING SCALE (HOVRS)**

HOME VISIT RATING SCALES

| Parent-Engagement During Home Visit | | | | | | |
|--|---|---|---|---|---|--|
| Inadequate 1 | 2 | Adequate 3 | 4 | Good 5 | 6 | Excellent 7 |
| Home Visitor: | | | | | | |
| <input type="checkbox"/> Does not indicate interest in material or activities | | <input type="checkbox"/> Is available for interaction with home visitor and child | | <input type="checkbox"/> Appears interested in activities of home visit | | <input type="checkbox"/> Frequently initiates discussions on child's development or family |
| <input type="checkbox"/> Does not initiate activities or conversations with child or home visitor | | <input type="checkbox"/> Occasionally participates in activities | | <input type="checkbox"/> Initiates topics or asks questions | | <input type="checkbox"/> Engages in play and learning activities with child during visits |
| <input type="checkbox"/> Positions self away from home visitor and child | | <input type="checkbox"/> Is in proximity to home visitor and child during most of the visit | | <input type="checkbox"/> Is an active participant with the child and home visitor | | <input type="checkbox"/> Asks questions or provides information related to discussion |
| <input type="checkbox"/> Is distracted, disinterested, physically distant, or involved in another activity | | <input type="checkbox"/> Shows some interest in materials or activities | | | | <input type="checkbox"/> Stays in proximity to child and home visitor throughout visit |
| | | <input type="checkbox"/> Answers questions but does not elaborate | | | | <input type="checkbox"/> Shows enjoyment of activities |

Home Visit Rating Scales (HOVRS), by Lori A. Roggman, Gina A. Cook, Vonda K Jump Norman, Katie Christiansen, Lisa K Boyce, & Mark S. Innocenti
In *Developmental Parenting: A Guide for Early Childhood Practitioners*, by Lori A. Roggman, Lisa K Boyce, and Mark S. Innocenti
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Overall rating =

APPENDIX C: EARLY INTERVENTION PARENTING SELF-EFFICACY SCALE

The Early Intervention Parenting Self-Efficacy Scale (EIPSES)

Instructions to Caregivers: Please consider whether you agree or disagree with each statement, and circle the number that you think best describes you and your child. When you see the words "early interventionist", this means the person who provides services to your child such as a speech therapist, occupational therapist, or parent educator, and who is a part of this research project.

| | Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Agree | Strongly Agree |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. If my child is having problems, I would be able to think of some ways to help my child. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. When my child shows improvement, it is because I am able to make a difference in my child's development. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. When it comes right down to it, parents really can't do much because most of a children's development depends on their early interventionists. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. If one of my child's early interventionists has difficulty with my child, I would be able to offer some suggestions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Children will make the most progress if their early interventionists work with them rather than if the parents work with the children. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Even a good parent may not have much impact on whether children feel good about themselves. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. I feel that I can work well with my child's early interventionist as part of my child's team. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Because there is so little help from the community, I am often sad or angry about how few services I can find for my child and the rest of my family. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. If my child learns something quickly, it would probably be because I know how to help my child learn new things. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. The amount that a young child will learn is mostly due to family background, the neighborhood, and the early interventionist rather than their parents. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. On most days, I can handle most of the ups and downs of being a parent. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. I worry that I am not a good enough parent due to outside demands placed upon my time and energy. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. When my child is ill, I feel that there is nothing I can do to help my child or other members of my family. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Over the past year, I can see the progress that I have made in becoming a better parent. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. No matter how hard I try, it seems that I just cannot find a way to get the services that my child and my family needs. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. The traits that a child has before he or she is born are more important than anything that the child's parents can do for the child. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Scoring Note: Mean scores are computed by averaging all items of the scale. Items 3, 5, 6, 8, 10, 12, 13, 15, and 16 should be reversed scored. Parent Outcome Expectations factor items are 3, 4, 5, 6, 7, 8, 10, 12, 15, and 16; Parent Competence factor items are 1, 2, 9, and 14.

Guimond, A.B., Wilcox, M.J., & Lamorey, S. (2008). The Early Intervention Parenting Self-Efficacy Scale (EIPSES): Scale construction and initial psychometric evidence. *Journal of Early Intervention, 30*, 295-320.

**APPENDIX D: PARENTING STRESS INDEX, FOURTH EDITION SHORT
FORM**

PSI Short Form

Instructions

This questionnaire contains 36 statements. Read each statement carefully. For each statement, please focus on the child you are most concerned about, and circle the response that best represents your opinion.

Circle the SA if you strongly agree with the statement.

Circle the A if you agree with the statement.

Circle the NS if you are not sure.

Circle the D if you disagree with the statement.

Circle the SD if you strongly disagree with the statement.

For example, if you sometimes enjoy going to the movies, you would circle A in response to the following statement:

I enjoy going to the movies. SA A NS D SD

While you may not find a response that exactly states your feelings, please circle the response that comes closest to describing how you feel. YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.

Circle only one response for each statement, and respond to all statements. **DO NOT ERASE!** If you need to change an answer, make an "X" through the incorrect answer and circle the correct response. For example:

I enjoy going to the movies. SA A NS X SD

Before responding to the statements, write your name, gender, date of birth, ethnic group, marital status, child's name, child's gender, child's date of birth, and today's date in the spaces at the top of the questionnaire.

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Name _____ Gender _____ Date of birth _____ Ethnic group _____ Marital status _____
 Child's name _____ Child's gender _____ Child's date of birth _____ Today's date _____

| | | | | |
|---------------------|-----------|---------------|--------------|------------------------|
| SA = Strongly Agree | A = Agree | NS = Not Sure | D = Disagree | SD = Strongly Disagree |
|---------------------|-----------|---------------|--------------|------------------------|

1. I often have the feeling that I cannot handle things very well. SA A NS D SD
2. I find myself giving up more of my life to meet my children's needs than I ever expected. SA A NS D SD
3. I feel trapped by my responsibilities as a parent. SA A NS D SD
4. Since having this child, I have been unable to do new and different things. SA A NS D SD
5. Since having a child, I feel that I am almost never able to do things that I like to do. SA A NS D SD
6. I am unhappy with the last purchase of clothing I made for myself. SA A NS D SD
7. There are quite a few things that bother me about my life. SA A NS D SD
8. Having a child has caused more problems than I expected in my relationship with my spouse (or male/female friend). SA A NS D SD
9. I feel alone and without friends. SA A NS D SD
10. When I go to a party, I usually expect not to enjoy myself. SA A NS D SD
11. I am not as interested in people as I used to be. SA A NS D SD
12. I don't enjoy things as I used to. SA A NS D SD

13. My child rarely does things for me that make me feel good. SA A NS D SD
14. Sometimes I feel my child doesn't like me and doesn't want to be close to me. SA A NS D SD
15. My child smiles at me much less than I expected. SA A NS D SD
16. When I do things for my child, I get the feeling that my efforts are not appreciated very much. SA A NS D SD
17. When playing, my child doesn't often giggle or laugh. SA A NS D SD
18. My child doesn't seem to learn as quickly as most children. SA A NS D SD
19. My child doesn't seem to smile as much as most children. SA A NS D SD
20. My child is not able to do as much as I expected. SA A NS D SD
21. It takes a long time and it is very hard for my child to get used to new things. SA A NS D SD

- For the next statement, choose your response from the choices "1" to "5" below.
22. I feel that I am:
 1. not very good at being a parent 1 2 3 4 5
 2. a person who has some trouble being a parent
 3. an average parent
 4. a better than average parent
 5. a very good parent

23. I expected to have closer and warmer feelings for my child than I do and this bothers me. SA A NS D SD
24. Sometimes my child does things that bother me just to be mean. SA A NS D SD

25. My child seems to cry or fuss more often than most children. SA A NS D SD
26. My child generally wakes up in a bad mood. SA A NS D SD
27. I feel that my child is very moody and easily upset. SA A NS D SD
28. My child does a few things which bother me a great deal. SA A NS D SD
29. My child reacts very strongly when something happens that my child doesn't like. SA A NS D SD
30. My child gets upset easily over the smallest thing. SA A NS D SD
31. My child's sleeping or eating schedule was much harder to establish than I expected. SA A NS D SD

- For the next statement, choose your response from the choices "1" to "5" below.
32. I have found that getting my child to do something or stop doing something is:
 1. much harder than I expected 1 2 3 4 5
 2. somewhat harder than I expected
 3. about as hard as I expected
 4. somewhat easier than I expected
 5. much easier than I expected

- For the next statement, choose your response from the choices "10+" to "1-3."
33. Think carefully and count the number of things which your child does that bother you. 10+ 8-9 6-7 4-5 1-3
 For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc.
34. There are some things my child does that really bother me a lot. SA A NS D SD
35. My child turned out to be more of a problem than I had expected. SA A NS D SD
36. My child makes more demands on me than most children. SA A NS D SD

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APPENDIX E: EXAMPLE AGES AND STAGES QUESTIONNAIRES, THIRD EDITION



Ages & Stages Questionnaires®

25 months 16 days through 28 months 15 days

27 Month Questionnaire



Please provide the following information. Use black or blue ink only and print legibly when completing this form.

Date ASQ completed:
M M D D Y Y Y Y

Child's information

Child's first name: Middle initial:

Child's last name:

Child's date of birth:
M M D D Y Y Y Y

Child's gender: Male Female

Person filling out questionnaire

First name: Middle initial: Last name:

Street address:

Relationship to child: Parent Guardian Teacher Child care provider
 Grandparent or other relative Foster parent Other:

City: State/Province: ZIP/Postal code:

County: Home telephone number: Other telephone number:

E-mail address:

Names of people assisting in questionnaire completion:

PROGRAM INFORMATION

Child ID #:

Program ID #:

Program name:

E101270101

Ages & Stages Questionnaires® Third Edition (ASQ-3™), Squires & Bricker
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27 Month Questionnaire

25 months 16 days
through 28 months 15 days

On the following pages are questions about activities children may do. Your child may have already done some of the activities described here, and there may be some your child has not begun doing yet. For each item, please fill in the circle that indicates whether your child is doing the activity regularly, sometimes, or not yet.

Important Points to Remember:

- Try each activity with your child before marking a response.
- Make completing this questionnaire a game that is fun for you and your child.
- Make sure your child is rested and fed.
- Please return this questionnaire by _____.

Notes:

At this age, many toddlers may not be cooperative when asked to do things. You may need to try the following activities with your child more than one time. If possible, try the activities when your child is cooperative. If your child can do the activity but refuses, mark "yes" for the item.

COMMUNICATION

- | | YES | SOMETIMES | NOT YET | _____ |
|---|-----------------------|-----------------------|-----------------------|-------|
| 1. Without your giving him clues by pointing or using gestures, can your child carry out at least three of these kinds of directions? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | _____ |
| <input type="radio"/> a. "Put the toy on the table." <input type="radio"/> d. "Find your coat." | | | | |
| <input type="radio"/> b. "Close the door." <input type="radio"/> e. "Take my hand." | | | | |
| <input type="radio"/> c. "Bring me a towel." <input type="radio"/> f. "Get your book." | | | | |
| 2. If you point to a picture of a ball (kitty, cup, hat, etc.) and ask your child, "What is this?" does your child correctly name at least one picture? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | _____ |
| 3. When you ask her to point to her nose, eyes, hair, feet, ears, and so forth, does your child correctly point to at least seven body parts? (She can point to parts of herself, you, or a doll. Mark "sometimes" if she correctly points to at least three different body parts.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | _____ |
| 4. Does your child correctly use at least two words like "me," "I," "mine," and "you"? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | _____ |
| 5. Does your child make sentences that are three or four words long? Please give an example: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | _____ |
| <div style="border: 1px solid black; border-radius: 15px; height: 40px; width: 100%;"></div> | | | | |
| 6. Without giving your child help by pointing or using gestures, ask him to "put the book on the table" and "put the shoe under the chair." Does your child carry out both of these directions correctly? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | _____ |







COMMUNICATION TOTAL _____

E101270201

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page 2 of 7




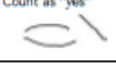

GROSS MOTOR

| | YES | SOMETIMES | NOT YET | |
|--|-----------------------|-----------------------|-----------------------|---|
| 1. Does your child walk either up or down at least two steps by himself? He may hold on to the railing or wall. (You can look for this at a store, on a playground, or at home.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | — |
| | | | |  |
| 2. Does your child run fairly well, stopping herself without bumping into things or falling? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | — |
| | | | |  |
| 3. Does your child jump with both feet leaving the floor at the same time? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | — |
| | | | |  |
| 4. Without holding onto anything for support, does your child kick a ball by swinging his leg forward? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | — |
| | | | |  |
| 5. Does your child jump forward at least 3 inches with both feet leaving the ground at the same time? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | — |
| | | | |  |
| 6. Does your child walk up stairs, using only one foot on each stair? (The left foot is on one step, and the right foot is on the next.) She may hold onto the railing or wall. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | —* |
| | | | |  |

GROSS MOTOR TOTAL

*If Gross Motor Item 6 is marked "yes" or "sometimes," mark Gross Motor Item 1 "yes."

FINE MOTOR

| | YES | SOMETIMES | NOT YET | |
|---|---|-----------------------|-----------------------|----------------------|
| 1. Does your child use a turning motion with her hand while trying to turn doorknobs, wind up toys, twist tops, or screw lids on and off jars? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |
| 2. Does your child flip switches off and on? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |
| 3. After your child watches you draw a line from the top of the paper to the bottom with a pencil, crayon, or pen, ask him to make a line like yours. Do not let your child trace your line. Does your child copy you by drawing a single line in a vertical direction? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |
| | Count as "yes"  Count as "not yet"  | | | |
| 4. Does your child stack seven small blocks or toys on top of each other by herself? (You could also use spools of thread, small boxes, or toys that are about 1 inch in size.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |
| 5. Can your child string small items such as beads, macaroni, or pasta "wagon wheels" onto a string or shoelace? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |
| |  | | | |
| 6. After your child watches you draw a line from one side of the paper to the other side, ask her to make a line like yours. Do not let your child trace your line. Does your child copy you by drawing a single line in a horizontal direction? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |
| | Count as "yes"  Count as "not yet"  | | | |
| | | | | FINE MOTOR TOTAL ___ |

PROBLEM SOLVING

| | YES | SOMETIMES | NOT YET | |
|--|-----------------------|-----------------------|-----------------------|-----|
| 1. Does your child pretend objects are something else? For example, does your child hold a cup to his ear, pretending it is a telephone? Does he put a box on her head, pretending it is a hat? Does he use a block or small toy to stir food? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |
| 2. Does your child put things away where they belong? For example, does she know her toys belong on the toy shelf, her blanket goes on her bed, and dishes go in the kitchen? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |
| 3. When looking in the mirror, ask "Where is _____?" (Use your child's name.) Does your child point to his image in the mirror? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |
| 4. If your child wants something she cannot reach, does she find a chair or box to stand on to reach it (for example, to get a toy on a counter or to "help" you in the kitchen)? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ___ |

OVERALL

Parents and providers may use the space below for additional comments.

1. Do you think your child hears well? If no, explain:

YES NO

2. Do you think your child talks like other toddlers her age? If no, explain:

YES NO

3. Can you understand most of what your child says? If no, explain:

YES NO

4. Do you think your child walks, runs, and climbs like other toddlers his age?
If no, explain:

YES NO

5. Does either parent have a family history of childhood deafness or hearing
impairment? If yes, explain:

YES NO

6. Do you have concerns about your child's vision? If yes, explain:

YES NO

OVERALL *(continued)*

7. Has your child had any medical problems in the last several months? If yes, explain: YES NO

8. Do you have any concerns about your child's behavior? If yes, explain: YES NO

9. Does anything about your child worry you? If yes, explain: YES NO

APPENDIX F: CHILD PARTICIPANT GOAL ATTAINMENT SCALES

Dyad #1 Goal Attainment Scale

Concern: inability to interact with family dogs without constant and immediate supervision due to physical aggression

Goal: to be able to be able to independently interact with at least one dog at a time, using gentle touches, for at least 5 minutes

Intervention Period: 12 home visits

| Level of expected outcome in 3 months | Rating | Skill/Behavior Description |
|--|---------------|--|
| Much greater than expected performance | +2 | Arnell will independently initiate and interact appropriately (using gentle touches to pet, play chase, fetch, brush, feed, etc) with two or more dogs at a time for 5+ minutes |
| Greater than expected performance | +1 | Arnell will independently initiate and interact appropriately (using gentle touches to pet, play chase, fetch, brush, feed, etc) with one dog for 10 minutes. |
| <i>Expected level of performance in 3 months</i> | 0 | Given initial adult support to initiate an interaction, Arnell will independently interact appropriately (using gentle touches to pet, play chase, fetch, brush, feed, etc) with one dog for 5 minutes. |
| Current level of performance | -1 | Arnell may initially pet or otherwise interact appropriately with dog(s) but within 1-2 minutes without immediate adult support and redirection, will physically aggress (hit/pull/push/throw objects at) toward dog(s). |
| Regression from current level of performance | -2 | Arnell will immediately aggress toward dogs (hit/pull/push/throw objects at) with or without adult support available. |

Dyad #2 Goal Attainment Scale

Concern: Bell is limited in her ability to communicate her want, needs, and ideas.

Goal: Given an adult model/demonstration and physical cue if needed (touch on the head) Bell will consistently shake and/or nod her head in acceptance or refusal when offered a physical object (toy, ipad, food utensils, books, blanket, etc) AND consistently imitate the signs for “more” and “all done” during meals.

Intervention Period: 12 home visits

| Level of expected outcome in 3 months | Rating | Skill/Behavior Description |
|--|--------|---|
| Much greater than expected performance | +2 | Given a <i>verbal cue</i> , Bell will shake and/or nod her head in acceptance or refusal when offered a physical object (toy, ipad, food utensils, books, blanket, etc) AND given a choice of three pictures of food/drink options and the cue “what do you want”, Bell will make a choice by pointing to or handing the picture over. |
| Greater than expected performance | +1 | Given an adult model/demonstration Bell will consistently shake and/or nod her head in acceptance or refusal when offered a physical object (toy, ipad, food utensils, books, blanket, etc) AND given a choice of two pictures of food/drink options and the cue “what do you want”, Bell will make a choice by pointing to or handing the picture over. |
| <i>Expected level of performance in 3 months</i> | 0 | Given an adult model/demonstration and physical cue if needed (touch on the head) Bell will consistently shake and/or nod her head in acceptance or refusal when offered a physical object (toy, ipad, food utensils, books, blanket, etc). Given a choice of two pictures of food/drink options and verbal/visual cuing, Bell will make a choice by pointing to or handing the picture over. |
| Current level of performance | -1 | Bell will sometimes shake her head or make a face to indicate ‘no’. She primarily uses sounds such as vocalizing, whining, crying to communicate displeasure. She will imitate the signs for ‘more’ as request and ‘all done’ when eating. |
| Regression from current level of performance | -2 | Bell will not imitate or use gestures (shaking head) or signs (more/all done) to communicate with others. Bell will rely only on sounds/vocalizations to communicate displeasure or to request. |

Dyad #3 Goal Attainment Scale

Concern: Colin is limited in his ability to communicate his want, needs, and ideas.

Goal: Given an adult model/demonstration Colin will imitate the signs for “more” during play and meal routines.

Intervention Period: 12 home visits

| Level of expected outcome in 3 months | Rating | Skill/Behavior Description |
|--|---------------|---|
| Much greater than expected performance | +2 | Colin will spontaneously request “more” by signing. |
| Greater than expected performance | +1 | Given a verbal cue only, Colin will request “more” by signing. |
| <i>Expected level of performance in 3 months</i> | 0 | Given a verbal cue and demonstration Colin will imitate the sign for ‘more’. |
| Current level of performance | -1 | Colin will make eye contact and will sometimes (less than 50% of the time) imitate the sign for ‘more’ given a verbal cue and demonstration. He will allow hand over hand support to imitate the sign for “more”. |
| Regression from current level of performance | -2 | Colin will not make eye contact nor imitate the sign for ‘more’ given verbal cue and demonstration. Colin will resist hand over hand support to imitate the sign for ‘more’ |

APPENDIX G: HOME VISITOR AND CAREGIVER INTERVIEW PROTOCOLS

Home Visitor PRE Interview

Demographic Info:

- How many years working in the field:
- How many years in current position:
- Highest level of education:
- Educational licenses held:

Questions:

1. How does your district define early intervention? What is your program (and your) philosophy on early intervention home visiting? How do you describe this to families?
2. Do Part C home visitors adhere to a common guiding framework or approach to home visiting? If yes, please describe.
3. Describe the program process for referral/intake/evaluation
4. What are ways in which you gather information regarding family priorities?
5. How do you explain the purpose of the IFSP to families?
6. How and when do you revisit family priorities/aspirations/desires?
7. Describe the process for making decisions around Part C service provision. How is it determined who will make visits, minutes, location, etc?
8. What does a typical home visit look like? Where in the home do you go? How do you spend your time? What is your role and the caregiver's role?
9. Describe the ways in which caregivers participate in visits.
10. How does early intervention look for children identified as having or at risk for ASD?
11. Describe professional development you have participated in in the last year that was specific to improving practices for infants and toddlers and their families.
12. What would you like to learn more about to improve your home visiting practices?

Home Visitor POST Interview

1. When you are starting with new families, how do you describe/explain your philosophy and what they can expect during home visits?
2. What does a typical home visit look like? Probe: where in the home do you spend time during home visits? What do you typically discuss and do while during the visit? What is your role during the visit and what is the caregiver's role?
3. Describe the ways in which caregivers participate during home visits?
4. How much time did you spend each week reading and responding to your performance feedback email? Did you revisit/reread emails or reviewing videos? If so, for what purpose?
5. Discuss the process of video taping during home visits. To what extent did being videotaped impact you and/or the family during the visits?
6. Discuss the benefits and struggles of using specific coaching strategies with caregivers (demonstration, guided practice, caregiver practice with feedback, direct teaching).
7. How do you feel coaching strategies support families with their priorities and concerns?
8. Were you able to see changes in interactions with the caregiver related to changes you made in your practice? If so, what were they? (i.e. parent confidence and problem solving increased, true priorities came to the surface, parent took on more active role)
9. What are your thoughts and reflections regarding shifting your practice as a result of performance feedback. What benefits do you see from this? What challenges and frustrations do you experience with this shift?
10. What do you think was the most useful aspect of the training and performance feedback?
11. What do you think was the least helpful aspect of the professional development?
12. What could we do to make this project better?
13. If there were an opportunity for follow-up PD, what would you want that to look like?
14. Would you recommend this type of professional development to your peers?

Primary Caregiver Interview PRE Interview

Demographic Info

- Age:
- Number of Years of Formal Education Completed:
- Occupation:

Questions

1. What is your relationship with the child?
2. How old is the child?
3. Who lives in the home? How old are siblings?
4. Where there complications with pregnancy or birth?
5. Does your child have a medical diagnosis? If so what?
6. How well do you feel you understand your child's disability? Strengths/Needs?
7. In what ways and where do you get information about (disability) and how to support (child)?
8. Who do you turn to for support when you need it?
9. How long as (child) been receiving early intervention?
10. How many different staff do visits and how frequently?
11. What are the best parts of being (child) parent?
12. What are his/her favorite activities? What do you enjoy doing with your child?
13. What are the hardest parts of being (child) parent?
14. What are a few priorities for your child in the next few months?
15. Based on your experience so far, how would you describe early intervention to other families?
16. What does a typical home visit look like?
17. Do you have suggestions for how home visits could be changed to better meet your child or family needs?
18. Do you practice intervention strategies between visits? If so, how often and which strategies?
19. Anything else you would like to share about your child, family, or experience with early intervention? Do you have questions for me?

Primary Caregiver Interview POST Interview

1. How well do you feel you understand your child's disability? His strengths and needs?
2. In what ways and where do you get information about (disability) and how to support ____ (Child's name).
3. What do you think are the best parts of being ____'s mom/dad? Tell us about ____ (Child's name) strengths and some of his/her favorite daily activities? What are things you enjoy doing with you child?
4. What are the hardest parts of being ____'s mom/dad? What are a few of your priorities for ____ (Child's name) development in the next few months? What are you looking forward to him/her making progress on? (probe depending on previous response to determine if this continues to be difficult or has shifted in any way, no longer an issue, more strategies, increased understanding)
5. Based on your experience so far, how would you define/describe early intervention to another family?
6. What does a typical home visit look like?
7. What changes did you notice in your home visits over the past few months? Were there changes? (review coaching notes prior to interview to guide/expand questions to reflect those specific strategies)
8. Do you have suggestions for how your home visiting services could be changed to better meet you and your family's needs? How could it be better?
9. Do you practice intervention strategies with your child between home visits (when teachers/therapists are not there)? If so, how often? Which strategies?
10. Discuss the process of video taping during home visits. To what extent did being video-taped impact you and/or the family during the visits?
11. Anything else you would like to share about your child, family, and or experience with home visiting? Do you have any questions for me?

APPENDIX H: HOME VISITOR AND CAREGIVER TREATMENT RATING FORM

The Use of Performance Feedback as a Professional Development Modified Treatment Acceptability Rating Form

Date: _____ Home Visitor: _____
HOME VISITOR TREATMENT ACCEPTABILITY RATING FORM

Please complete the items below by circling the number under the question that best indicates how you feel about your home visits.

1. How likely are participating caregivers to be *actively involved* and interacting with their child during home visits?

| | | | | | | |
|----------|---|---|---|---|---|-------------|
| Unlikely | | | | | | Very likely |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

2. How likely is it that the participating caregiver(s) practice interventions with their child between home visits (when you are not present)?

| | | | | | | |
|----------|---|---|---|---|---|-------------|
| Unlikely | | | | | | Very likely |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

3. How confident are you that participating in this professional development will result in meaningful change to your home visiting practice?

| | | | | | | |
|----------------------|---|---|---|---|---|----------------|
| Not at all confident | | | | | | Very confident |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

4. How easily does the professional development fit within your typical work week?

| | | | | | | |
|-------------------|---|---|---|---|---|-------------|
| Not at all easily | | | | | | Very easily |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

5. How effective was the initial training?

| | | | | | | |
|------------|---|---|---|---|---|----------------|
| Not at all | | | | | | Very effective |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

6. How effective was the performance feedback?

| | | | | | | |
|------------|---|---|---|---|---|----------------|
| Not at all | | | | | | Very effective |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

7. How likely are you to continue to use strategies learned through this professional development once performance feedback has ended?

| | | | | | | |
|----------|---|---|---|---|---|-------------|
| Unlikely | | | | | | Very likely |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**The Use of Performance Feedback as a Professional Development
Modified Treatment Acceptability Rating Form**

Date: _____ Child: _____ Parent: _____

CAREGIVER TREATMENT ACCEPTABILITY RATING FORM

Please complete the items below by circling the number under the question that best indicates how you feel about your home visits.

1. To what extent do home visits address your priorities for your child and your family?

| | | | | | | | |
|------------|---|---|---|---|---|---|-------------------|
| Not at all | | | | | | | To a Great Extent |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

2. How likely are you to be *actively involved* and interacting with your child during home visits?

| | | | | | | |
|----------|---|---|---|---|---|-------------|
| Unlikely | | | | | | Very likely |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

3. How likely is it that participating in this home visiting program will result in progress toward your child and family priorities?

| | | | | | | |
|----------|---|---|---|---|---|-------------|
| Unlikely | | | | | | Very likely |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

4. To what extent do you practice intervention strategies with your child between home visits (when teachers/therapists are not present)?

| | | | | | | |
|------------|---|---|---|---|---|-------------------|
| Not at all | | | | | | To a Great Extent |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

5. How well does carrying out recommended interventions fit into your daily routines and activities?

| | | | | | | |
|-----------------|---|---|---|---|---|-----------|
| Not at all well | | | | | | Very well |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

6. How likely are you to recommend home visiting programs to your family or friends?

| | | | | | | |
|----------|---|---|---|---|---|-------------|
| Unlikely | | | | | | Very likely |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

APPENDIX I: WORKSHOP POWERPOINTS AND HANDOUTS

FAMILY GUIDED ROUTINES-BASED INTERVENTION

An
Introductory
training

OVERVIEW

| Session One | Session Two |
|--|--|
| <ul style="list-style-type: none"> ○ Setting the Stage ○ Overview of Key Principles of FGRBI ○ Application to Adult Learning Principles ○ The Role of Routines | <ul style="list-style-type: none"> ○ Key FGRBI Indicators ○ Caregiver Coaching Strategies ○ The SSOOPRR Model |

SETTING THE STAGE

Introductions:

- Personal Background/Experience
 - With kids/families
 - With coaching caregivers
- Strengths/challenges in current role
- Hopes/expectations for participation in study

KWL Discussion

| What do you already know about FGRBI? | What would you like to know? | What did you learn? |
|---------------------------------------|------------------------------|---------------------|
| | | |
| | | |
| | | |

FAMILY-GUIDED ROUTINES BASED INTERVENTION

The Family Guided Routines Based Intervention (FGRBI) project integrates published literature on embedded interventions (Bricker & Woods Cripe, 1992; Bruder, 1998; Dunst, Bruder, Trivette, Raab, & MacLean, 2001; Hanft & Pilkington, 2000; McWilliam, 1996; 2001; Woods, Kashinath & Goldstein, 2004) with the day-to-day challenges of implementing interventions that are consistent with the legal mandates for early intervention services described in the Individuals with Disabilities Act (1997, 2004).

(Family Guided Routines-Based Intervention website. Retrieved September 12, 2011 from <http://fgrbi.fzu.edu/finalreport.html>).

FAMILY-GUIDED ROUTINES BASED INTERVENTION

FGRBI uses a home-based delivery model and has been developed to increase family involvement, provide intervention in natural environments, and improve collaborative teaming by involving caregivers in the assessment and intervention process, identifying child and family preferred routines, delineating when, where, and how often to embed outcomes, and integrating intervention across developmental domains into the child's day

(Family Guided Routines-Based Intervention website. Retrieved September 12, 2011 from <http://fgrbi.fzu.edu/finalreport.html>).

EXAMPLES OF FGRBI RESEARCH:

- Home visitors can actively engage caregivers in learning through the use of triadic consultation strategies such as guided practice, demonstrations, direct teaching, and through providing caregivers specific and meaningful feedback to enhance their competence (Hanft et al, 2004; Woods & Goldstein, 2003; Woods, Kashinath, & Goldstein, 2004).
- Embedding intervention within daily routines was effective in enhancing caregiver strategy use and had positive effects on specific communication outcomes for children with communication delays (Woods, Kashinath, Goldstein, 2004), and for children with autism (Kashinath, Woods, Goldstein, 2006).
- Caregiver reported key learning strategies included problem solving with provider, demonstration, discussion of match between strategy, outcome, routines, and child interest, time to talk about data, and feedback (Kashinath, Woods, Goldstein, 2006; Woods, Kashinath, Coston, Richmond, Goldstein in prep).

The Project Final Report and listing of FGRBI publications and trainings can be found at <http://fgrbi.fzu.edu/index.html>

HOWEVER, THE RESEARCH ALSO SAYS:

- Traditional play based, adult directed-child focused services are prevalent (Campbell & Saywer, 2007)
- Majority of services with parents present do not include active parent participation (Peterson, et.al., 2007)
- Providers prefer traditional model (Campbell et.al., 2009)

7 KEY PRINCIPLES AND PRACTICES IN NATURAL ENVIRONMENTS

- This document elaborates on the 7 key principles identified by work group members, listing the concepts underlying the brief statements. Each principle also has descriptive statements illustrating what the principle should "look like" and "doesn't look."
 - *Best / Biggest Activity*
- Citation:
Workgroup on Principles and Practices in Natural Environments (February, 2008) Seven key principles: Looks like / doesn't look like. OSEP TA Community of Practice- Part C Settings. <http://www.nectac.org/topics/families/families.asp>
Workgroup on Principles and Practices in Natural Environments • OSEP TA Community of Practice- Part C Settings • 1

ANOTHER WAY TO LOOK AT IT



WHAT MATTERS TO FAMILIES?

What family routine or daily activity is important to you?
What does it generally look like?

- Relevancy to what they want and need to do
- Individualization for child and family
- Contextual match
- Respect for their beliefs, experiences and expectations

FAMILY MEMBERS AS ADULT LEARNERS

THINK OF A TIME YOU WERE LEARNING SOMETHING NEW

- Effective communication
- Comfortable environment
- Contribution and participation
- History and experience
- Respect for values and priorities
- Collaboration and problem solving
- Application to life and functionality
- Competing commitments

JOYCE AND SHOWERS (2002)

| Staff Development | Knowledge (thorough) | Skill (strong) | Transfer (implementation) |
|------------------------------------|----------------------|----------------|---------------------------|
| Theory | 10% | 5% | 0% |
| Demonstrations | 30% | 20% | 0% |
| Practice & Feedback | 60% | 60% | 5% |
| Peer Coaching or Collegial Support | 95% | 95% | 95% |

**EIGHT CONCEPTS FROM ADULT LEARNING
YOU CAN USE TO SUPPORT CAREGIVERS**

1. Learning opportunities will appeal to many caregivers
2. Adults learn best when expectations are clear
3. Habits and beliefs take time to change
4. Learning can result in more change when it fits with established patterns of interaction
5. Adult learners tend to prefer to learn one concept at a time
6. Adults tend to teach others the way they like to learn or have been taught
7. Trust is central to the teaching and learning relationship
8. Active learning opportunities increase adult participation

**APPROACH CHILD & CAREGIVER
INTENTIONALLY AND SYSTEMATICALLY**

- Children learn in a social environment
- So do adults!
- For many children, development doesn't just happen... it needs supportive caregivers and knowledgeable caregivers
- Adults benefit from systematic instruction in context

The richest moments for learning are when the child is sharing attention, affect, and intentions and the caregiver talks and acts on the child's focus of attention.

VALUE OF ROUTINES

- Act as a framework supporting new learning
 - Predictable
 - Repeatable
 - Functional
 - Logical
 - Adaptable to individual variations
- Familiar framework allows child to focus on new learning e.g. grasp & release, phrases, initiating, etc.
- Providers practice across the day in variety of settings
- Motivating for child and adult - not 'extra' but embedded and interesting

ROUTINES OFFER THE MOST TEACHING AND LEARNING OPPORTUNITIES WHEN THEY ARE:

- Reciprocal (joint attention and reversible roles)
- Expandable and contractible
 - Number of opportunities
 - Types and number of targets
- Logical and predictable (anchor for learning for both)
- Flexible for generalization
- Motivating (to both)
- Developmental (grow with the child)

AND THE RESEARCH SAY....

- About play
- Family priorities
- Contextual match
- Generalized learning


CHOOSING ROUTINES & ACTIVITIES

- | | |
|---|---|
| <ul style="list-style-type: none">○ Caregiver Variables<ul style="list-style-type: none">▪ Priority or problem▪ Family traditions/values▪ Immediate relevance▪ Capacity and confidence○ Child Preferences<ul style="list-style-type: none">▪ Interest/motivation▪ Frequency of turns | <ul style="list-style-type: none">○ General Considerations<ul style="list-style-type: none">▪ Time and materials▪ Joint attention▪ Proximity of caregiver▪ Competing responsibilities▪ Frequency of repetitions○ Scaffolds for Future<ul style="list-style-type: none">▪ Functional▪ Multiple locations▪ Varied skills▪ Positive interactions▪ Multiple participants |
|---|---|

OBSERVING ROUTINES WHAT CAN YOU SEE WHEN YOU WATCH?

- Routine
 - Sequence
 - Repetition
 - Joint attention
 - Positive/motivating
- Child
 - Anticipate
 - Attend
 - Initiate
 - Respond
 - Imitate
 - Independently participate
- Caregiver
 - Expect participation
 - Respond, expand
 - Use objects
 - Read child's cues
 - Use intervention strategies
 - Encourage
- Dyad
 - Position, proximity
 - Mutual attention
 - Turn taking
 - Positive affect
 - Cues, repairs

Theo and Mom in the Bathroom- Mom's Intervention Supports



Juliana J Woods Florida State University



SUPPORTING CAREGIVERS EMBEDDING WITHIN THE ROUTINES

- Engaging the caregiver in decision making
 - Child and family routine...
- Planning and problem solving each component thoroughly
- Joining in and not taking over
 - Maintaining sequence and format (minimum change for maximum impact)
 - Using instructional strategies all ready in place
 - Identifying enough but not too much

DEVELOPMENTAL RESPONSIVENESS

- Developmental responsiveness
 - Evidence supports this strategy as the most essential for development in parent implemented interventions
 - Builds upon positive caregiver child interaction
 - Provides opportunities to hear, see, engage, and benefit from interaction
 - Focus is on process – Not the product

OBSERVING CAREGIVER'S RESPONSIVENESS

- Do they:
- Read child cues
 - Noticing locus of attention
 - Attempts to communicate – even if hard to understand or read
 - Respond to child communication attempts
 - Vocal, gestures, actions
 - In timely and positive manner
 - That promote another turn for the child
 - Scaffold engagement with environment
 - Building on the child's locus of attention
 - Expanding play with objects
 - Mediating within functional routines

STRATEGY CHOICE

- Observations of caregivers in multiple routines to determine current strategy use
- Joint problem solving to identify "best fit options"
 - Build on what caregiver already does with enhancements (increase frequency/quality)
 - Choose EBP that would likely enhance child performance
 - Practice and discussion of pros and cons, comfort, efficiency, acceptability

Goal: Most impact for child with least amount of change for the caregiver

WRAPPING-UP

Next Week:

- Key Indicators of FGRBI
- Caregiver Coaching Process
- Specific Coaching Strategies

Implementing Information about Adult Learning into FGRBI - a Checklist

What are key things you learned or are you are thinking about related to our discussion? What questions were raised as a result?

What baby steps might you take as a result of this discussion? What support do YOU need in those baby steps?


RESOURCES

- Seven Key Principles
- Family-Guided Activity Based Approaches
- 8 Concepts from Adult Learning
- Questions and Answers for Families
- Observing Caregivers and Coaching Observation Form
- Identifying Family Activities Conversation Starters

NEXT STEPS FOR STUDY

- Day 2 training and caregiver interview
- Continued Video sharing
- Next visit identify with family 1-2 child priorities to focus on for next 2 months?
 - What is current ability (what does it look like)?
 - Where would you like to see him go in next 6 months (what would it look like)?
 - What might be some of the 'steps' along the way?
- Discuss this with Kellie via phone
- Kellie will draft a goal attainment scale and get your input

Theo and Mom in the Bathroom- Mom's Intervention Supports



Embedded
Waiting,
Sabotage,
Contingent
Imitation

Responsive Strategies:
 Predictable Routine,
 Face to Face, Attention,
 Interesting activity and
 objects, Talking about
 what is happening,
 Repetition, Turn taking,
 Roles, Follow his lead

Juliano | Woods Florida State University

STRENGTHENING SKILLS IN IDENTIFYING ROUTINES

- Broaden your definition of routines
- Use the framework of your home visit to identify routines
- Practice thinking out of the IFSP/IEP boxes
- Shop for ideas while completing the tasks of your everyday life
- Survey the family for special interests or activities regularly and using varying formats
- Complete an environmental scan of your own routines and materials to use as suggestions
- Complete an environmental scan during a home visit and ask open-ended questions
- Solicit ideas from families... you'll never run out of routines!

GETTING OUT OF THE RUT!

Change up your routines by...

- Making plans the week before
- Focus on a quadrant you aren't using
- Follow up on family chores ... Everybody has them!
- Include other family members
- Use visual schedules or supports
- Update the list of routines with the family and ask what they would like to add
- Focus attention to caregiver priorities
- Join in... don't "just do it"
- Use routines with props or sequence as cues
- Expand routines with new settings, materials, people
- Repeat and double check again and again and again

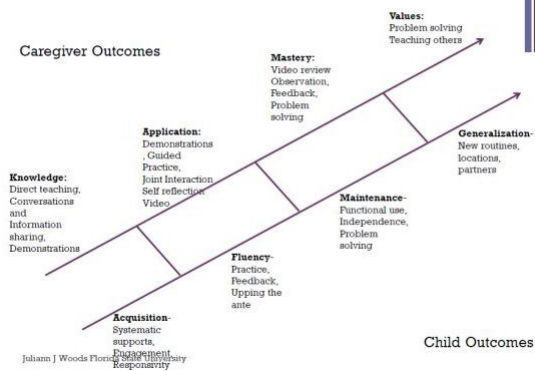
EMBEDDED INTERVENTION WITH CAREGIVERS

- Individualize instruction for each
 - Conversations, observations, demonstrations, video, handouts, problem solving, data collection, planning
- Make as little change as necessary for most amount of impact in each routine/activity
 - Don't contrive, add complexity, or be cute
 - Embed ONLY functional and meaningful outcomes
- Provide supports and scaffold for adult as you would for child
 - Systematic, simple, individualized
 - Visuals, cues or mnemonics, props
- Specific feedback is crucial
 - Both what to do and what not to do and what can be anticipated from the actions
 - For the child's optimal success

SCAFFOLDING

| Children | Caregivers |
|---|---|
| <ul style="list-style-type: none"> ○ Occurs within a social environment or support system ○ With a partner (adult or child) who is more expert than the child at a task ○ By providing "just enough" assistance to do the task ○ And fading assistance as child's skill increases | <ul style="list-style-type: none"> ○ Occurs within collaborative environment with acceptance of and respect for each other's values, skills, and knowledge ○ Begins with skills/strategies the partner exhibits ○ Mentor relationship provides support for new ideas and skills to develop ○ Working within each other's "zones of proximal development" increases use of knowledge within practice |

Parallel Strategies



SS-OO-PP-RR

- **Setting the Stage: Caregiver as Decision Maker**
 - Engage caregiver to identify priorities, routines, intervention strategies, and outcomes to target for visit
 - Gather updates and share developmental information
 - Explain (emphasize) importance of everyday activities and caregiver's role
- **Observation and Opportunity to Practice: Meaningful Engagement within Context**
 - Watch interactions between parent-child dyad prior to coaching
 - Facilitate opportunities for caregiver to practice and be successful with intervention strategies
 - Support contextual match between context, caregiver, outcome, strategy
- **Problem solving and Planning: Metacognitive Interaction**
 - Dialogue and discuss within and at the end of each routine
 - Identify alternatives to support teaching and learning opportunities
 - Plan for intentional embedding of interventions in diverse family routines and activities
- **Reflection and Revision: Self Evaluation and Commitment**
 - Encourage caregiver to identify successes and challenges
 - Support self evaluation and adjustments based on assessment
 - Summarize next-steps

Caregiver Coaching Strategies

- Preparing**
 - Conversation and information sharing
 - Observation
 - Direct teaching
 - Demonstration
- Application & Feedback**
 - Joint interaction
 - Guided practice with feedback
 - Caregiver practice with feedback
- Mastery**
 - Problem solving
 - Video feedback
 - Reflection

Julianne J Woods Florida State University

Theo and Mom in the Bathroom- EI- SLP Consultation Strategies

Video Feedback

Guided Practice, Observation, Caregiver Practice with Feedback, Problem Solving

Direct Teach with Handouts and Video

Observation

Julianne J Woods Florida State University Kashinath, S., Woods, J., & Goldstein, M. (2006). JSHR

OBSERVING FOR KEY INDICATORS & CAREGIVER COACHING STRATEGIES



HOW TO USE THE KEY INDICATORS

- As a guide for planning your session
- During the home or center visit
- Complete it at the end or back at the office
- Watch video and self-assess

FGRBI COACHING STRATEGIES

- Conversation and information sharing
- Direct teaching
- Demonstration/modeling
- Guided practice and feedback
- Joint interaction
- Caregiver practice with feedback
- Observation
- Problem solving and Planning

CONSULTATION TOOLS...WHAT WE KNOW FOR SURE...

- Direct teaching is important (but rarely done) (Campbell & Sawyer, 2007; Hebbeler, Spiker, Morrison, & Mallik, 2008; Peterson, Luze, Eschbaught, Jeon, & Kantz, 2007)
 - Most adults need it sometimes! It should be matched to purpose and caregiver's learning preferences. (Bransford et al., 2000; Dunst & Trivette, 2009)
- Demonstrations (modeling with explanations) should be followed with practice and problem-solving to insure "best contextual match" for adult, child and routine (Bransford et al., 2000; Dunst & Trivette, 2009)
- Guided and caregiver practice with feedback results increased caregiver leadership (Friedman & Woods, 2009)
- When problem solving and planning are integral to the session (fidelity component) rates of occurrence increase (preliminary data- KTTT, 2009)

CAREGIVER COACHING STRATEGIES

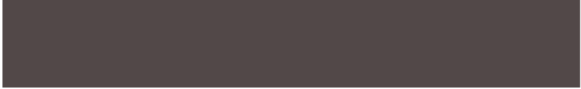


WRAPPING-UP

Implementing Information about Adult Learning into FGRBI – a Checklist

What are key things you learned or are you are thinking about related to our discussion? What questions were raised as a result?

What baby steps might you take as a result of this discussion? What support do YOU need in those baby steps?



- Seven Key Principles
- Family-Guided Activity Based Approaches
- 8 Concepts from Adult Learning
- Questions and Answers for Families
- Observing Caregivers and Coaching Observation Form
- Identifying Family Activities Conversation Starters
- Key Indicators of FGRBI
- The SS-OO-PP-RR Teaching and Learning Cycle
- Caregiver Coaching Strategies

NEXT STEPS FOR STUDY

- Continued Video sharing
- Next visit identify with family 1-2 child priorities to focus on for next 2 months?
 - What is current ability (what does it look like)?
 - Where would you like to see him go in next 6 months (what would it look like)?
 - What might be some of the 'steps' along the way?
- Discuss this with Kellie via phone
- Kellie will draft a goal attainment scale and get your input
- Three weeks of home visits then 6 weeks of performance feedback emails

APPENDIX J: WORKSHOP IMPLEMENTATION FIDELITY CHECKLIST

| Workshop 1 | | | |
|--|-------------|-------------|-------------|
| | Laura | Shelby | Anita |
| Duration Workshop Day 1 | 115 minutes | 111 minutes | 119 minutes |
| Setting the Stage: KWL, overview of FGRBI and example research | X | X | X |
| 7 Key Principles & Practices & Best/Biggest Activity | X | X | X |
| Adult Learning: What matters to families, Eight Concepts | X | X | X |
| Routines: value of routines, using routines, observing routines, embedding in routines | X | X | X |
| Timing: workshop happen after last baseline point and prior to first workshop point | X | X | X |
| Workshop 2 | | | |
| | Laura | Shelby | Anita |
| Duration Workshop 2 | 101 minutes | 115 minutes | 120 minutes |
| Embedded intervention | X | X | X |
| SS-OO-PP-RR Model | X | X | X |
| Key Indicators | X | X | X |
| Caregiver Coaching Strategies | X | X | X |
| Observation of Video Examples | X | X | X |
| Timing: workshop happen after last baseline point and prior to first workshop point? | X | X | X |

APPENDIX K: PERFORMANCE FEEDBACK FIDELITY CHECKLIST

Home Visitor #1 (Laura)

| | PF #1 | PF #2 | PF #3 | PF #4 | PF #5 | PF #6 |
|---|-------|-------|-------|-------|-------|-------|
| Feedback was provided within six days of the last home visit and prior to the next scheduled home visit | X | X | X | X | X | X |
| Positive opening statement | X | X | X | X | X | X |
| Data-based supportive feedback | X | X | X | X | X | X |
| Corrective feedback with ideas or suggestions | X | X | X | X | X | X |
| Planned action with embedded reflective response request | X | X | X | X | X | X |
| Closing encouragement statement | X | X | X | X | X | X |
| Feedback included a pie graph illustrating use of caregiver coaching strategies | X | X | X | X | X | X |

Home Visitor #2 (Shelby)

| | PF #1 | PF #2 | PF #3 | PF #4 | PF #5 | PF #6 |
|---|-------|-------|-------|-------|-------|-------|
| Feedback was provided within six days of the last home visit and prior to the next scheduled home visit | X | X | X | X | X | X |
| Positive opening statement | X | X | X | X | X | X |
| Data-based supportive feedback | X | X | X | X | X | X |
| Corrective feedback with ideas or suggestions | X | X | X | X | X | X |
| Planned action with embedded reflective response request | X | X | X | X | X | X |
| Closing encouragement statement | X | X | X | X | X | X |
| Feedback included a pie graph illustrating use of caregiver coaching strategies | X | X | X | X | X | X |

Home Visitor #3 (Anita)

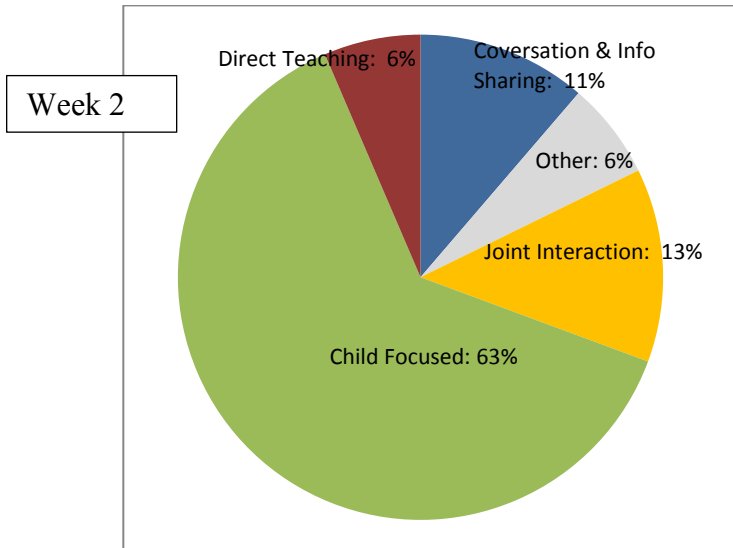
| | PF #1 | PF #2 | PF #3 | PF #4 | PF #5 | PF #6 |
|---|-------|-------|-------|-------|-------|-------|
| Feedback was provided within six days of the last home visit and prior to the next scheduled home visit | X | X | X | X | X | X |
| Positive opening statement | X | X | X | X | X | X |
| Data-based supportive feedback | X | X | X | X | X | X |
| Corrective feedback with ideas or suggestions | X | X | X | X | X | X |
| Planned action with embedded reflective response request | X | X | X | X | X | X |
| Closing encouragement statement | X | X | X | X | X | X |
| Feedback included a pie graph illustrating use of caregiver coaching strategies | X | X | X | X | X | X |

APPENDIX L: LAURA'S PERFORMANCE FEEDBACK #2

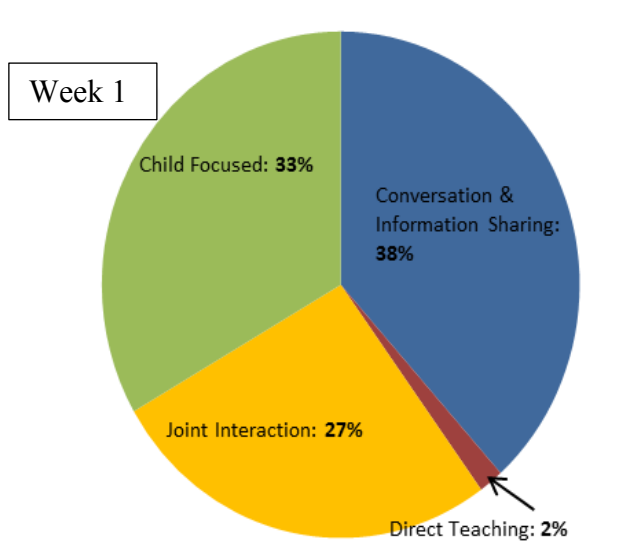
Hey Laura!

I enjoyed watching your 05.15.13 home visit with Ann and Arnell. Wow did you ever focus on keeping yourself and Ann on track; nice work! You were both stayed very focused on Arnell and boy did it seem to help keep HIM focused.

The first pie chart illustrates the percentage of time you used a variety of caregiver coaching strategies this week (05/15). The second chart is from last week (05/08).



Demonstration: 0%
 Caregiver Practice with Feedback: 0%
 Observation: 0%
 Guided Practice with Feedback: 0%
 Problem Solving: 0%
 Video Feedback &



Demonstration: 0%
 Caregiver Practice with Feedback: 0%
 Observation: 0%
 Guided Practice with Feedback: 0%
 Problem Solving: 0%
 Video Feedback & Reflection: 0%

As you can see in the graph, 11% of the segment coded this week you were engaged in conversation and information sharing; that was a 17% decrease from last week! That is really exceptional Laura! Look at clip 16:00-16:30; it is a great example of you staying focused on what Arnell is interested in. Your question to him was off topic and he was focused on reading his book. You realized this and quickly refocused with him! Immediately following that (16:30-17:00) you noticed that he pet the dog nicely and quickly followed up on his action by reinforcing his gentle touch. Because Arnell is so distractible and so motivated by adult attention, I think when you and Teresa stay focused and engaged with him for the first half of the visit; he will stay calmer. Nicely done!

This week you also increased your use of direct teaching to 6%. Remember that direct teaching is used when you want to increase the caregiver knowledge by sharing information about specific intervention strategies or child development. Clip 8:00-9:00 is a great example of you explaining the concept of 'heavy work'.

You will also notice that this week you spent 63% of the time engaged in child focused activities. This means that you were working directly with Arnell while Ann was primarily watching. It is huge that Ann is so consistently present, interested and available during your visits. This is something you can really build on. I wonder if Ann sees her role as that of observer rather than participant? Clip 6:00-8:00 shows you providing a very rich child-focused intervention. You are using parallel play and modeling play schemes for Arnell and he is picking up on it while Ann is really watching what is going on. At clip 7:00 you say "I'm going to make a house..." watch what Arnell says/does immediately after that. Reflect on the intent of Lego play here...were you focused on teaching Ashton play skills or were you demonstrating strategies for Ann to use? Do you think you could accomplish both? Early in the clip you mentioned to Ann that Legos might be a great toy for Arnell but that he would need to learn how to use them (vs throw them). Of course you know that Arnell will develop his Lego play skills much faster if Ann plays with him between visits too.

When you are working directly with Arnell (child focused) really think about explaining out loud what you are doing so Ann is learning about all the great strategies you use. Think about setting the stage with Ann about what you are doing. For example "Since Arnell is so interested in these Legos, I'm going to just play next to him and talk about what I'm doing with my blocks. I can model some ideas and see if he follows my lead. You watch for a bit and then when you are ready, you can join in". In this way you make your 'intervention' visible to Ann so she is learning ways to support Arnell. You are also clearly explaining that her role is to watch the demonstration and then try it herself. After a few minutes of YOU playing next to Arnell, you could put some blocks out with Ann and invite her to play along "now you join us and do your own building and sharing of ideas". This would then give you the opportunity to observe the two of them interacting. Ann could 'lead' and you could feed her ideas vs 'leading' with Arnell. A great next step for you to think about Laura is how to get Ann to be a main player in the interactions with Arnell.

Can you think of how your physical proximity to Arnell and Ann might impact your role and how the three of you work together? What about location of activities...watch clip 1:00-3:00. How are the three of you positioned? What changes in positioning and/or location would facilitate more interactions between Arnell and Ann and increase your role as support to Ann?

You are a star Laura – I could really see that you were working on you and Ann staying focused on topic this visit...it made a difference for Arnell! Looking forward to hearing your thoughts when you have a minute.

Keep up the hard work!

APPENDIX M: ANITA'S PERFORMANCE FEEDBACK #1

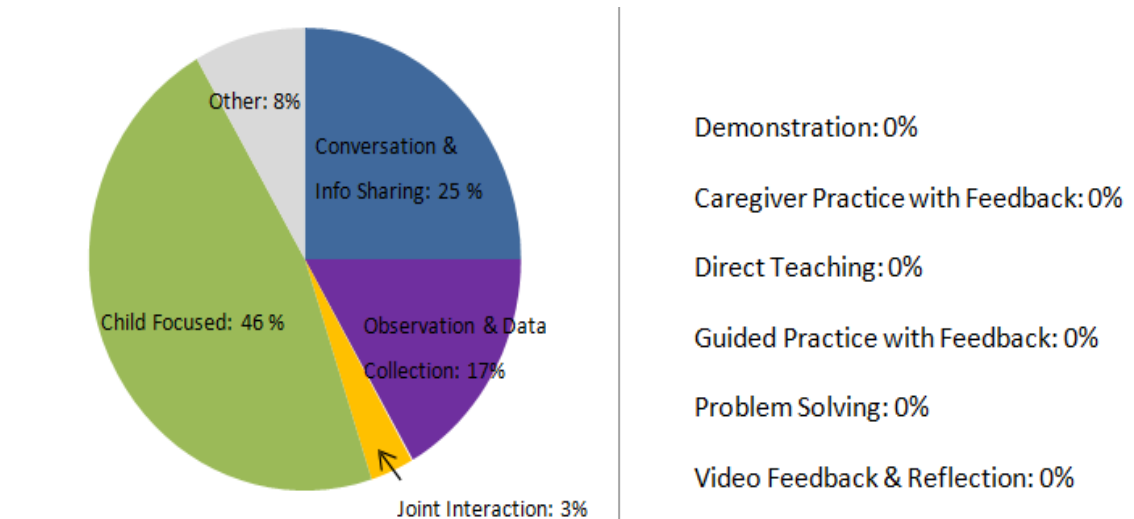
Good afternoon Anita!

I enjoyed watching your 6.13.13 home visit with Colin and his family. As I review the Key Indicators of Family-guided Routines-based Intervention (you have this in your packet of handouts) I noticed that you really worked to include the toys/materials typically used in the home (#3). For example, you even said at one point "I don't have a toy bag" and you followed the family routine of mealtime by joining in.

During mealtime you maintained the sequence that routine and limited changes (#4); very routines-based!

Below you will find a pie chart that illustrates the percentage of time you used a variety of caregiver coaching strategies (you have these strategies defined in your handouts). The data in the graph is based on a 30 minute segment of your 6.13.13 visit.

Feedback #1 based on 6.13.13 visit



As you can see in the graph, 17% of the segment coded you were observation as a strategy. During observation, the primary role of the interventionist is to observe or gather data for the purpose of understanding the child / caregiver routine and the child's functioning within that routine. During observation, the interventionist is not part of the activity but may be in close proximity and does not provide feedback or suggestions but rather simply observes. If you watch clip 21:00-23:00 you are observing grandma (and Dad's girlfriend) interact with Colin during his breakfast routine. Watching the interaction between child and caregiver(s) in their

natural routine is an important first step in intervention planning and in coaching caregivers. Your data indicates that you observed for 17% of the coded clip last week; good for you Anita!

You will also see that your data indicates that you used child focused intervention for 46% percent of the coded video clip. Child focused intervention is when the interventionist works directly with the child while the caregiver(s) are either not present or are not participating. For the purpose of your feedback I have coded and will refer to Grandma, Grandpa, Dad, and Dad's girlfriend as the "caregivers" (the two aunts in last week's video are not counted as caregivers). If you review clip 11:00-17:00 you are primarily using child focused intervention during bubble play. Obviously it is child focused because none of the caregivers are present and available for coaching. If you review the Key Indicators of Family- Guided Routines-Based Intervention in your handouts from training day two, you will see that the very first indicator (and most important in my opinion) is interacting with the caregiver and child as a dyad. I can see that this can be a challenge especially with this family given the complexity of the adults' lives and the busy nature of the home environment. That said, I think this is the most important place for you to begin with this family. I wonder if the primary caregivers truly understand their role in your visits?

They seem to have many different professionals in and out and I'm sure each has their own way of working with them. Do you think they (the caregivers) would benefit from a conversation about what you are working on related to coaching caregivers to embed intervention for their child into daily routines? I invite you to go back and re-read the following two articles in your handouts:

- 8 Concepts from Adult Learning You Can Use to Support Caregivers
- Questions & Answers for Families and Caregivers about Services in Natural Environments

As you read, highlight ideas that would be helpful to share with Dad and his girlfriend. Before your next visit write down a few things you want to say about your services and their role in your visits. If you would think they would be interested, bring a copy of Questions and Answers handout for them to read...maybe highlight one or two sentences in each paragraph for them.

What are one or two things you think would be important to highlight and communicate with the family?

In the video clip 16:00-17:00 you said "where is Dada? Is he eating?" This is an indirect way of trying to communicate that you would like Dad present with you. I think it will be important as you move forward with this family, that you be very intentional and direct about communicating your desire to have a caregiver with you during your visits. Think about how you can explain why this is important while maintaining respect and rapport. When caregiver(s) are present there will be less need for child focused intervention and more opportunity for you to observe their natural interactions and support them by providing feedback and suggestions.

One last idea for this week ... I invite you to review this pdf about Enhanced Milieu Teaching

(EMT), a naturalistic, conversation-based intervention that uses child interests and initiations as opportunities to model and prompt language in everyday contexts. EMT is an evidence-based intervention with 20 years of research and once you review the link I think you will find that it includes many language intervention strategies you already know about and use. I'm wondering if a few of these strategies would be appropriate to teach Colin's caregivers....?

http://kc.vanderbilt.edu/kidtalk/files/presentations/Kaiser_AUCD%20Webinar_2_22_11.pdf

Do you think one or two of the strategies would be appropriate to teach Dad and his girlfriend? If so, which ones and what routines/activities would be a good place to start?

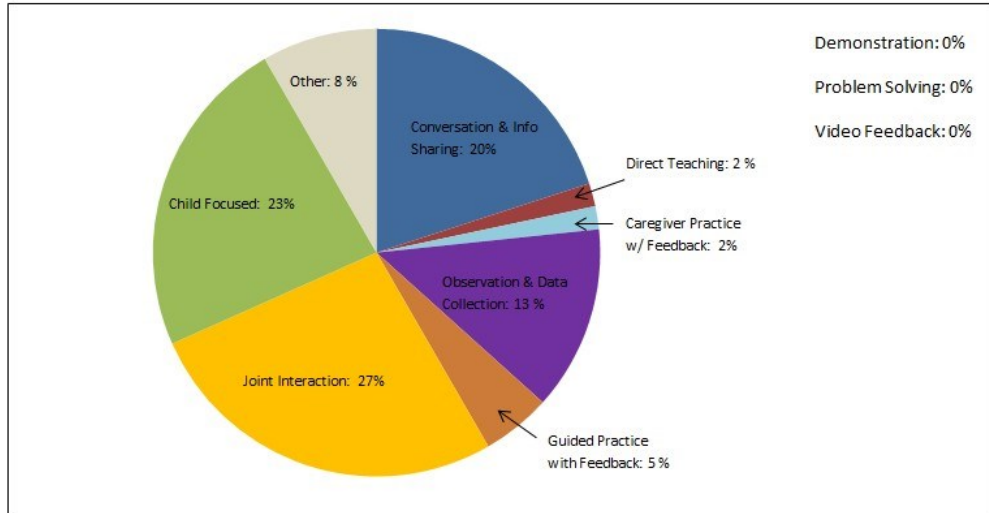
Finally, you can see in your chart that you use "joint interaction" during 3% of your coded video clip. Joint interaction is when the caregiver and interventionist work as partners with the child practicing strategies to improve child outcomes. Once you are able to establish more consistent caregiver participation, your joint interaction will continue to increase – this is a great start!

Clearly Colin's family presents a fair share of challenges for you as an interventionist. You do a fabulous job of being respectful and have developed a trusting relationship with them which is a very important building block for your work together!

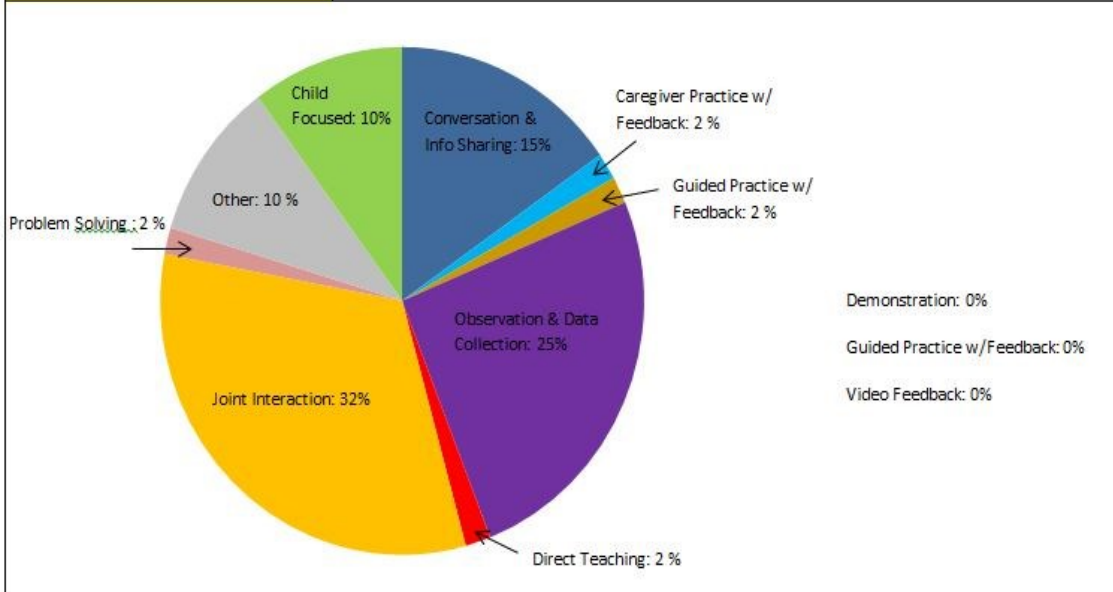
APPENDIX N: ANITA'S PERFORMANCE FEEDBACK #5

Hi Anita. Thank you for sharing your 8.18.13 home visit video. You tried valiantly to engage Corey despite his being tired – not easy - good for you! Below last week's feedback (#4) you will find your feedback for this week (#5).

Feedback #4



Feedback #5



There were a few nice instances of specific coaching strategies that I would like to point out to start with this week:

- At 6:30 after commenting several times about Corey participating you set up an activity that essentially required him to participate (car rolling under the table). This was very strategic and flexible of you Anita. You assessed that he was probably not going to get off the couch and that you were going to have to bring the activity right to him so you set up the car rolling in a way that he did not have to get off the couch. Colin was distracted pretty quickly but it was still a nice example of setting up the environment for the caregiver/child dyad to engage together and for you to be the guide on the side.
- At 15:00 you suggested to Corey “Say please, maybe that will work” . This was a nice example of Guided Practice with Feedback. Instead of you engaging Colin and trying the strategy, you suggested it to Corey. Nice. Even though Corey did not respond to your suggestion this time, it was still a very appropriate use of guided practice.
- At 16:30 you used Direct Teaching by suggesting the use of redirection when Colin was having a fit. You explained how to bring him a toy to distract, or help him move on to whatever the family is doing next. I like how you explained what you meant by ‘redirection’ and gave some specific examples.
- Throughout the visit you used observation to see what was already happening between Colin and the primary caregiver (Corey or Grandma). You can see in your graph that observation was used for 25% of the visit – this is great! Unless you watch first, you will not know how to guide and what to coach on.

Now I would like to build on your observations and use of coaching strategies this week by thinking about what you were observing and how you might take the next step.

Go back and review the 16:00-17:00 clip where Colin is having a fit and you suggested redirection. In this moment you choose to not intervene yourself but rather ask Corey what he typically does when Colin is having a fit. This was great – you were observing and then gathering information to understand how that routine typically plays out. Corey shared that he usually ignores it. So in your mind you think that redirection might be a more appropriate intervention (or at least another way to handle it) so you take a moment and explain (teach) him about redirection – also great. However Corey does not respond. In this moment it would be very appropriate to use demonstration as a follow up coaching strategy. It is really OK to work directly with Colin during visits...you just really want to think about WHY you are focusing on the child (for example to demonstrate something). You might have said something like “How about we try redirection now and see how Colin responds. I will show you how you can use a toy or other preferred object to distract and redirect Colin from a fit without feeding into it. You watch how Colin responds and then we can talk about it”. In this example, you are clearly telling Corey that you are going to demonstrate for him, you explain what you are demonstrating, and what his job is (to watch Colin’s reaction) and you are also setting up that you want to discuss it afterwards. Another way to think of it is like levels of

prompting. Corey did not respond to your teaching about redirection through verbal teaching so you took a step up to add visual teaching by providing him a demonstration to watch.

This idea can apply to the mealtime routine as well. During snack time grandma shared that Colin is not really signing 'eat' to request food anymore. While Colin ate, you mostly observed, used descriptive talk with Colin, and you modeled for him 'eat' and 'all done' signs. During this routine, you might have also used demonstration – “Well let’s see if we can get him using that sign again. Let’s start by only giving him one tiny piece of food. Do you want to take the lead or would you like me to demonstrate first and then you can try?” Mealtime is part of nearly every visit. Let’s go back to the Teaching and Learning Cycle again (see attached to email) to help you be more intentional about what happens during this routine:

Child Outcome (target behavior): requesting more food by signing

more Setting the Stage:

- What to TEACH caregivers (remember with all interventions we want to help families understand the ABCs - Antecedent, the Behavior, and the Consequence):
 - ANTECEDENT (what to do to setting up the practice opportunity): identify what he wants/is motivated to eat. Give only a small portion and withhold the rest. Use wait time to elicit a response.
 - BEHAVIOR (how to prompting the target skill/behavior): if he does not request after wait time, model the sign for 'eat'. Wait for him to imitate sign before giving him food. If he still does not imitate, use physical prompting and/or hand over hand to help him sign 'eat'.
 - CONSEQUENCE (how we will reinforce the child when he exhibits the skill): give him food. Praise him for asking.
 - REPEAT THE CYCLE
- How to TEACH caregivers: teach caregivers by verbally explaining the steps in the strategy, by demonstrating it with Colin while they watch, by problem solving if the strategy does not work well, by getting their input
- Routines: meal/snack
- Materials: have the family identify foods Bentley frequently enjoys

Opportunities for Practice (this is when CAREGIVERS have a chance to PRACTICE what you have taught them):

- Coaching strategies: use guided practice with feedback where you remind them how/what to do, praise what they are doing, point out and comment on how Colin responds to their prompting, observe them implementing the ABCs from above, encourage all caregivers to practice while you are there and give them feedback on how they are doing. Even little sister could do this!

- Environmental Arrangement: have enticing materials/food available, limit other visual and auditory distractions, caregiver be at eye level with Colin, you sit off to the side and observe/give feedback

Problem Solving and Reflection:

- Questions: After caregivers practice the mealtime routine, ask them what went well and what went not so well? How did they feel using the strategies? Do they think they could practice when you are not there? Do they have any questions about how or when to use the strategies? Do they want to brainstorm other times of day to use the strategies?

So for the next visit (Sept 5th) I would encourage you to really be intentional about the mealtime routine and teach Corey and/or Grandma the ABCs using direct teaching and demonstration as your coaching strategies. Then don't forget to let them practice and you give feedback.

I would also suggest you go back to Feedback #4 and review the communication strategies we discussed. It would be great to pick one or two of the communication strategies that you will plan to teach Corey. Think ahead of time about how you will teach him. If you would like to learn more about specific communication strategies that can be taught to caregivers, here is a link to a really great brief webinar/training on Kidtalk which is an evidence based approach: <https://umconnect.umn.edu/p26666975/>

You are focused on engaging Corey – keep up the great work Anita! Try using demonstration to show him what you are talking about...he may be more comfortable participating and trying things after a visual model.