HIGH QUALITY EARLY CHILDHOOD PROFESSIONAL DEVELOPMENT SYSTEMS

Helping Every Child to be Successful

Planning, implementing and sustaining a High Quality Early Childhood Professional Development System that is intentional, ongoing, coherent, collaborative, relevant and responsive.

Prepared for EASTCONN and Connecticut Office of Early Childhood
by Early Childhood Associates, Inc.: Linda Warren and Ann Ramminger
April 2016

Contents

I. Characteristics of a High Quality Professional Development System

Children thrive in environments with high-quality educators who thoughtfully and carefully teach with developmentally, linguistically, culturally, and individually appropriate practice. Teachers' engagement with effective professional development (PD) has been linked to higher classroom quality (Bogard et al., 2008; Lieber et al., 2009; Pianta, Mashburn, Downer, Hamre, & Justice, 2008) and improved outcomes for children. Recent research has also indicated that teacher-child interaction, as well as instruction, are strong predictors of educational outcomes (Chien et al., 2010; Warren 2012). When teachers intentionally and explicitly focus on interaction, children's behavioral regulation and cognitive competencies improve (Downer et al., 2011; Mashburn et al., 2008). Some researchers suggest that PD might be the most impactful way of improving children's learning after teacher degree attainment or specific curriculum selection (Early et al., 2007; Preschool Curriculum Evaluation Research Consortium, 2008).

The best professional development provides practitioners with coherent, interrelated, and continuous learning activities that are aligned with each other and with the science of child development. Rather than one-time, discrete, stand-alone experiences, PD should be thoughtfully designed to provide long-term support and guidance, featuring collaborative systems change for the birth through age 8 workforce (Conners-Tadros, Martella & Mathias, 2015).

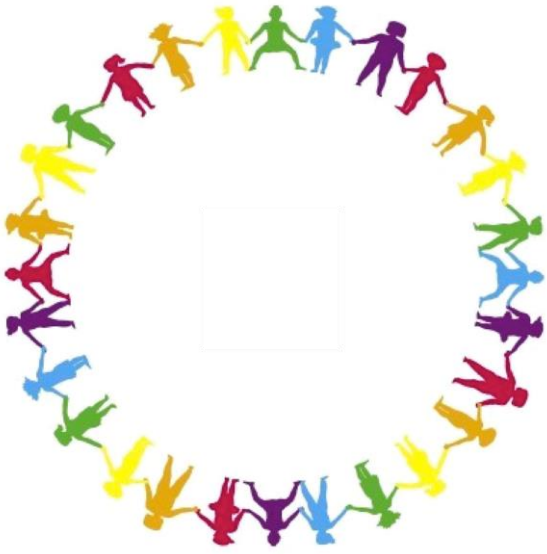
A high-quality Professional Development System (PDS) is:

- *Intentional*, guided by the use of an ongoing teaching cycle to improve child outcomes
- *Ongoing*, to support cumulative and continuous learning
- *Coherent*, with a thoughtful variety and sequence of activities that takes into account different professional entry points. It is *aligned* with content and roles
- *Collaborative*, providing shared learning opportunities and peer-to-peer learning across practice settings and age ranges
- *Relevant*, connecting didactic learning to applied practice with ongoing, individualized feedback and support
- *Responsive* to changing contexts and goals

A robust PDS supports early childhood and related professionals throughout their professional lifespan by preparing them for practice, assessing and ensure their initial competency, continuously enhancing the quality of their ongoing practice, and providing opportunities for career development and advancement.

Policies: Consistent and Collaborative

One of the recommendations from Transforming the Workforce for Children Birth through Age 8: A Unifying Foundation (Institute of Medicine and National Research Council, 2015) is to ensure that policies and standards encompass foundational knowledge and competencies to support high quality practices. Therefore, it is crucial that a PDS include ways to create, maintain and implement the set of common Connecticut Early Learning and Development Standards to create uniform expectations regarding child development and provide professional development to a wide variety of stakeholders about these standards. The PDS should also have Connecticut Core Knowledge and Competencies for those who work with young children and their families along with Connecticut Competencies for Training and Technical Assistance providers. These core documents help provide consistency and a foundation for enhanced collaboration across all sectors.



II. Components of a Comprehensive Professional Development System

Professional Development can vary in many ways, including the *mode* in which it is delivered. In this paper, two PD modes are discussed - Transmissive and Transformative. Transmissive types of PD can take many forms such as workshops, conferences or short-term courses. Transformative PD includes activities and experiences that support practitioners in reflecting on their practice, adopting something new and/or solving implementation challenges.

A. Transmissive Modes of PD

Transmissive modes of PD typically involve stand-alone or short-term training sessions delivered by experts who disseminate information to (more or less) passive participants. This type of PD is designed to transmit information to large audiences in a cost effective and efficient manner. Presentations vary in context and in the extent to which they understand the existing levels of participants' knowledge (Burgess et al. 2010). Workshops, the most common form of the Transmissive mode, are a consistent component of teacher training, perhaps because of their flexibility and low cost of implementation compared to more time-intensive models like individual coaching. Research is ambiguous about the benefits of short-term Transmissive training events. Gusky and others (2014) acknowledge that seminars and workshops can be a highly effective way to share information and expand educators' skills, while noting that these forms of training are more effective when paired with collaborative planning, structured opportunities to practice with feedback, and follow-up coaching.

A problem inherent in Transmissive models is an underlying assumption that educational change is a logical and linear process simply requiring implementation rather than interpretation. Additionally, Transmissive modes of PD perpetuate a belief that educational reform is dependent on the technical skills of individual educators rather than systemic change (Dadds 2014). Transmissive modes of PD can also result in superficial adoption of a new initiative, with little or no change in existing practices, and may be unsuitable for achieving complex educational reform (Burgess et all, 2010; Nuttall 2013).

It is unclear what actual knowledge or practices teachers take away from one-shot or short term training, or which practices are successfully integrated for long term use in the classroom. Recent studies (Leiber et al., 2010; Sanford, DeRousie, & Bierman, 2012) found that many preschool teachers do not continue to implement Transmissive PD once their training ceases. This may be due to a lack of contextual support, or also due to teachers' beliefs about the appropriateness of an intervention approach or strategy for their children, a variable not necessarily accounted for in current studies of PD, however of particular importance in Transmissive or "one-size-fits-all" training methods.

Despite the growing consensus that training workshops alone are not a very useful means of improving teachers' instruction and children's outcomes (Diamond, Justice, Siegler, & Snyder, 2013), they still occur with high frequency in programs across the country. However, other PD elements may be added to enhance the workshop-only model to enhance their effectiveness. Workshops as an orientation to curricular materials, workshops in which teachers meet their new coaches, or workshops providing training on how to use specific software are all instances of effective uses of the format as part of more elaborate PD models. When examining various educational initiatives such as QRIS quality initiative implementation, research suggests that collaborative follow-up activities are essential for achieving significant levels of change (Timperley et al. 2007, Brown and Inglis 2013). However, generally speaking there is insufficient data to pinpoint how training workshops are related to overall professional learning, and more work is needed to understand appropriate uses for workshops in ECE PD.

B. Transformative PD

For practice to change, practitioners need access to information about new theories and pedagogical approaches. This basic information can be obtained through Transmissive modes of PD. However, Professional Learning (PL) also requires transformative processes through which educators re-examine their existing beliefs, leading to cognitive and behavioral changes in practice (Nabhani et al. 2014). The concept of 'creating dissonance' with existing values is considered fundamental in educational change (Timperley et al. 2007). Transformative learning theory (Shields 2010) emphasizes the importance of processes that bring about change in people's frame of reference or their assumptions and beliefs about the world. Effective professional development for curriculum and quality reform may involve a mix of Transmissive and transformative learning activities (Keay and Lloyd 2011).

In a 2010 study, Neuman and Wright coupled training with onsite coaching. Coaches visited individual teachers' classrooms to observe, model, and reflect on practice for 3 hours every week for 10 weeks. Coaching was used as a follow up to three types of training: skills-focused, knowledge focused, and dispositions focused. In skills-only training, coaching was solely used to ensure that teachers implemented the practice correctly. In a skills and knowledge intervention with coaching, teachers learned the theoretical underpinnings of the content of the curriculum and the practices, and the coaching was focused on helping teachers use that knowledge to implement the curriculum. In skills, knowledge, and dispositions models, coaching interactions centered on a much broader range of practices and were highly dependent on the individual coach and teacher. Results of this study indicate that dosage and duration of coaching is a key indicator for changes in practice. Change was observed first on a structural level indicated by changes to the classroom environment. It took much longer to affect change to the process of careful planning, reflection and goal-driven strategies to improve instruction. It was found that coaching promoted an application to practice atmosphere and that the on-site, individual and personal nature of coaching fostered accountability to change teaching practices. The type of

coaching for non-traditional learners might need to be varied to include more concrete hands-on coaching and learning techniques that meet their specific needs. Another variable in the success of coaching is whether involvement is required or on a volunteer basis. Staff who volunteer to take part in a coaching relationship will be more willing to change. The degree to which program administrators provide adequate supports also will determine the success of any coaching effort. Ultimately, when training and on-site coaching is targeted, individualized, and applicable to the intended audience, it is a powerful PD strategy that supports positive changes in teaching practices and child outcomes.

A defining feature of transformative PD is encouraging educators to participate in critical reflection to undertake 'intentional investigation' of their practice. Because of the complexity inherent in the process, this is predominantly a collaborative undertaking. Professional learning involves multiple processes as educators access new theoretical concepts; develop understanding of the implications of new theories; and critically examine new curriculum or a quality initiative through deconstructing their existing theoretical beliefs and practices (Timperley et al. 2007, Pirard 2011). These new theories must also be integrated within their existing pedagogical practice and aligned to the assessment of children's learning, which occurs collaboratively during day-to-day work (Rinaldi 2012).

The synthesis of theory and practice necessitates ongoing dialogue and critical reflection (Petrarca and Bullock 2014; Ortlipp et al. 2011). While individual educators may undertake transformative PD the impact on educational change can be magnified by groups of educators working collaboratively, such as in professional learning communities. Rinaldi (2006) defines collaborative professional learning as learning that occurs within a collective of professionals, is contextual, occurs during everyday practice and focuses on improving and developing practice (Rinaldi 2006). Collaboration is intrinsic to most early childhood teaching models, which makes ECE a fertile setting for implementing transformative models of PD.

C. A Continuum of PD

The shift from Transmissive to Transformative modes of Professional Development can be conceptualized as movement along a continuum from standardized intervention toward individualized and collaborative models as illustrated in the table below.

Information, new knowledge and skill development	Interpretation of New Knowledge	Research about Practice
Transmission of information Technical Skills Individuals attending external PD or online forum without professional dialogue or sharing with others One time collective internal events	Critical reflection and professional dialogue in day to day practice-exploring practice problems, developing new curriculum and pedagogy	Practitioner inquiry or action research methodologies developing pedagogy Interrogating practice-including analysis of practice and outcomes for children, collection and analysis of data

Group/Transmissive ⟷ Individualized ⟷ Collaborative/Transformative

The group or Transmissive approach is represented by workshops and one time PD events, where information is transmitted to individuals with no or limited opportunities for professional dialogue or sharing outside of the PD event. The individualized approach (one aspect of Transformative PD) is best reflected in TA/Coaching models where practitioners have a chance to reflect on knowledge, apply to practice and develop new pedagogy. A collaborative truly Transformative PD approach is most closely aligned with professional learning communities (PLC) where individuals have a chance to work together to solve a problem of practice, to share ideas, and interrogate current practices collectively.

D. Leadership

Leaders play a critical role in developing and sustaining effective professional learning. In most early childhood settings, directors and supervisors are responsible for both pedagogical leadership and organizational leadership (Stamopoulos 2012). Pedagogical leadership involves a complex interplay including knowledge pedagogy with a strong emphasis on curriculum and assessment; organizational leadership involves making the administrative decisions required to support continuous learning and improvement, such as allocating resources and developing structures to support implementation. Professional learning requires both pedagogical and organizational leadership. When leaders create and nurture a culture and climate for professional learning, it plants the seeds and harvests the fruit of PD that is intentional, meaningful, and relevant to all staff members. Directors and supervisors who support staff PD that awakens the connections between the teaching cycle, CT ELDS, and child outcomes will see the result of higher program and classroom quality. It is key that directors and supervisors receive leadership training and coaching so that they understand how to support their staff.

Leadership models that support complex transformative, collaborative PD combine positional leadership (administrative authority of individual(s)) with shared and distributed leadership models that recognize the expertise and insight of educators who are not in formal leadership positions. (Maloney & Konza 2011). Distributed leadership allows teachers to engage deeply in the work of improvement and to fully participate in the leadership process, providing a fertile environment for the collaboration required within professional learning communities. Involving teaching and support staff in continuous quality improvement efforts, center-wide as well as in their own classrooms creates a sense of team work and greater purpose. Highlighting the strengths of staff members and considering how these strengths can inform center-wide practices not only shows respect to individual staff members, it also encourages innovative thinking and implementation of knowledge, skills or dispositions learned through PD options. Peer coaching can be an ideal way for seasoned teachers to nurture new staff. It can also be a way for staff who have very specialized interests to share their passion with others. Directors and supervisors must be intentional when designing and implementing these options however, because without adequate time and support, staff will become frustrated and not feel valued in these efforts.

Generally, studies have shown that early childhood leaders are more comfortable with more traditional (Transmissive) forms of PD and are less familiar with how to set up collaborative opportunities such as professional learning communities and how to assign leads to facilitate these communities. If their experiences have not been favorable, they tend to favor skill development through external PD for their staff. Overall, early childhood leaders and administrators need deeper understanding of how these collaborative structures work. If the field continues to move toward a more transformative model, leaders must be better equipped to support increased collaboration and distributed leadership.

E. Evidence-Based Practices

In order to implement change in any system, the base components need to be identified, infused into the design and nurtured in the culture and practice of those in the system. Starting with solid child development principles, the system can influence changes in practitioner knowledge, skills and attitudes through the use of evidence-based practices.

Desired Child Outcomes	*Evidence Based PD Practices*	*Changes in practitioner knowledge and skills*	*Practitioner adoption and use of evidence based interventions*	*Change and improvements in child and family outcomes*	*Changes in practitioner attitudes and beliefs*

An effective PD model promotes the use of evidence-based practices, sometimes also referred to as research-based practices. Evidence-based interventions (EBI) are educational approaches, curricula, and teaching strategies that have been proven effective through outcome evaluations. As such, they are interventions that are likely to be effective in changing target practitioner or child behaviors if implemented with fidelity.

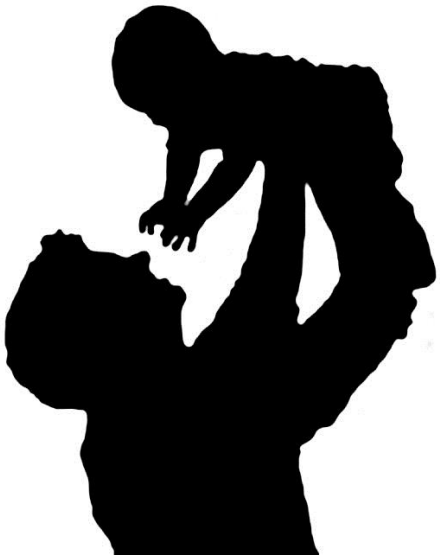
Traditional PD trains educators to deliver a particular practice or intervention, and then examines the resultant outcomes for children after the intervention is delivered. By contrast, an evidence-based approach begins by considering specific desired outcomes for children and what evidence will best reflect those outcomes. Only after these child-centered goals and outcomes have been identified does one consider what set of experiences can best enable participants to acquire the knowledge and skills needed to achieve these goals.

Once the outcome goals have been clearly defined, the logical next step is to identify specific practices that have a proven track record of success in achieving them. Teachers need to understand what the practice looks like and the conditions under which the practices are successful in other words what makes a practice evidence based and why is it important to try to replicate the practice under the conditions in which it was successful)

Professional Development activities can then be designed around the specific knowledge and skills educators need to be able to implement the practice well. The underlying assumption is that with the right supports, practitioners will adopt new interventions and if these interventions are followed with fidelity, they will result in changes in child outcomes and eventually in practitioner's beliefs and attitudes. Targeted, evidence-based PD must provide educators with a sufficient depth of knowledge to allow them to adjust new practices to fit the nuances of their particular context while maintaining intervention fidelity. For example, if a goal is for teachers to give more useful feedback to children, they need to know specific strategies for giving quality feedback and they need guidance and direction on how to implement these strategies in the context of their existing teaching routines.

Leaders, coaches, and facilitators need to be good consumers of the research base behind an intervention, and they need to help teachers think along the same lines. It is not enough to say that something is research or evidence-based without describing the underlying research and the conditions under which the intervention was found to be effective. Very few studies on transformational learning detail the research base behind the practice. Failure to bring the evidence to the forefront is a serious gap in the research.

The following sections of this paper present select research on coaching and professional learning communities in order to illustrate some of the key elements that drive high-quality professional development systems.



Supporting the Workforce

The essence of quality in early childhood services is embodied in the expertise and skills of the staff and in their capacity to build positive relationships with young children. The striking shortage of well trained personnel in the field today indicates that substantial investments in training, recruiting, compensating, and retaining a high quality workforce must be a top priority

National Scientific Council on the Developing Child, 2007

III. Coaching

A. Research and Implementation Practices

Researchers have linked coaching to changes in teacher behavior (Warren, 2012; Warren & Danzing, 2015; Domitrovich, Gest, Gill, Jones, & DeRousie, 2009) and teachers' sustained implementation of new practices (Lieber et al., 2010). Coaching also seems to facilitate early childhood teachers' language and literacy knowledge (Neuman & Wright, 2010; Powell, Diamond, Burchinal, & Koehler, 2010), the use of math-mediated language (Rudd, Lambert, Satterwhite, & Smith, 2010), and understanding of mathematical learning trajectories (Van Thiel, Danzing & Warren, 2015).

The effectiveness of any professional learning activity depends mainly on how well it is planned.

Coaching differs from other approaches by providing a high level of individualized and sustained supports to teachers. This one-on-one work between a teacher and an experienced expert provides the opportunity for a much more personal relationship Through this sustained support—and activities such as joint planning, observation, feedback, and reflection—coaches can guide teachers to critically reflect upon their teaching practice and how it affects child outcomes (Hsieh et al., 2009). Coaching enhances teacher acquisition and application of knowledge (National Professional Development Center on Inclusion, 2008) and also leads to improved outcomes for young children (Warren, 2012).

Although coaching has grown in popularity in the past 8 to 10 years, it is only recently that the field has collected evidence of its impact on teachers' practice. Many early coaching studies focused on fidelity of implementation and did not report on child or teacher outcomes, leaving it unclear whether coaching led to meaningful changes (Pianta, Mashburn, Downer, Hamre, & Justice, 2008). Although it is important to ensure that a PD model is followed, ultimately what matters is whether practice and outcomes differ. Focusing too narrowly on fidelity makes it difficult to know what changes teachers may make to their practice and what specific impact coaching has on their knowledge, skills, and dispositions.

In recent years, a growing number of studies have concluded that coaching produces positive effects for teachers and children (e.g., Powell, Diamond, Burchinal, & Koehler, 2010; Warren, 2012 & 2015). These studies have led to more widespread efforts to answer such questions as: What behaviors and actions should coaches use to support teachers, how often and how long the support should be provided, how coaches should interact with teachers, and how coaches should encourage teachers to monitor and track children's progress.

Hsieh et al. (2009) evaluated the impact of a (highly prescriptive) coaching model on preschool teachers' use of emergent literacy strategies. The model, implemented over a 6-week period, grouped emergent literacy strategies into three clusters. Prior to teacher implementation of each cluster coaches described targeted strategies to teachers, formally observed lessons, and

provided feedback. If teachers did not demonstrate fidelity to the literacy strategies, coaches provided a "booster" session to revisit target strategies.

What separates this study from earlier research is the level of detail in the coaching sequence. Coaches were required to observe and take extensive notes on what the teacher did and said in relation to each strategy observed. Children's responses to teacher's use of the strategies were also described, to note how use of the strategies influenced children's responses and how they could be adjusted.

Powell and colleagues (2010) examined the impact of coaching on Head Start teachers' use of evidence-based literacy instruction and on children's early literacy and language development. The thirteen-week coaching component was preceded by a two-day training workshop introducing the model. Coaches met with teachers every other week (versus weekly in previously discussed studies). Researchers required coaches to follow a protocol—"observe–assess–recommend"—and then provide teachers with individualized feedback to improve implementation of literacy instruction.

These findings align with Gusky's work (2014) on the importance of planning to professional learning. As Gusky points out, what PD accomplishes and the significance of its contribution depends largely on how it begins. This holds true not only for traditional forms of professional learning-seminars, study groups, workshops, conferences, coaching, and so on – but also for new forms such as online or face to face professional learning communities, teacher exchanges, data teams, and individualized improvement plans.

Mohler et al. (2009) examined the impact of routine weekly coaching on preschool children's oral language and literacy skills by designing and delivering an intervention package which included a literacy-focused curriculum, a print-rich environment, and coursework on early literacy acquisition and instruction. The coaching component was relatively intensive, consisting of coaches spending 1 day a week in the classroom rather than 1 to 2 hours as was typical of interventions profiled by earlier studies. Coaches established a routine where the coach modeled a literacy strategy to the teacher and the teacher implemented the activity the following week with coach observation and feedback. Children in intervention classrooms not only made greater gains in literacy skills than their peers in nonintervention classrooms, but these gains proved persistent and were still evident at the end of Kindergarten.

Modeling, a cornerstone of Mohler's approach, has been found to be one of the single most important coaching interventions for changing instructional practice. Modeling can include having a coach in the classroom; co-teaching; observing another teacher; modeling in the classroom without children; or watching a video. A recent study of Early Reading First programs in Maine (Warren, 2012) demonstrated that modeling and practicing an intervention can produce significant increases in quality learning interactions. Prior to modeling, the coach explained what she was going to do and why; gave the practitioner a specific activity to observe or do; modeled while the practitioner observed, debriefed with the practitioner, and brainstormed specific ways to apply the concepts and practices to a particular classroom or group of students. The coach then invited the practitioner to practice the intervention in the

classroom without children present and then to try what the coach modeled when children were present. Together, the coach and practitioner reflected and planned how the strategy could be used when the coach was not present.

In Powell's model, coaching was delivered in two ways: remotely, and on-site. Researchers were interested in both the overall impact of coaching on teacher instruction and child outcomes and differences in impact for each coaching delivery method. On-site coaches spent 90 minutes observing teachers and 30 minutes meeting with teachers; remote coaches evaluated 15 minutes of a targeted instructional practice via videotape and provided feedback electronically. Interestingly, Powell and colleagues found no differential effects between the remote and in-person coaching, meaning no significant differences in teacher or student outcomes whether coaches supported teachers from a distance or in-person. Since coaching is expensive and time consuming to implement (Wasik & Hindman, 2011), and there are often problems with finding and maintaining qualified coaches, the use of web-based coaching models may ameliorate some of these issues, and a growing number of researchers are exploring this format (Downer, Locasale-Crouch, Hamre, & Pianta, 2009; Powell, Diamond, & Koehler, 2010; Warren, 2015).

Warren & Danzing (2015) examined the effects of video technology on classroom quality in a 3 year pilot of a Peer to Peer coaching model in Massachusetts. The study followed 100 peer coaching dyads working in infant and toddler, preschool, and out-of-school time settings over a three-year period. Core features of the peer coaching model included: (1) Coach-Mentee Interactions, (2) Coach Training; and (3) Professional Learning Communities.

In the Massachusetts pilot, most peer coaches had full time teaching or administrative positions, and due to their other obligations did not have the flexibility to conduct face-to-face coaching consistently. To enhance the quality of observation and feedback and minimize time out of the classroom, the study introduced a new technology to allow coaches to observe their mentees through a video-based instructional platform. Participants also inputted and stored coaching log data and comments, which could be linked to specific video uploads. This feature enabled subjects to create a portfolio of videos to easily view changes in teaching practice and children's behavior and skills over time. The coaching logs recorded the venue, duration, and content covered in each coaching session, the use of evidence-based strategies, and the teaching goals that were addressed and achieved.

Scores on CLASS assessments increased significantly across all domains with all provider types. Overall, dyads that uploaded and shared video routinely saw significantly higher increases in classroom quality and teacher-child interactions; however, there was a ceiling effect when more than 2 or 3 videos were uploaded each month. One explanation for this relationship between video uploads and CLASS scores is that a very high number of uploads may limit the time spent analyzing and discussing specific videos in detail. In other words, in the rush to record and share, the actual review of video itself may be compromised. Outcome scores were also higher with more time in the program and more practice goals achieved. Further analysis

indicated that specific types of goal-setting were associated with higher CLASS scores, particularly those goals that focused on examining and improving a practice based upon type and quantity of student engagement; evaluating the effectiveness of different instructional options; and critical analysis of children's performance under varying conditions. These relatively sophisticated goals did not tend to emerge in teachers' action plans until later in the coaching process, which led the evaluators to conclude that the duration of coaching matters.

Coaches described in the evaluation of the peer coaching model (Warren & Danzing, 2015) participated in intensive training to improve content and coaching skills. Coaches received 42 hours of training on relationship-based coaching and on using the instructional concepts embedded in the CLASS to guide coaching. Training was supplemented by monthly PLCs facilitated by regional MA Dept. of EEC educator provider and support specialists.

Peer coaching leverages the promise of coaching with practicality of early childhood educator and administrator peers supporting one another's practices. Results from several studies show that teachers who had a peer coaching relationship – that is, who shared aspects of teaching, planned together, and pooled their experiences – practiced new skills and strategies more frequently and applied them more appropriately than did their counterparts who worked alone to expand their repertoires. Members of peer coaching groups have been shown to exhibit greater long-term retention of new strategies and more appropriate use of new teaching models over time. (Baker, R. G., and B. Showers 1984; Ray, 2014).

B. Characteristics of Effective Coaches

All too often in the early childhood and related professions, those who have worked in direct care settings rise up the career ladder without sufficient training and understanding of the relevant knowledge, skills and dispositions they will need when working in other roles in the training and technical assistance workforce. This can also be true of discipline specific professionals providing TA in a generalized setting. Because the early childhood profession grew in an organic manner, it is often fragmented into sectors that have their own professional requirements, regulations, standards, competencies and certifications. This can make it challenging for a coaching relationship as the "point of professional reference" may be quite disparate. Therefore, an effective coach has to be quite versatile in understanding the requirements and needs of the mentee and the system in which they operate. No matter how good a coach may be, if the administration is not involved in the change process, the success rate, over time, of the coaching will suffer. A PDS must provide a framework for coaches that promotes cognitive flexibility, content specific guidelines, cultural responsiveness, and cross sector understanding.

1. Metacognition, Mindfulness and Coaching

Since learning at all ages and stages is dynamic and ever-changing, a broader understanding of metacognitive knowledge in educational training and practices will enhance the

effectiveness of a PDS. In general, Garner (1994) describes metacognitive knowledge as what we know about ourselves, the tasks we face, and the strategies we employ. In a collaborative cross sector PDS, each sector would benefit from having an understanding of what it takes to guide practitioners from the novice to expert level in their respective roles. Coaches who are fully aware of their cognitive flexibility have a greater capacity to consider a broader range of possibilities when making decisions (Carson & Langer, 2006). Through the use of mindfulness, individuals can increase their cognitive flexibility and deal with complex issues in a calm, intentional manner.

Another aspect of metacognitive knowledge is self-knowledge (Flavell, 1979; Pintrich, 2002), which involves knowing one's own strengths and weaknesses. An ethical coach will admit when they do not know the answer to something and seek out accurate information from reliable sources. In order to do so, coaches need a wide range of resources at their disposal and an understanding of the local, regional, state and national landscape. These dimensions could be worked into a self-assessment tool for coaches with ongoing professional development and mentoring to increase their knowledge and capacity.

A growing body of research supports the power of mindfulness training to boost self-knowledge, understanding and capacity. One of the most often quoted definitions of mindfulness (Kabat-Zinn, 1994) includes - the art of paying attention in a particular way: on purpose, in the present moment, and non-judgmentally. Although a coach may be an expert on the content on which they are consulting; if they are not trained in the "art" of coaching they may be ineffective. Mindfulness training for both coaches and practitioners may be extremely helpful for stress reduction, dealing with complex problems and reframing how they see situations. Reframing has been used extensively in social emotional PD in the Center for Social Emotional Foundations for Early Learning (CSEFEL) materials and it works just as well for adults as children. Mindfulness is an intentional thoughtful process to help reappraise or reframe in order to stand back so we can see the view from the balcony, rather than from the dance floor (Heifetz, 1994). This can be a way to put things into perspective when issues seem very complex and uncertain. Infusing mindfulness concepts in all aspects of a PDS can benefit children, families, practitioners, TA providers and all related cross sector partners.

> *"With mindfulness, we can preserve our inner joy, so that we can better handle the challenges in our lives. We can create a foundation of freedom, space, and love within ourselves." – Thich Nhat Hanh*

2. Coach as Content Expert

Early Childhood curriculum is different than primary grades in that content areas are not as discrete, but rather interconnected in looking at how the "whole child" grows and learns. In one activity, an adult may be addressing several content areas and concepts that broaden the child's knowledge, sharpen their skills and plant budding awareness. As direct care

practitioners work to understand and balance the myriad of regulations, standards and requirements, they want coaches to understand the complexity of the work they are doing every day. So, it is imperative that coaches be very knowledgeable about the topics they are providing coaching on, and how and where interrelationships exist with other topic areas. Yet, how can we expect coaches to be knowledgeable about every content area? According to Newell & Simon (1972) it can take up to 10,000 hours to become an expert in one domain. It is not cost or time efficient to bring in different coaches for each topic area so the question remains how to recruit, train and nurture coaches who have expertise in understanding the interrelationships of various content areas. The PDS must identify ways to encourage awareness of other professionals who may be providing regulatory oversight, technical assistance or supervision of the mentee and organization. Without this type of coordination, mentees, organizations and coaches alike experience frustration in receiving mixed messages about what is expected in a given context.

Coaching is not a "one size fits all" approach. In the early childhood field there is a wide range of educational qualifications among the workforce. As such, any coaching model put in place must consider how to evaluate the needs of the workforce and target coaching appropriately. In addition, many systems of coaching fail to consider the perspective of the mentee or organization in their side of the coaching relationship. Mindfulness approaches are helpful as a reminder to consider the perspectives of others whenever any action is taken. A time-tested strategy is to apply the Rule of Six (Paula Underwood, Judy Brown, 2006) where each situation is considered from 6 different perspectives whenever possible. In a coaching scenario this could involve the teacher, teacher assistant, coach, child, director, family or others.

Another consideration for content coaching revolves around the complexity of how the preschool curriculum blends into Kindergarten through third grade standards and curriculum. This is where the use of the Connecticut Early Learning and Development Standards (CT-ELDS) with corresponding alignment documents on Common Core Standards and other K-3 Standards, can provide needed consistency and a pathway for learning

3. Cultural Sensitivity and Responsiveness

Developing cultural competence and sensitivity should be a priority for coaches. All too often culture is thought of as only race or ethnic origin when it is much more. Four levels of diversity have been put forth by Gardenswartz & Rowe (2003) that capture a more holistic view of the dimensions of diversity, especially in groups or organizations:

- Personality, which covers personal style
- Internal or core dimensions (gender, age, mental and physical activity)
- External dimensions (income, appearance, parental and marital status)

- Organizational dimensions (work location, type and duration of employment)

These dimensions of diversity also encompass generational diversity and recognize that employees of different age groups do not share the same work ethic or expectations (Weston, 2001). When working with adults in organizations, the coach needs to consider each of these factors as might be known to them. In essence, effective coaches recognize that people look at the world through different lenses (Peterson, 2007).

One framework in which to consider the development of cultural responsiveness is from the Universal Integrated Framework (UIF) as developed by Law, Ireland, and Hussein. This framework contains four dimensions as described by Passmore and Law (2009):

- Personal competence: self-awareness, self-management;
- Social competence: empathy and social skills;
- Cultural competence: awareness; and
- Professional competence: cultural knowledge and approaches that have a positive impact on coaching outcomes

While some of this learning can be incorporated into coaching self-assessments; there is no substitution for high quality professional development in this topic area for coaches as well as other stakeholders in the PDS. Cultural sensitivity and mindfulness go hand-in-hand in the premise that each person should be listened to and treated as an individual and with respect, with an ever present awareness that each individual is shaped by his or her experiences.

C. Considerations in the Design of Coaching Models

The current research body suggests seven (7) important considerations in the design of coaching models. They are described below.

1. **Use a Coaching Framework**. Create a clear framework to ensure that coaching supports are delivered with consistency. First, emphasize relationship building and goal setting, then focus on implementation of action plans with clear roles. Provide many opportunities for coaches and practitioners to participate in ongoing feedback and reflection and to assess improvements for sustainability.

2. **Individualize coaching efforts**. Most coaching models provide overall guidelines on sequence and activities, but assume that some elements of pacing and selection will be based on the practitioners' needs. Programs should hire and train coaches to be able to tailor a coaching model to meet teachers' individual characteristics and abilities while maintaining fidelity. Coaches, then, must possess specialized knowledge of evidence-

based practices that support adult learning to effectively differentiate the coaching component.

3. **Link quality improvement with child outcomes.** Ensure that coaching focuses on some aspect of child development that supports child outcomes. It is not enough that teaching practice changes if the results for children do not improve. Focus on addressing specific aspects of the environment or on implementing evidence-based practices linked to positive changes in children's learning and behavior.

4. **Plan for dosage and intensity.** Weekly coaching matters. In the author's three-year evaluation of Maine's Early Reading First projects (Warren, 2012) more intensive models (three to five hours weekly of coaching with teaching teams, inside and outside of classrooms) resulted in the greatest gains. The evaluation also showed that practitioners who participated in coaching for a year or more earned higher scores on measures of teacher-child interactions (Warren et al, 2015), illustrating that both dosage and intensity matters.

5. **Determine appropriate caseloads.** As with other aspects of coaching, optimal coaching caseloads will vary depending upon project goals, settings in which coaching is provided, available resources, and intended intensity and duration of service.
However, it is generally understood that the intensive work necessary will require limited caseloads (Isner et al, 2011).

6. **Investigate use of video technology as a coaching option.** Cloud-based technology platforms hold promise for the future of coaching and closely align with how individuals interact in different parts of their lives (e.g., frequent use of social media). Evidence suggests that video-based coaching can result in the same types of gains as more traditional forms of face-to-face coaching, and may be much less resource-intensive.

7. **Create a robust data system.** Tout et al (2015) identify data systems as a key driver of quality implementation. A quality data system enables coaches and specialists to track progress, run reports, and facilitate evaluation of effective strategies so that the work is informed by a shared understanding of the evidence. A user-friendly guide for examining data targets these 6 key questions:
   - What do we know as a result of examining this data?
   - What do we think as a result of examining this data?
   - What don't we know as a result of examining this data?
   - What do we want to know as a result of examining this data?
   - How does/will this data help improve instructional practices? Child outcomes?
   - How will this data help us improve TA/coaching?

8. **Offer intensive training and ongoing support for coaches.** TA providers need training on coaching models and strategies, assessment tools, cultural sensitivity, consultation and reflective supervision and how to identify needs of providers. Infusing opportunities for reflective meetings gives TA providers a way to debrief, share resources and check fidelity of coaching (Tout et al 2015).

IV. Professional Learning Communities

Professional learning communities (PLCs) are a useful vehicle for teachers to facilitate their own learning, and may be less expensive and more enduring than other forms of PD, since they can be implemented indefinitely once teachers are familiar with the process (Ackerman, 2008; Yilmaz & McMullen, 2010). PLCs are characterized by shared purpose, collaborative work and collective responsibility, with the goal of interpreting and assimilating new theories into everyday practice (Groundwater-Smith and Campbell 2010). Such learning is iterative and intensive, building over extended periods of time as educators work collaboratively, participating in formal and informal interactions to interpret new theories for their specific context (Buysse et al. 2009; Nuttall 2013). Critical reflection and professional dialogue enable educators to look beyond routine decisions to analyze the impact of their pedagogical decisions on children's learning and well-being and to consider alternate possible practices that are based on research and theoretical evidence (Miller 2011).

Since many PLCs occur within the context of other forms of PD such as coaching or coursework, it is often difficult to isolate the direct impact of a PLC model or to identify the specific practices embedded in the model which lead to change. Nonetheless, emerging research suggests positive effects on both teacher practice and student outcomes.

Vartuli *et al.* (2014) recently examined the use of inquiry-based PLCs to inform a coaching process. Teachers and coaches worked side by side studying video tapes of teacher-child interactions and to understand the effects of specific teaching strategies. Working together, the PLC examined multiple forms of data for evidence of what thinking strategies children were using and then researched and planned teacher strategies to support and extend that thinking. PLCs were convened for teachers and also for coaches to build intellectual capital and strengthen social relationships to support the work. The intent was for coaches and for teachers to build a sense of both individual and collective efficacy.

Another study explored the feasibility of using an on-site teacher-researcher PLC model for professional development. PLCs of teachers and researchers were convened to help teachers address challenges to classroom practices using a five step process. The first step was to share stories, build rapport, and initiate conversations about children and pedagogy. For example, one researcher told a story about how she helped a struggling reader protect her self-esteem by using the jacket of a more advanced book to cover the first-grade book that she was reading. This elicited a discussion about how to support struggling students without drawing attention to the things that they struggle to do.

Second, researchers were on-site consistently and frequently interacted with teachers and children. They observed instruction and also taught a variety of lessons, facilitated center activities such as story dictations, and concept mapping, and provided instructional support. Teachers observed researchers' modeling, and discussed these instructional practices. These efforts helped teachers feel more comfortable working with the researchers and facilitated collaboration.

Third, researchers invited all the teachers in the classroom to participate in the planning and implementation of the instructional methods. They engaged teachers in weekly instructional planning meetings to construct a plan for what teaching methods and materials to use, and who would implement them in the following week.

Fourth, researchers began the intervention by extending the practices that were already in use in the classroom, rather than introducing new practices right away. This use of existing practices validated the classroom teachers' expertise and helped to establish mutual engagement and build joint enterprise.

Finally, researchers identified goals *with* teachers through the process of reflection. For example, after implementing vocabulary instruction during a read-aloud, one researcher shared problems related to her use of the methods and ideas for adapting the methods to address these problems. Researchers also scaffolded teachers' engagement in reflective practice by asking broad questions (e.g., "How do you think it went?") after teachers implemented a new method. Teachers identified problems that occurred and discussed ways to adapt the methods to address these problems.

These specific professional development efforts align with the main tenets of the PLC model—developing mutual engagement, joint enterprise, and shared repertoires of practice. Researchers fully engaged teachers in developing and revising new instructional methods and worked with them to improve existing methods. These approaches helped prevent potential difficulties that could have arisen from the power differential between the teachers and researchers.

Successful Early Childhood Professional Learning Communities (PLCs)

Professional Learning Communities as described by Servage (2008) are a way to structure collaborative, collegial dialogue that involves inquiry and problem-solving about daily teaching practices. PLCs have been used extensively in K-12 systems to improve teaching practices and collaboration, however adaptations are needed for the early childhood profession due to more variations in program size, staffing, support, educational levels, etc. Consider inviting a variety of professionals and paraprofessionals to the PLC. It is wise to consider how many adults interact with children throughout the day and have an impact. Therefore, it might be helpful to strategically include paraprofessionals (teacher assistants, family service personnel and support staff) in the PLC so that they can be part of the discussion and change process. Children thrive and learn when they are receiving consistent messages from all adults in their lives. Some basic guidelines for early childhood PLCs are in order to ensure successful creation, implementation and sustainability.

A. Guidelines for Early Childhood Professional Learning Communities (PLC)

1. Create incentives and easy access to the PLC (leadership support, time, space, technology, stipend, etc.)
2. Provide a facilitator for the PLC (can be shared leadership)
3. Build trust and relationship within the group (check in and check out strategies)
4. Honor all perspectives of group, facilitate so that each voice is heard
5. Create shared vision of why the group is meeting (post at every meeting as reminder)
6. Develop shared goals and objectives based on PLC vision and purpose (keep simple in the beginning so success can be more easily achieved, then move on to more complex goals and objectives)
7. Devise methods to measure progress on goals and objectives
8. Review effectiveness of facilitation and group process regularly (are meetings the right length of time, is time/location convenient, are all voices heard, are the goals and objectives clear and meaningful, is there progress in the group?)
9. Ensure leadership of programs are supportive of PLC, and the goals within PLC match those of licensing, learning standards, organization and quality initiatives
10. Institute a process for when new members join the group (how are they oriented and made to feel welcome?)
11. Document and celebrate accomplishments
12. Share successes with others to create a healthy culture of professional learning communities among early childhood and related professionals.

V. Recommendations for Effective Professional Development

Carl Dunst (2014) recently outlined a useful summary of the characteristics of effective professional development. These 6 essential characteristics align well with the major features we have described above and should serve as guidelines for designing thoughtful professional learning experiences.

1. **Provide explicit explanation and illustration of the specific content knowledge and practice to be learned.** This includes both the key characteristics of any new intervention or practice and the child outcomes related to the practices. Clearly and specifically illustrate the use of the practice and define its effects in terms of expected or desired outcomes.

2. **Create authentic, job-embedded opportunities for practitioners to learn new techniques and to reflect on their experiences.** Rather than passively sitting through lectures in workshops, professionals should actively integrate new learning into the context of their existing classroom practice. This integration is vital to sustained improvement and may include classroom based use of a practice, simulated learning opportunities, or many other methods to reinforce and reflect upon learning.

3. **Explicitly include different methods for engaging practitioners in reflection on their understanding and mastery of a practice.** A variety of different activities can promote reflection, such as performance based group discussions, collective participation, journaling, self-assessment of mastery against a set of performance standards, and practitioner-instructor reflective conversations. Especially important are opportunities for reflection of what worked and what needs improvement based on authentic job embedded use of a practice.

4. **Infuse coaching, mentoring and performance feedback into the overall PD design.** There are myriad ways to build two-way communication and feedback into professional development experiences. These may include coaching or mentoring sessions, in-person observation and debriefing, web-based video critique and feedback, and telephone, e-mail or web-based suggestions and mentoring.

5. **Reinforce learning through ongoing follow-up support.** The available evidence suggests that continued support is a critical element promoting the adoption and use of different intervention practices. For example, numerous studies have concluded that coaching was most effective when it included follow-up observations and specific feedback of practitioners using the intervention practice that was the focus of training.

6. **Ensure that PD is of sufficient duration and intensity to provide multiple opportunities to become proficient in use of a practice.** Professional development will likely be most effective when practitioner learning opportunities are distributed over time and include a sufficient number of contacts between coaches or supervisors and practitioners.

VI. Conclusion

The National Association for the Education of Young Children, in their Policy Blueprint for State Early Childhood Professional Development Systems, put forth a goal to have "state policies create an integrated system of professional development uniting the early childhood sectors-child care; Head Start; prekindergarten; public schools; early intervention and special education services" (NAEYC, 2009).

It is crucial to keep the end result in mind as state policies on professional development are reviewed for quality improvement purposes. The question that must stay in the forefront of the discussion is, "How will children and families benefit from changes in professional development for early childhood and related professionals?" A related question could be, "To what extent are system-building efforts making a difference in the everyday lives of young children" (Kagan & Kauerz, 2012).

We must not, in trying to think about how we can make a big difference, ignore the small daily differences we can make which, over time, add up to big differences that we often cannot foresee.

~ Marian Wright Edelman

Conducting a professional development scan to determine the strengths and gaps of existing policies and programs is recommended. This scan could include needs assessments of the workforce of relevant sectors as well as the targeted learning outcomes for young children. Based on the available data and funding opportunities, evidence-based practices in the greatest areas of need should be integrated into professional development systems. Integrating Connecticut Early Learning and Development Standards and Core Competencies into the professional development system is an excellent way to create common language. A sound evaluation system is paramount to ensuring that changes in the PD system are having the desired effect. Continuous feedback from a wide variety of stakeholders informs the evaluation and provides quality assurance points along the way.

The key to success when planning, implementing and sustaining a *High Quality Early Childhood Professional Development System* is to be intentional, promote ongoing learning, remain coherent, act collaboratively, remain relevant and be responsive to changing contexts and goals.

References

Bennet, J. L. & Bush, M. W. 2014. Coaching For Change. New York, NY: Routledge.

Bogard, K.; Traylor, F.; & Takanishi, R. 2008. Teacher education and PK outcomes: Are we asking the right questions? *Early Childhood Research Quarterly*, 23, 1-6.

Brown, J. 2006. A Leader's Guide to Reflective Practice. Trafford Publishing.

Brown, A. and Inglis, S., 2013. So what happens after the event? Exploring the realization of professional development with early childhood educators, Australian journal of early childhood.

Burgess, J. et al. 2010. Curriculum implementation: decisions of early childhood teachers. *Australasian journal of early childhood*, 35 (3), 51-59.

Buysse, V. et al. 2009. Reaching consensus on a definition of professional development for the early childhood field. *Topics in early childhood special education*, 28 (4), 235-243.

Chien, N. C.; Howes, C.; Burchinal, M.; Pianta, R. C.; Ritchie, S.; Bryant, D. M.; Barbarin, O. A. 2010. Children's classroom engagement and school readiness gains in prekindergarten. *Child Development, 81*, 1534–1549.

Chu, M. 2014. Developing Mentoring and Coaching Relationships in Early Care and Education: A Reflective Approach. Pearson Education Inc.

Dadds, M. 2014. Continuing professional development: nurturing the expert within. *Professional development in education*, 40 (1), 9-16.

Domitrovich, C.E, et al, 2009. Fostering high quality teaching with an enriched curriculum and professional development support: The Head Start REDI program. *American Educational Research Journal,* 46, 567-597.

Downer, J. T.; LoCasale-Crouch, J.; Hamre, B.; & Pianta, R. 2009. Teacher characteristics associated with responsiveness and exposure to consultation and online professional development resources. *Early Education and Development, 20*, 431–455.

Downer, J.; Pianta, R.; Fan, X.; Hamre, B.; Mashburn, A.; & Justice, L. 2011. Effects of web-mediated teacher professional development on the language and literacy skills of children enrolled in prekindergarten programs. *NHSA Dialog, 14*(4), 189–212.

Fleet, A. et al. 2009. What's pedagogy anyway? Using pedagogical documentation to engage with the early years learning framework. Sydney: Children's Services Central.

Groundwater-Smith, S. and Campbell, A., 2010. Joining the dots: connecting inquiry and professional learning. In: A. Campbell and S. Groundwater-Smith, eds. *Connecting inquiry and professional learning in education. International perspectives and practical solution*. New York: Routledge, 200-201.

Gupta, S. & Daniels, J., 2012. Coaching and Professional Development in Early Childhood Classrooms: Current Practices and Recommendations for the Future*, NHSA Dialog*, 15:2, 206-220.

Hall, Liz. 2013. Mindful Coaching: How Mindfulness Can Transform Coaching Practice. Philadephia, PA: Kogan Page Limited.

Halle, T., Metz, A., Martinez-Beck, I. 2013. Applying Implementation Science in Early Childhood Programs and Systems. Baltimore, MD: Paul H. Brooks Publishing Co.

Kagan, S. L. 2012. Early Childhood Systems: Transforming Early Learning. New York, NY: Teachers College, Columbia University.

Keay, J. and Lloyd, C.M., 2011. High quality professional development. In: J. Keay and C.M. Lloyd, eds., Linking children's learning with professional learning. Rotterdam Sense, 47-59.

Leiber et al., 2010. Do preschool teachers sustain their use of new curriculum? *National Head Start Association Dialog*, 13, 248-252.

Lieber, J.; Butera, G.; Hanson, M.; Palmer, S.; Horn, E; Czaja, C.; Odom, S. 2009. Factors that influence the implementation of a new preschool curriculum: Implications for professional development. *Early Education and Development, 20*, 456–481.

Martin, L. E., Kragler, S., Quatroche, D. J. & Bauserman, K. L., eds. 2014. Handbook of Professional Development in Education: Successful Models and Practices, PreK-12. New York, NY: The Guilford Press.

Mashburn, A. J.; Pianta, R. C.; Hamre, B. K.; Downer, J. T.; Barbarin, O. A.; Bryant, D.; Howes, C. 2008. Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development, 79*, 732–749.

Miller, L. 2011. Critical reflection. Gowrie Australia Reflections, 45, 4—6.

Nabhani, M, et al. 2014. Principals' views on teachers' professional development*. Professional development in education,* 40 (2), 228-242.

Neuman S. B., & Wright, T.S., 2010. Promoting language and literacy development for early childhood educators, The Elementary School Journal, 111(1), 63-86.

Nuttall, J. 2013. The potential of developmental work research as professional learning methodology in early childhood education. *Contemporary issues in early childhood*, 14 (3), 201-211.

Ortlipp, M. et al. 2011. Discourses of the early years learning framework: constructing the early childhood professional. *Contemporary issues in early childhood*, 12(1), 56-70.

Petrarca, D. and Bullock, S. 2014. Tensions between theory and practice: interrogating our pedagogy through collaborative self-study. *Professional development in education*, 40 (2). 265-281.

Pianta, R. C., Mashburn, A. J.; Downer, J. T.; Hamre, B. K.; & Justice, L. 2008. Effects of web-mediated professional development resources on teacher-child interactions in pre-kindergarten classrooms. *Early Childhood Research Quarterly, 23*, 431–451.

Pirard, F. 2011. From the curriculum framework to its dissemination: the accompaniment of educational practices in care facilities for children under three years. *European early childhood education research journal,* 19 (2), 255-268.

Powell, D.R., Diamond, K.E., Burchinal, M.R., & Koehler, M.J., 2010. Use of a case-based hypermedia resource in early literacy coaching intervention with pre-kindergarten teachers. *Topics in Early Childhood Special Education*, 29(4), 239-249.

Rinaldi, C., 2006. In dialogue with Reggio Emilia. Listening, researching and learning. London: Routledge.

Rudd, L. C.; Lambert, M. C.; Satterwhite, M.; & Smith, C. H. 2009. Professional development + coaching = enhanced teaching: Increasing usage of math mediated language in preschool classrooms. *Early Childhood Education Journal, 37,* 63–69.

Shields, C. 2010. Transformative leadership: working for equity in diverse contexts, *Educational administration quarterly*, 46 (4), 221-258.

Stamopoulos, E. 2012. Reframing early childhood leadership. Australasian journal of early childhood, 37 (2), 42-48.

The Science of Early Childhood Development. 2007. National Scientific Council on the Developing Child. http://www.developingchild.net

Timperley et al. 2007. Teacher professional learning and development. Best evidence synthesis iteration (BES). Auckland: Ministry of Education.

Tout, K.; Epstein, D.; Soli M. & Lowe, C. 2015. A Blueprint for Early Care and Education Quality Improvement Initiatives: Final Report. Child Trends.

Van Thiel, L., Danzing B. & Warren, L. 2015. Evaluation of the Improving Teacher Quality Grants/Chelsea MA. University of Massachusetts/Boston.

Warren, L. 2012. Evaluation of the Early Reading First Project. Final Report: University of Southern Maine. Portland, Maine.

Warren L. & Danzing, B. 2015. Evaluation of the Peer Assistance Coaching Model Final Report. Massachusetts Department of Early Education and Care. Boston, MA.

Wasik, B. & Hindman, A. 2011. Identifying critical components of an effective preschool language and literacy coaching intervention. In S. B Newman and K.K Dickinson (Eds.), *Handbook of early literacy research* (volume 3, pp.322-336). New York, NY: Guilford Press.

About the Authors

Linda Warren, is the Founder and President of ECA, and is a leader in the fields of early childhood education, research and policy development. Dr. Warren knows that the development of children is directly linked to the development of the adults who work with them. She has been a public school teacher and a professor at the University of Hawaii and Wheelock College and currently is the president of Early Childhood Associates, a social science research and training firm located west of Boston. She has managed numerous national training and technical assistance projects including the national Learning Disabilities Network, and the national Early Childhood Model Demonstration program. Dr. Warren directed the Getting it Right for Children Early Educators Leadership Institute for the Massachusetts Department of Early Education and Care. She anchored the Steps to Success (STS) Mentor-Coaching Program for the National Office of Head Start, and has evaluated coaching interventions across the country, including EEC's recent three-year statewide PAC Pilot. She has received two Small Business Innovation and Research Grants from the US Department of Education to develop tools to support family engagement and intergenerational literacy in programs serving immigrant families. Dr. Warren is highly involved in several initiatives to support high-quality instruction, including Improving Teacher Quality Grants, TA Competency Development and Roll Out, Peer to Peer Coaching, and Coaching for Change.

Ann Ramminger, has a rich history in early childhood professional development system projects. Ann worked with the Race to the Top Early Learning Challenge grant in Wisconsin and was responsible for leadership in career pathways and cross sector collaboration. This included development of cross sector Core Competencies, TA Competencies and revisions to Early Learning Standards. As a former regional Collaboration Coach, Ann understands the many benefits to using coaching and mentoring as a professional development strategy to impact changes in practice. Sustainability of professional development efforts can be strengthened by the use of Professional Learning Communities and Ann has experience starting, facilitating and evaluating these types of groups. The strong connection between research and practice has been a focus for Ann as she co-authored three books on child development through Redleaf Press. Understanding "why we do, what we do" in early childhood settings builds consciousness of solid child development theory, best practices and continued reflective practices. Through completion of a Certificate Program in Infant, Early Childhood and Family Mental Health, Ann has learned a great deal about how intentionality and mindfulness can be thoughtfully integrated into early childhood professional development practices. With a BS in Child Development and an MS in Leadership in Adult and Continuing Education, Ann understands the importance of adult learning theory, practice and implementation and how they apply in early childhood professional development systems.