THE RELATIONSHIP BETWEEN EARLY CHILDHOOD PROFESSIONAL
DEVELOPMENT, QUALITY OF CARE, AND CHILDREN'S DEVELOPMENTAL
OUTCOMES

by

DARA MICHELLE MADIGAN

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Major Professor
Dr. Bronwyn Fees

Abstract

An increased focus on school readiness in recent years has placed more attention on the importance of quality early care and education settings for children ages 3 to 5 years. The first five years of a child's life represent a crucial period for development, and care settings impact children's outcomes in a variety of domains. Preparation of teachers in order to provide a high-quality level of care that supports positive outcomes for children is critical. This report assesses the current state of the literature on effective professional development for early childhood professionals (primarily those working center-based settings with children ages 3 to 5 years), specifically as it relates to improved outcomes for children in the areas of social-emotional competence and language and literacy development. Methods for adult learning are also reviewed and recommendations for appropriate models of professional development based upon this review are provided. It is recommended that specific aspects within models of professional development be reviewed further to determine more concrete predictors in terms of what is effective for adult learning and application of concepts. It also is recommended that early care and education providers take part in professional development activities that have an added level of support and feedback, such as coaching, to assist in improving instructional practices to impact developmental outcomes in targeted areas, such as literacy.

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Chapter 1 - Introduction

The Need for Trained Professionals in Early Care and Education Settings

The number of children birth through five years of age in child care has been on the rise in the United States for decades. An increase in labor force participation by mothers may be a contributing factor to this trend. In 1975 only about two of every five mothers with a child under the age of 6 years (39%) worked outside the home, whereas about two of every three mothers with a child under age 6 years (64%) were in the labor force as of 2008 (U.S. Department of Labor, Bureau of Labor and Statistics, 2009). Children are also entering nonparental child care earlier and staying for longer hours while parents are at work, compared to previous decades. Clarke-Stewart (1992) explained that from the time American children are infants until they are old enough to be on their own after school, they spend more of their time with nonparental caregivers, typically in some kind of early childhood program, than they do with their own parents. Data collected by the National Center for Education Statistics (NCES) from the National Household Education Surveys (NHES) helps explain these increases in child care participation over the past decade. In 1991, the percentage of children 3 to 5 years old enrolled in nonparental child care or early education programs was approximately 68%, with 53% of those attending center-based care (West, Hausken, & Collins, 1993). The 2005 NHES data indicate that these percentages rose to 73% of children 3 to 5 years of age enrolled in nonparental care of which 78% were in center-based settings (Iruka & Carver, 2006). By 2012, statistics increased to 76% and 80%, respectively (Mamedova & Redford, 2013). These figures demonstrate the increases not only in nonparental care, but specifically within center-based settings for children ages 3 to 5 years.

Children who experience nonparental care have the same needs as children reared at home in order for them to continue on a normative and healthy developmental trajectory. Researchers have found that the differences in children's development can be attributed to the quality of child care program they attend (e.g., Belsky et al., 2007; Clarke-Stewart, 1992) Children enrolled in high-quality early childhood programs have a higher rate of success across developmental areas later in life than those in low-quality programs (Mims, Scott-Little, Lower, Cassidy, & Hestenes, 2008).

The push for increased accountability and school readiness in recent years also has affected the desire to increase quality in early care and education programs. The National Research Council (2008) explains,

> The last decade or so has seen societal and government initiatives promoting accountability for such programs, especially those that are publicly funded. In this atmosphere laws like the Government Performance and Results Act and No Child Left Behind Act have been passed. School systems and government agencies are being asked to set goals, track progress, analyze strengths and weaknesses and report their achievements, with consequences when goals are not met (p. 1-3).

While these pieces of legislation are focused primarily on children in kindergarten and primary grades, the impact of this regulation is pushed down to the younger ages as they are expected to have skills and knowledge to be considered "school-ready" at the start of kindergarten. This increased accountability also aims to contribute to closing the achievement gap for children. Even before children enter kindergarten, the average cognitive score of children from the highest socioeconomic status (SES) group are 60% above the scores of the children from the lowest SES group (Lee & Burkam, 2002).

These gaps and implications for child outcomes are cause for concern due to the marginal level of quality in many of this country's child care facilities. Data from the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development (SECCYD) suggest that, in the United States, most child care programs provide care that is considered to be of "fair" quality (between "poor" and "good) and under 10% of child care settings provide care that is considered very high quality (NICHD, 2006). However, research continues to surface on the positive outcomes of quality care, especially in relationship to school-readiness for children (Campbell & Milbourne, 2005). Clearly defining high quality and replication are important in order to verify these claims and improve outcomes for children.

Characteristics of individuals providing care for children vary widely and these characteristics may be related to the quality of care a child receives. According to data from the 2012 National Survey of Early Care and Education (NSECE), there were approximately 1,000,000 teachers and caregivers employed in center-based early care and education programs in the United States. Of these approximately 130,000 center-based programs, it was estimated that 22% were located in high-poverty-density areas, as defined by the U.S. Census Bureau. More than half of these providers (59%) were employed in programs with no school sponsorship or funding from Head Start or public pre-K. This large number of teachers speaks to the number of children impacted nationally, as well as the number of those that are considered low-income (over one-fifth). As for educational attainment, it was found that more than half (53%) of center classroom teachers and caregivers had some level of college degree, with 26% having a bachelor's degree and 9% having a graduate or professional degree. Overall, education was higher for those serving children ages 3 to 5 years than those serving younger children (NSECE Project Team, 2013). Differences in individual states' regulations and requirements contribute to

the variation in staff education and backgrounds. For example, 32 states require a high school diploma or less for lead teachers in center-based settings (National Association of Child Care Resource and Referral Agencies; NACCRRA, 2011) and 41 states require a high school diploma or less for regulated family child care professionals (NACCRRA, 2012). More shockingly, only 10 states require lead teachers in child care centers to undergo a comprehensive background check (state and federal fingerprint checks and a check of the sex offender and child abuse registries) (NACCRRA, 2011) and only nine states require this for regulated family child care providers (NACCRRA, 2012). This lack of stringent requirements for care providers is even more disheartening when considering the fact that some states, such as Iowa, do not even require family child care providers to become regulated at all. Research suggests that licensing regulations, including those set for the characteristics of adults, are related to the quality of care young children receive which may affect their development (Gallagher, Rooney, & Campbell, 1999).

Given the available data on the caregiver's characteristics and the relationship between the characteristics of the care environment and inter-individual differences in children's development, it suggests that early care and education providers must understand the importance of offering high quality educational environments and be skilled in providing it. Professional development, focused on current, evidence-based practices, is one method professionals in the field may use to develop an understanding of and skills to improve outcomes for children. They must possess the knowledge and skills to set up appropriate evidence-based environments and provide consistent nurturing care—practices that have been found to affect children's later competence. Based upon evidence suggesting widespread low quality care, early childhood professionals in the United States may benefit from ongoing education and training to raise the

quality of care being offered and in order to improve outcomes for children. The purpose of this report is to assess the current state of the literature on effective professional development for early childhood professionals (primarily those working in center-based settings with children ages 3 to 5 years), specifically as it relates to improved outcomes for children in the areas of social-emotional competence and language and literacy development. This review will serve as the basis for recommendations on the qualities of professional development necessary in order to raise quality of care and education and improve these target developmental outcomes for children.

Description of Concepts and Definitions

Defining terminology is crucial to the analysis of early childhood programs and preparation of early childhood professionals. This section will outline key concepts that will be discussed in more depth.

Professional development. The Child Care and Early Education Glossary (Child Care & Early Education Research Connections, 2014) defines **professional development**, within the child care field, as opportunities for ongoing training to increase preparation and skill to care for children. This definition includes the following: mentoring programs, credentialing programs, in-service trainings, and degree programs. The National Center on Child Care Professional Development Systems and Workforce Initiatives (PDW Center) offers a slightly more inclusive definition of professional development. Professional development (PD) is defined as training, formal education, and technical assistance supports designed to help apply new knowledge and skills to practice. This may include experiences gained through observations, student teaching, and on-the-job trainings. This definition also is inclusive of both professional preparation

(completed prior to employment) as well as ongoing development (completed while employed in the early childhood role) (PDW Center, 2013).

Training is one subcategory within professional development. The Early Childhood Education Professional Development: Training and Technical Assistance Glossary, created jointly by the National Association for the Education of Young Children (NAEYC) and the National Association of Child Care Resource and Referral Agencies (NACCRRA), renamed in 2013 as Child Care Aware, defines **training** as "a learning experience, or series of experiences, specific to an area of inquiry and related set of skills or dispositions, delivered by a professional with subject matter and adult learning knowledge and skills" (NAEYC & NACCRRA, 2011, p. 7). This definition includes both preservice or initial training (earned prior to beginning a position in early childhood) and in-service or ongoing training (earned to enhance skills or knowledge for the provider's current position). **Technical assistance** is another piece of professional development, which includes options such as mentoring, coaching, and consultation. Technical assistance is defined as "the provision of targeted and customized supports by a professional with subject matter and adult learning knowledge and skills to develop or strengthen processes, knowledge application, or implementation of services by recipients" (NAEYC & NACCRRA, 2011, p. 9). Although technical assistance tends to offer more support to help professionals understand and apply theories into best practices compared to education or training alone (NAEYC & NACCRRA, 2011), for the purpose of this report technical assistance will fall into the general training category, as it is different from formal education. Formal education, as discussed throughout this report, will refer to coursework attained for credit through a college or university.

Early care and education terminology. The list below represents other terms associated with early care and education that will be included in the discussion of quality. These definitions are taken directly from the Child Care and Early Education Research Connections Glossary (2014, p.1):

- **Adult-Child Ratio**: A ratio of the qualified caregivers to children in a child care program.

- **Center-Based Child Care**: Programs that are licensed or otherwise authorized to provide child care services in a non-residential setting.

- **Child Care Provider**: An institution or individual who provides child care services.

- **Developmentally Appropriate**: A way of describing practices that are adapted to match the age, characteristics and developmental progress of a specific age group of children.

- **Family Child Care**: Child care provided for a group of children in a home setting. Most states have regulatory guidelines for family child care homes if they serve a number of children or families over a specified threshold or it they operate more than a specified number of hours each month.

- **Licensed Child Care**: Child care programs operated in homes or in facilities that fall within the regulatory system of a state or community and comply with those regulations. Many states have different levels of regulatory requirements and use different terms to refer to these levels (e.g., licensing, certification, registration).

- **Quality**: Quality child care commonly refers to early childhood settings in which children are safe, healthy, and receive appropriate stimulation. Care settings are responsive, allowing children to form secure attachments to nurturing adults. Quality programs or providers offer engaging, appropriate activities in settings that facilitate

healthy growth and development, and prepare children for or promote their success in school.

- **Quality Initiative**: Initiatives that are designed to increase the quality or availability of child care programs or to provide parents with information and support to enhance their ability to select child care arrangements most suited to their family and child's needs. The Child Care Development Fund (CCDF) provides funds to states to support such initiatives. Common quality initiatives include child care resource and referral services for parents, training and professional development and wage enhancement for staff, and facility-improvement and accreditation for child care programs.

- **School Readiness**: The state of early development that enables an individual child to engage in and benefit from first grade learning experiences. Researchers, policymakers, and advocates have described school readiness in different ways, but generally they refer to children's development in five arenas: health and physical development; social and emotional development; approaches toward learning; language development and communication; and, cognition and general knowledge. Some policymakers and researchers also use the term "school readiness" to describe a school's capacity to educate children.

- **Unregulated Child Care**: Child care programs that are not regulated. The term often refers both to child care that can be legally unregulated as well as those programs that should be but are not regulated.

It should also be noted that, for the purposes of this report, the terms caregiver, provider, educator, teacher, and staff are used interchangeably. These terms represent any person working

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in an early care and education setting and acting in a role where he or she is providing care to young children. These terms are meant to be inclusive of all settings such as home-based care, center-based care, school district sponsored programs, Head Start, etc. The use of a specific term is not intended to convey working in a certain setting or meeting a certain level of qualification, as these vary greatly across programs and locations.

Chapter 2 - Child and Adult Development and Learning

To understand the relationship between children's development and the quality of care they receive as well as how professional development for early care and education providers should be implemented, it is necessary to begin by examining the processes inherent in child development. This chapter will provide a brief review of the critical elements of child and adult development as they relate to children's outcomes and the needs of adult learners.

Life-span human development includes three main components: (a) commonalities (regularities) in development, (b) inter-individual differences in development and (c) intra-individual plasticity in development (Baltes, Lindenberger, & Staudinger, 1998). This report will focus primarily on the regularities or milestones of children from birth to age 5 years in social-emotional and language development. Adult development will be examined as it relates to adults' capacity to learn through professional development and adult education.

Child Development and Learning: Birth - 5 Years-of-Age

This section includes the three core components as defined by Baltes et al. (1998) by presenting a sampling of key processes, with emphasis mainly on milestones (regularities) and intra-individual plasticity, within social and emotional development and language development, specifically focusing on the first five years of a child's life. Neurological development is integrated within the discussion given the rapid increase of research on the relationship between neurological development and these domains. These concepts are integrated into the social and emotional development section due to the interrelatedness of self-regulation and executive function skills, stemming from development in the brain. Theories will be discussed to explain the process of intra-individual change. While the following section is organized by domains, it is

important to note that this distinction is mainly used for the purpose of organization, as all domains of development are connected and development is a truly integrated process (Shonkoff & Phillips, 2000).

Social and emotional development. Social development and emotional development are separate constructs, but tend to coincide together in most child development literature since both include processes that are closely linked. Emotional development has been defined as involving three main processes: "neural processes to relay information about the environment to the brain, mental processes that generate feelings, and motor actions that include facial expressions, speech, and purposeful movements" (Gerber, Wilks, & Erdie-Lalena, 2011, p. 534). These three processes and their associated responses are housed in the limbic system within the brain (Gerber et al., 2011). Social development is essentially the development of a child's interactions and relationships (Fabes, Gaertner, & Popp, 2006). Emotion is an essential piece of social development, and the two are reciprocal processes that impact one another. These domains represent a wide range of developmental processes, three of which will be reviewed here, owing to the extensive research published in these areas suggesting a critical relationship between early experiences in child care and school readiness and competence: development of attachment, development of self-regulation (including executive function), and development of competent peer relationships.

Attachment. John Bowlby (1969) first introduced the concept of attachment—the essential need for an infant to have a secure bond to a mother figure. Mary Ainsworth (1979) expanded on this idea and explained that this crucial attachment bond did not necessarily need to be formed with the child's natural mother, but could occur with anyone in the role of principal caregiver, such as in a full-time child care setting. Essentially, at the core, attachments are either

secure or insecure. It is important to note, however, that there is a major difference between an insecure attachment and a complete lack of an attachment. Children with an insecure attachment may not receive responsive interactions and nurturance from their caregiver, they are still deriving more support from the proximity of their caregiver than a child with no attachment formation (Ainsworth, 1967). Children with secure attachments to caregivers typically fare better in social situations than those with other attachment types. They enjoy being with peers, develop more friendships, are more empathetic with peers, and do better in child care settings than children with insecure attachments (Landy, 2009). They are more resilient in stressful situations and tend to be better problem-solvers, which can be partially explained by the fact that they realize their attachment figure will return and comfort them if they are upset (Landy, 2009). Attachment patterns are typically formed within the first two years or so of a child's life and set the stage for later emotional development (Bowlby, 1969). Sroufe (1996) explained,

> According to attachment theory, the caregiver is a source of responsive, predictable, and comforting emotion regulation. When an attachment relationship is working well ("secure attachment"), the infant experiences relatively short periods of distress before being comforted, stimulation is appropriate to the infant's capacity to manage it, and the infant and caregiver develop a pattern of flexible physiological and emotional communication. These experiences of dyadic regulation provide the scaffolding for the child's development of internal self-regulation (as cited in Masten & Gerwitz, 2006, p. 26).

Self-regulation. The rapid rate of change in neurological growth in the first three years of a child's life suggests that this time is one of several sensitive periods in brain development. Sensitive periods are "unique episodes in development when specific structures or functions

become especially susceptible to particular experiences in ways that alter their future structure or function" (Shonkoff & Phillips, 2000, p. 195). The experiences of the child during this time have a lasting impact since this is the time when brain development is "most plastic and responsive to stimulation" (Shonkoff & Phillips, p. 195). These early experiences, if positive, could help prepare the child for the future and create capabilities the child needs. However, if these experiences are absent during this vulnerable time, the child is at risk of dysfunction (Shonkoff & Phillips). Landy (2009) explained:

> What we know about brain development is that although the early years present us with a window of opportunity to enhance development we need also to be aware of times of vulnerability when the brain is most significantly affected by adverse experiences. Insufficient stimulation or neglect, traumatic experiences such as abuse of various kinds, and even the ongoing failure of a caregiver to calm a child when she is upset, hurt, ill, or frustrated can all significantly affect the child's development (p. 29).

The concept of executive function involves the integration and combination of a variety of cognitive abilities including (but not limited to): regulation of attention; inhibition of inappropriate responses; coordination of information in working memory, and capacities to organize, sequence, and plan adaptive behavior (Welsh, Friedman, & Spieker, 2006). These executive function areas are directly linked to certain areas of the brain. For example, Goldsmith and Davidson (2004) explained that chronic exposure to stress and/or high levels of cortisol may impair functioning in certain regions of the brain, such as the prefrontal cortex, which are associated with inhibition and regulation functions.

Self-regulation, one of the subsets of developmental skills in executive function, is an ongoing process beginning at birth. Infants progress from being almost completely reliant on

caregivers to meet their needs to independent emotion regulation through simple tasks (for example, self-selecting a new toy instead of crying when a toy is taken by another child). Infants learn specific strategies for self-soothing from caregivers and develop emotion regulation skills through repeated use and demonstration of these skills from caregivers (Calkins & Hill, 2007).

A child's environment has a meaningful influence on development of self-regulation. The cognitive and emotional environment of the early childhood classroom has been associated with self-regulation gains (Fuhs, Farran, & Nesbitt, 2013). In fact,

> teachers who communicate appreciation for children's efforts, who show more warmth and less often disapprove, create a classroom in which internal regulation is fostered in children. Children may feel more comfortable exploring new self-regulatory strategies in environments that are supportive, and they may receive more positive feedback on their attempts at self-regulation from teachers who engage in more behavior approving (p. 356).

This study by Fuhs et al. provided evidence for the strong effect that quality of instruction in the early childhood classroom can have on a young child's development of self-regulation and executive function skills.

Peer relationships. Social competence is broadly defined as a child's ability to form positive, successful social relationships. Success could be represented as children having enjoyable interactions with others and being sought after by peers (Fabes, Gaertner, & Popp, 2006). The development of interactions between children under the age of five is typically found in play situations. Mildred Parten (1932) observed children as they interacted and proposed several stages of social engagement, which become more interactive and cooperative as children grow older and improve their social skills. As infants, children begin by playing in a solitary,

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independent state and may become focused on a certain toy and pay no attention to the world around them. Next, the child may watch other children playing and become an active observer, taking part in what is known as onlooker play. By around the age of 2 years a child will participate in parallel play by which he or she plays near another child but does not play with the other child, though they may be using the same toys. As language skills develop and children become increasingly more verbal around age 3 years, children take part in associative play, wherein they may play with the same materials and speak to one another about what they are doing, possibly even taking turns. As they grow closer to ages 4 and 5 years, children are more likely to engage in cooperative play where they communicate and work together in more structured play (Parten, 1932). Through repeated and varied interactions, children develop social skills and learn from each other's social cues and begin to practice skills (e.g., sharing) that are part of early peer relationships and social competence.

Children's understanding of emotion is also a critical factor in healthy development of social competence and peer relationships (Fabes, Gaertner, & Popp, 2006). Between two and three years of age children are becoming autonomous (Erikson, 1963) and begin to use simple emotion words in ways that demonstrate they understand causation of certain feelings in others (Calkins & Hill, 2007). When children are able to accurately interpret the emotions of others and themselves, "they have a greater understanding of the causes, meanings, appropriateness, and implications of emotions for social interactions" (Fabes, Gaertner, & Popp, 2006, p. 301). By the time children reach the preschool years (3-5 years of age), they begin to show clear preferences for friends, often of the same sex (Wilks, Gerber, & Erdie-Lalena, 2010).

Lindsey (2002) found that preschoolers were able to maintain lasting friendships. Out of every 10 observed friendship dyads where the children remained in the same child care center,

six maintained the friendship across two years. However, many children at this age do not have adequate opportunities to maintain friendships due to changing preschool attendance from one year to the next. This alludes to the idea that continuity is needed not only with the caregivers in an early education setting but with peers as well. An association also emerged between friendships and measures of social competence (as rated by teachers) and peer acceptance. Children involved in at least one friendship were viewed as more socially competent by both peers and teachers.

Overall, these early connections made in the brain and foundations of social and emotional development affect later relationships and a child's ability to adequately process emotion. Being able to self-regulate is a crucial skill needed to be successful in school and in adult life. Without stable relationships in these early years, children may struggle later in life.

Language and literacy development. Language development is an exceptionally complex process. For the purpose of this review, language development is examined using the components most frequently assessed in studies of quality care. These areas include development of receptive language, expressive language, and emergent literacy skills.

Receptive and expressive language. Receptive language is the ability to understand communication; it is typically evaluated by a response to a prompt such as a question or request. Expressive language encompasses the verbal and non-verbal ways that a person communicates (Wilks et al., 2010). Language skills include both receptive and expressive processes and are highly predictive of future literacy and reading skills (Wilks et al., 2010). As children begin to understand and speak language, expressive language, they are essentially mastering four major elements of language construction. These include phonology, semantics, syntax, and pragmatics. Phonology is the understanding of how individual sounds, referred to as phonemes, are used in

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language to create meaning. Phonemes are usually combined to create syllables, morphemes, and words. Morphemes are the smallest meaningful unit in language (Cowie, 2012). Semantics revolves around the meaning of different pieces of language (e.g. children begin to understand that words and sentences are actually referring to specific people, places, events, etc.). Syntax refers to the rules about order of words within sentences. The study of these rules composes the study of grammar (Cowie, 2012). Repeating phrases to children has been found to be associated with more advanced grammar acquisition (Hoff-Ginsberg & Shatz, 1982). Lastly, pragmatics is the idea that there are different ways to use language depending on the context (Cowie, 2012). One way adults may promote the development of pragmatic language in children is to create environments that model strong listening skills and encourage conversation (Landy, 2009).

Phonological development begins in infancy when babies begin to produce sounds. These range from the appearance of cooing (6-8 weeks of age), to laughter and vocal play (16 weeks of age), to babbling (6-9 months of age), to first words (1 year of age), and onward to systematic speech (18 month of age and up). From the time that first word is produced between 10 and 15 months of age, expressive language and vocabulary increase at a rapid rate. By 15-18 months of age a child has about 50 words in his or her repertoire. This number grows to about 200 words between 18 and 30 months age and by the time the child is 6 years old his or her vocabulary averages roughly 14,000 words (Hoff, 2006).

Phonological and grammatical knowledge increase rapidly up to around age 6 years, but once children reach this point they are challenged to change their "capacities to 1) recognize or produce the sound patterns of their native language, 2) add appropriate endings to words, and 3) arrange words in proper grammatical order" (Byrnes & Wasik, 2009, p.45). However, vocabulary will continue to increase. Bradford (2012) suggested that to promote language

development during these early years adults need to provide children with a variety of experiences and opportunities. For example, they should help children feel safe and secure in their environment, build a trusting relationship with the child, provide access to a variety of activities that support language skills, and focus on using routines and repetition so children begin to associate words with ideas (Bradford, 2012).

As presented above, the role of the environment may have a significant impact on inter-individual differences in language development. This is most apparent in studies of the relationship between language development and socioeconomic status (SES). Hart and Risley (1995) found that families vary immensely in the language and interaction they provide to young children. Their study, which involved observing 42 families over a span of 2.5 years, produced data to suggest that, at age 3 years, vocabulary growth and vocabulary use were strongly associated with family SES. Families observed monthly during this study were classified into three general groups: upper SES, middle SES and those on welfare. Hart and Risley found a direct correlation between the amount of language to which the children were exposed and their resulting vocabulary. They estimated that in everyday interactions at home, the children from the highest SES families heard roughly 2,150 words per hour, those from middle SES families heard 1,250 words per hour, and the children from families on welfare were only exposed to about 620 words per hour. The resulting gap in children's expressive vocabulary was similar and had lasting effects. Twenty-nine of the 42 families were recruited to participate in a study measuring their children's school performance in third grade, when the children were 9 to 10 years old. Scores of language skill from the Peabody Picture Vocabulary Test-Revised (PPVT-R) and the Test of Language Development 2-Intermediate (TOLD) and scores of reading comprehension

from the Comprehensive Test of Basic Skills (CTBS/U) were strongly associated and predicted

by vocabulary growth and use at age 3 (Hart & Risley, 2003).

　　　Emergent literacy skills. The concept of literacy includes all aspects of speaking,

listening, reading, writing, and appreciating written and spoken language (National Institute for

Literacy, 2009). Early (also commonly referred to as emergent) literacy skills, which develop

during the preschool years, prepare a child to be successful with future conventional literacy

skills. These early literacy skills include alphabet knowledge, phonological awareness, letter

writing, print knowledge, and oral language whereas conventional literacy skills, primarily

learned in elementary and secondary school, are more complex and include decoding, oral

reading, fluency, reading comprehension, writing, and spelling (National Institute for Literacy,

2009).

　　　Children develop early literacy skills beginning in infancy when first exposed to oral and

written language in their environments. By the time children reach 3 years of age, they can likely

already name some letters and numbers, recognize specific books by their covers, enjoy rhymes,

and produce letter-like forms and scribbles (Snow, 2006). Between the ages of 3 and 4 years they

begin to distinguish print from pictures in books, recognize a wider range of letters, including

those within their name, and recognize some familiar words by sight (Snow, 2006).

　　　Young children under the age of 5 years are developing these social-emotional and

language and literacy skills at a rapid rate and these areas of change are highly susceptible to

environmental factors. Researchers stress the importance of these early years in setting a stable

foundation for children and promoting healthy relationships with caregivers. Some areas have

even been identified as sensitive or critical periods (as with developmental processes in the

brain). Clearly, providing a positive environment where children's needs are met is critical to ensure future success.

Unique Needs of Adult Learners

A variety of professional development practices and offerings are discussed in Chapter 3, all of which are targeted at early care and education providers who are adults. In order for professional development (both formal and informal education) to produce outcomes and help early care and education professionals improve practice, it must be presented in a way that is appropriate for the target population.

Demographics. The target focus demographic for this report includes members of the early care and education workforce taking part in professional development. This group falls into the category of adults who are classified as nontraditional learners since they are older than typical college students. In 1987, for the first time, the population under the age of 25 years was outnumbered by those over 65 years, with the population of those over 85 years making up the largest growing population (Merriam, Caffarella, & Baumgartner, 2007). The facts that adults began to outnumber youth, that the population was more educated than in the past, and that there was more diversity in the population, all had a significant impact on the needs of adult learners. Western society is becoming more adult-oriented than youth-oriented and the sector of adult education needs to adapt to this major shift. This new population of adults is also in better health and more economically stable than previous cohorts, which enables them to more easily access education (Merriam et al., 2007).

Galbraith (1991) identified a variety of challenges to come into the realm of adult education as a result of the changing demographic trends of an aging population including an increase in minority and nontraditional families, and an increase in labor force participation by

women. The biggest challenge presented in the literature included providing adult education that is high-quality, accessible, and equitable. Galbraith identified four critical issues for the future of adult education as (1) providing accessible and equitable learning opportunities, (2) adjusting to the demands of an information society, (3) making effective use of technology, and (4) developing learning management skills.

Learning. Adults inherently learn differently than children and thus adult learning strategies and methods must be examined to ensure they are appropriate and will bring about change, according to Malcolm Knowles (1980). Knowles coined the term "andragogy" to represent the practice of teaching adults as distinctly unique from "pedagogy," which represents the practice of teaching children. Andragogy is made up of a core set of assumptions about how adults learn that makes them unique from traditional (child) learners. Knowles believed an adult's mission in obtaining education is centered around individual needs and goals. As such, he assumed the following of adult learners: adults have matured and become self-reliant and prefer to engage in self-directed learning opportunities; adults enter learning with past experience from which to draw; an adult's readiness to learn is closely linked with his or her social role; and adults tend to be more problem-centered, generally preferring practical application of knowledge (Knowles, 1975; 1980).

Motivation. An understanding of what motivates adults at certain points in the learning process can support the development of andragogy for adults by focusing on the most salient aspects of the learning process. In order to support adults in their educational journey and keep motivation high, it is essential to examine desirable and effective characteristics of a learning experience. Adults tend to be pragmatic learners and often have a desire to understand how to

directly apply the content they learn, and to understand why they need that knowledge (Galbraith, 1991).

Most ideas about the process of motivation are based on the assumption that behavior is driven by the desire to meet a goal or satisfy a motive (Thøgersen, 2010). As people grow older and move through adulthood, they adjust their goals as needed. "The accumulation of new knowledge and opportunities becomes less important, yet the significance of emotionally relevant, positive goals and relationships increases steadily" (Wagner & Lang, 2011, p. 157). According to Lang and Heckhausen (2006) over time individuals adapt their goals as a response to how long they believe they will continue to live. That is, as time passes and adults come to realize they have fewer opportunities than when they were younger, they begin to prioritize as necessary to adapt for the future.

Researchers have found the main reasons cited for nonparticipation in adult education to be lack of time and lack of money (Merriam et al., 2007). Valentine and Darkenwald (1990) created what they referred to as a "typology of adult nonparticipants," which listed five groups into which nonparticipants typically fall. These reasons for nonparticipation are: (1) personal problems, (2) lack of confidence, (3) educational costs, (4) lack of interest in formal education, or (5) lack of interest in available courses. These ideas on why adults choose not to participate in education are a salient resource, especially since most of them relate to external factors that can be changed or modified depending on the approach of the educator.

Keller (1983) offered a model of motivational design of instruction referred to as ARCS, which addressed four components of student motivation. These components include attention, relevance, confidence, and satisfaction. According to this model, instruction will be most motivating if it does the following for students: (1) results in greater student attention, (2)

includes content and activities the student believes to be relevant, (3) increases self-confidence of

the student and (4) provides students with a sense of satisfaction with what they have learned.

Experience. An adult's life experience has been suggested as a factor in explaining how

adult education is fundamentally different from education for children or emerging adults

(Knowles, 1984). The general knowledge base that comes with 30, 40, or 50 years of life

distinctly changes the viewpoint of an adult when approaching learning. The context of

experience for an adult versus that of a child is different simply based on the quantity of

experience alone. Children are typically dependent upon others for their state of well-being,

whereas adults fulfill roles in which they take responsibility for themselves and possibly others,

and manage their own lives in addition to the lives of others.

> Just being an adult is thus a crucial factor in distinguishing between learning in adulthood
>
> and learning in childhood. The accumulation of experience, the nature of the experience,
>
> the developmental issues adults address, how the notions of development and experience
>
> relate to learning, and how aging affects our memory and the more general neurological
>
> basis for learning—all of these differentiate adult learners from children (Merriam et al.,
>
> 2007, p. 426).

Tied in with this understanding of the importance of experience is the strong connection

between adult learning and education and an adult's work. For most American adults, their

careers are the core of their identities (Wagner & Lang, 2011). Employers seek out people who

are committed and willing to serve their organization depending on changing needs and

requirements, often requiring ongoing training or education (Hoare, 2006). These types of

sought-after employees "are resilient, adaptive, welcoming of change and eager to serve their

employer's evolving needs" (Hoare, 2006, p. 344). People feel strongly about their work because

it provides them with a sense of a productive life and a purpose. Data from the 2012 National

Survey of Early Care and Education (2013) also provides support for the idea of "attachment to

the field." This survey estimates that 10 years is the median number of years of experience for

center-based educators in the early care and education field. This estimate climbs to almost 14

years from those working in home-based child care settings. For center-based providers, only 4%

have one year or less of experience while approximately 18% have over 20 years. The majority

(74%) of these center-based teachers are providing care on a full-time basis. Hoare (2006) stated

that "there is an interdependent relationship among adult identity, paid work, and learning" (p.

353). This strong association with one's work instills a sense of importance and value gained

from professional competence, defined as "the ability to function effectively in the tasks

considered essential within a given profession" (McAuliffe, 2006, p. 477). Although the actual

content involved in professional competence varied greatly from field to field and between

positions, it is clear that the longing for professional competence by employers is high. The

National Center for Education Statistics (NCES) conducted nine surveys (every 3-4 years from

1969-1999) of participation of adults in education, which all reported job-related reasons as top

motivators for seeking education. Another major study conducted by the United Nations

Educational, Scientific, and Cultural Organization (UNESCO; Valentine, 1997) revealed that

90.6% of respondents in the United States selected job- or career-related reasons for participation

in education. Also, in terms of their goal and intended outcome, the most reported answer was

professional or career upgrading (as cited in Merriam et al., 2007). With many people seeking

employment at any given time, requirements from employers are rising, and more education is

needed to put one candidate ahead of the rest. This will mean a large increase in the need for

continued adult education.

Context. The context in which adult learning takes place can greatly affect the process and outcomes associated with that learning. As an adult educator, it is important to understand how an individual's experiences within context affect each individual learner. Taylor, Marienau and Fiddler (2000) provided a strong, inclusive definition of adult development that encompassed the importance of context. They explained it as "a process of qualitative change in attitudes, values, and understandings that adults experience as a result of ongoing transaction with the social environment, occurring over time but not strictly as a result of time" (p. 10). When viewing adult learners with this contextual lens, it is crucial to discuss the concept of roles in society, as they typically introduce a variety of implications for adult education. It is beneficial to always remember: "adult learning does not occur in a vacuum. What one needs or wants to learn, what opportunities are available, the manner in which one learns- are all to a large extent determined by the society in which one lives" (Merriam et al., 2007, p. 25).

Technology and online education. Due to adult learners having multiple work and family responsibilities, they are less likely to attend face-to-face meetings in a traditional on-campus setting during the day (Wang, 2009). Large online universities have grown over the past decade, in part due to meeting the needs of this population. The ability to take courses online, especially those that are self-paced, allows adults to be more self-directed and have control over their own learning (Wang, 2009). Upon reviewing past studies, Kim and Frick (2011) developed a theoretical framework for influences on learners' motivation in self-directed e-learning, which included internal, external, and personal factors that influence the learner. From conducting surveys of hundreds of adults who completed a self-directed e-learning course, they made the following recommendations for instructional design principles to sustain learner motivation in self-directed e-learning:

1) Provide learners with content that is relevant and useful to them.

2) Incorporate multimedia presentations that stimulate learner interest.

3) Include learning activities that stimulate real-world situations.

4) Provide content at a difficulty level which is in a learner's zone of proximal development.

5) Provide learners with hands-on activities that engage them in learning.

6) Provide learners with feedback on their performance.

7) Design the website so that it is easy for learners to navigate.

8) If possible, incorporate some social interaction in the learning process (p. 18).

Aside from just online coursework, there are other ways that technology is used to help adults increase their professional competence. The Distance Mentoring Model (DMM) is one way that technology is utilized. According to Florida State University, by

incorporating evidence-based practices for professional development with technology strategies and supports, DMM engages early intervention providers, service coordinators and program administrators in a systematic change process to increase the use of recommended practices with children and families (p.1).

This model includes coaching, peer mentoring, and performance feedback along with online training modules, video sharing, and face-to-face professional development (Florida State University). This utilization of various methods allows learning and improvement to occur in different ways for different situations.

PALS. The Participatory Adult Learning Strategy (PALS) was developed based on research by Dunst and Trivette (2009). They examined effective methods for adult learning and took into account several of the factors above (such as adults' desire to utilize past experience,

immediately apply knowledge). These researchers conducted a meta-analysis of 79 studies, including over 6,000 adult learners. Four main methods of learning were included in the analysis: accelerated learning, coaching, guided design, and just-in-time training. The analyses provided evidence that more positive learner outcomes were linked to six implementation methods. These included: (1) introduction of the learning topic; (2) illustrating the learning topic; (3) practicing the use of the learning topic; (4) evaluating the consequences of application; (5) reflection on learner acquisition; and (6) learner assessment of mastery. Dunst and Trivette concluded that these methods were especially effective because they allowed learners to be more actively involved in processing and evaluating their own mastery of new skills and knowledge. They also found that the more methods incorporated in a learning opportunity, the more positive outcomes for the learner. The PALS model was created based on results from this analysis.

The PALS is unique, particularly due to its large focus on the role of the facilitator and the active involvement of the learner. This four-phase process includes:

> instructor or trainer introduction and illustration of targeted knowledge or practice, trainee or practitioner application of the knowledge or practice and their evaluation of their experience, trainee or practitioner reflection on and assessment of mastery of the knowledge or practice to promote informed understanding, and learner use of informed understanding to decide next steps in the learning process to further develop learner understanding, use, and mastery (Dunst & Trivette, 2009, p. 172).

Dunst and Trivette place emphasis on the importance of active learner involvement in each phase to help practitioners understand the application of what they are learning and how it might be applied to practice in meaningful ways. The stages are cyclical, resulting in ongoing learning and self-reflection as needed by the individual. The strength of this model over others is that it can be

applied to various methods of adult learning and training formats (i.e. college coursework, coaching models, in-service trainings, etc.).

In summary, adults develop and learn in ways that are different from the needs of the traditional learner population (e.g., children and young adults) and these needs should be taken into account when designing learning opportunities for adults. For example, when looking to increase participation in adult learning it is important to review the typical reasons for nonparticipation (e.g., lack of interest in the content, concerns around cost, and low confidence levels) and utilize those factors known to be most salient to the learner (e.g., desire to utilize past experience and apply knowledge directly and desire for increased professional competence) to leverage individual investment. By meeting the needs of the adult learner and understanding his or her needs in the learning process, information can more effectively be transferred and applied directly to one's everyday work.

Chapter 3 - Review of Literature

Understanding Quality in Early Care and Education

A review of prevailing research suggests that quality in early childhood programs is measured in diverse ways using a variety of instruments; however, quality often has been divided into two main categories, structural and process variables (Peisner-Feinberg & Yazejian, 2010). Structural features focus on the physical environment and related aspects. These aspects tend to be quantifiable and thus easier to measure, such as staff-child ratio, teacher qualifications and education, the physical classroom environment, overall group size, and provider compensation. Process features focus on the process or direct experiences of children, which may be more difficult to quantify and measure. This may include the quality of the curriculum and intentional teaching, teacher-child interactions, or the manner in which routines are handled by the caregiver (Peisner-Feinberg & Yazejian, 2010). These different components of "quality" make it difficult for researchers to create one tool that measures all components and provides one overall quality score. However, several measures with high reliability are presented repeatedly throughout the literature on quality in early childhood programs.

The Early Childhood Environment Rating Scale-Revised (ECERS-R) is one tool that has been used to measure classroom quality in many research studies (e.g., Burchinal, Cryer, Clifford, & Howes, 2002; Burchinal, Roberts, Riggins, Zeisel, Neebe, & Bryant, 2000; Early et al., 2006; Jeon, Langill, Peterson, Luze, Carta, & Atwater, 2010; Vu, Jeon, & Howes, 2008) This scale is organized into seven subscales containing a total of 43 items. The subscales are: (1) space and furnishings; (2) personal care routines; (3) language-reasoning; (4) activities; (5) interactions; (6) program structure and (7) parents and staff. Each of the 43 items within these areas is rated along a scale from 1 to 7 with 7 as the highest level of quality (Harms, Clifford, &

Cryer, 2004). According to Clifford, Reszka, and Rossbach (2010), the ECERS-R was created to measure process quality in early childhood settings and that "high quality care environments for children must provide for three basic needs that all children have: protection of their health and safety, the facilitation of building positive relationships, and opportunities for stimulation and learning experiences" (p. 2). All three are assessed by items on the scale.

The Classroom Assessment Scoring System™ (CLASS™) is an observational tool that primarily assesses quality by examining teacher interactions. This tool is available for a range of ages, from infant to secondary classrooms, but for the purpose of this report the Pre-K version will be explained, which is designed for 3 to 5-year-olds. This instrument includes three domains (emotional support, classroom organization, and instructional support) containing a total of ten dimensions. These dimensions include the following: positive climate, negative climate, teacher sensitivity, regard for student perspectives, behavior management, productivity, instructional learning formats, concept development, quality of feedback, and language modeling. All items are assessed on a 7-point scale with 7 as the highest indicator of quality (Pianta, La Paro, & Hamre, 2008). A number of studies reviewed in the current report utilized the CLASS tool to measure quality (e.g., Burchinal, Vandergrift, Pianta, & Mashburn, 2010; Curby, Brock, & Hamre, 2013; Downer, Locasale-Crouch, Hamre, & Pianta, 2009; Early et al., 2006; Fuligni, Howes, Lara-Cinisomo, & Karoly, 2009; Pianta, Mashburn, Downer, Hamre, & Justice, 2008; Vu et al., 2008).

Teachstone, the organization that oversees implementation of the CLASS, offers a variety of professional development resources, including an online video library and MyTeachingPartner™ Coaching (MTP™). MTP is a coaching model that focuses on ongoing improvement for teachers on the CLASS dimensions. The MTP process that teachers undergo

with their personal coach is typically completed over a period of two weeks and includes the following steps: (1) teacher videotapes self interacting with children, (2) coach watches video, writes prompts, (3) teacher reviews prompts and reflects, (4) teacher and coach discuss prompts and practice, (5) coach sends teacher a conference summary and an action plan, and (6) the cycle repeats (Hamre, Goffin, & Kraft-Sayre, 2009).

A quality rating and improvement system (QRIS) is another type of tool to measure structural and process variables in quality child care. A statewide QRIS assigns a rating score, typically to the entire program, and usually offers a progression of levels or tiers, beginning with the state's licensing regulations. When programs advance to a higher rating level they often receive a stipend or bonus to encourage continued participation. As of 2011, 25 states had some form of statewide QRIS in place (National Center on Child Care Quality Improvement, 2011). Although QRISs tend to vary state-to-state, and are often voluntary, the National Association for the Education of Young Children (NAEYC) recommended that these systems address, at a minimum, the following areas: physical environment (ratios, class size, and health and safety), staff qualifications and professional development, interactions, developmentally and culturally appropriate practices, program evaluation and reporting, well-trained evaluators and technical assistance to increase rating level, and continuous program improvement (NAEYC, 2008).

Accreditation is another way that early childhood programs provide evidence of quality, in both structural and process factors. The National Association for the Education of Young Children is one entity that accredits child care programs on a national scale. The NAEYC accreditation process involves a self-study process whereby programs work to show that they meet the program standards required for accreditation. Ten areas are represented within the standards including relationships, curriculum, teaching, assessment of child progress, health,

teachers, families, community relationships, physical environment, and leadership and management. These standards measure a variety of quality features from teacher-child interactions to levels of teacher education. Programs that become accredited by NAEYC go through a formal on-site assessment and observation process and must renew accreditation and be re-evaluated every five years (NAEYC, n.d.).

While these are not the only ways to quantify quality in early childhood programs, the ECERS-R, CLASS, QRISs, and NAEYC accreditation are some examples of common tools and methods used across the United States to assess programs serving young children. Together these aim to measure a combination of process and structural features involved in determining quality.

Links between Quality and Child Outcomes

Cross-sectional and short-term studies. Many studies of children in child care measure immediate outcomes and cover a short period of time, often due to the feasibility of continuing to follow the same group of children. These studies still provide useful data on which variables may be associated with short term gains in children's development. Burchinal et al. (2010) examined data from over 1,000 children from low-income families enrolled in over 670 prekindergarten classrooms in 11 states. These children were part of either the National Center for Early Development and Learning (NCEDL) Multi-State Study of Prekindergarten, or NCEDL's State-Wide Early Education Programs (SWEEP) Study. The aim of these studies was to determine if there are measurable thresholds for child care quality as it impacts low-income children's social and academic outcomes. Classroom quality was measured with the CLASS, children's social skills were measured by the Teacher-Child Rating Scale, and academic and language skills were measured by the 3rd edition of the Peabody Picture Vocabulary Test (PPVT-III), the Oral and Written Language Scales (OWLS), and the 3rd edition of the Woodcock-

Johnson Psycho-educational Battery (Applied Problems (AP) and Letter-Word Identification (LWID) subtests).

Findings from this study suggest that high-quality classrooms may be necessary to improve low-income children's social skills, reduce behavior problems, and promote reading, math, and language skills. Outcomes linked to specific items on the CLASS in measurable ways. For example, social outcomes were more strongly influenced by teacher-child interactions when caregivers were rated on the high range (5-7) on the CLASS Emotional Support Scale and children were found to acquire academic skills only when caregivers were rated above the cut-off point of 3.25 on the CLASS Instructional Quality Dimension. These findings indicate that children may not acquire social and academic benefits from prekindergarten unless the teacher maintains high-quality teacher-child interactions and instruction (Burchinal et al., 2010).

Similar to the above study, which indicates the importance of emotional support, Curby et al. (2013) used a similar data set to examine not only emotional support levels but also the consistency of emotional support as it relates to outcomes in social skills and academic gains. These researchers concluded that emotionally consistent classrooms were associated with children's academic (measured with the PPVT-III, OWLS, and Woodcock-Johnson III Tests of Achievement- Rhyming, Applied Problems, and Letter Naming subtests) and social learning (measured with the Teacher-Child Rating Scale). They found the consistency of emotional support predicted greater social and academic competence than level of emotional support alone, suggesting that examining emotional support over time is essential.

These findings align with the information presented by the National Scientific Council on the Developing Child (NSCDC, 2004) in their working paper titled *Young Children Develop in an Environment of Relationships*, which focused on the importance of positive relationships. The

authors explained that secure relationships with warm and supportive caregivers in the child care setting, in which caregivers provide cognitively stimulating activities and support for developing positive peer relationships, led to greater social competence, fewer behavior problems, and enhanced thinking and reasoning skills at school age (NSCDC, 2004).

While the above studies are informative, each provides a limited picture of the full range of relationships between care quality and outcomes for children. In order to fully examine the predictive relationship between quality of early care and children's developmental outcomes over time, it is essential to include longitudinal research.

Longitudinal studies. Longitudinal methodology may provide evidence to suggest a relationship between the quality of early childhood program experiences and child development over time. Analyzing data collected as part of the Cost, Quality, and Child Outcomes (CQO) in Child Care Centers Study, Peisner-Feinberg et al. (2001) found evidence supporting higher quality child care provides better outcomes for children's development in multiple areas. They measured the quality of children's preschool environments (when children were approximately age 4 years) as well as assessed children's developmental outcomes at approximately ages 4, 5, 6, and 8 years. Completed over a period of five years, they found evidence of effects (with more advanced development linked to higher quality preschool experiences) in the areas of receptive language ability, math ability, cognitive and attention skills, problem behaviors, and sociability. For example, "observational measures of classroom practices tended to relate more strongly to children's cognitive skills, whereas ratings of the teacher-child relationship were related to both cognitive and social skills, although even more strongly to the latter" (Peisner-Feinberg et al., 2001, p. 1551). The authors concluded that early relationships with caregivers served as the strongest longitudinal predictor of children's social skills. As has been noted by the importance

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of executive function and school-readiness skills, focusing on improving teacher-child interactions to support outcomes in these areas should be a strong focus of professional development.

The National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development (SECCYD) followed over 1,000 children nation-wide longitudinally, collecting data on the effects associated with time spent in child care, between birth and 4.5 years of age, and later development (Vandell, Belsky, Burchinal, Steinberg, & Vandergrift, 2010). These researchers found that even after a decade out of child care, adolescents' outcomes in several areas were correlated highly to the quality of child care they received and the amount of time spent in child care. Children in higher quality child care environments had higher levels of cognitive-academic achievement at age 15 years, as measured by several subscales of the Woodcock-Johnson Psycho-educational Battery-Revised. Those who spent longer hours in non-parental care between birth and 4.5 years of age exhibited higher levels of problem behavior in mid-adolescence, as measured by items from the Weinberger Adjustment Inventory (impulsivity) and the Youth Self-Report (externalizing problems) (Vandell et al., 2010). Overall, the research to date suggests a strong relationship between high quality care and child outcomes in social competence and literacy.

Professional Development and High Quality Care

Professional development, offered in various forms of facilitated teaching and learning, aims to enhance early childhood educators' knowledge, skills, and dispositions in such a way that their capacity to provide high-quality learning experiences improves (Snyder et al., 2012). The following section will outline different forms of professional development, including formal education options as well as more informal targeted options for training and technical assistance.

Research on these offerings is explored as it relates to improved teacher practice and child outcomes.

College degree or in-service or on-the-job training. Early childhood teachers do not have universal preservice education requirements as might be found for other populations and professions, such as K-12 teachers. Standards for knowledge and skill among new teachers are set uniquely by each state. Yet, researchers have examined the relationship or effect of formal education (degree attainment) to teach in an early childhood setting compared to informal on-the-job training or in-service training. For example, Saracho and Spodek (2007) reviewed 40 studies relating to early childhood teacher preparation published between 1989 and 2004. Results of the studies collectively supported the hypothesis that the level or type of professional development of early childhood teachers does affect classroom quality and outcomes for children, specifically linking the appropriateness of a teacher's classroom behavior with the number of years of formal education attained. Higher outcomes were recorded when the teacher had at least a bachelor's degree. Similar conclusions were drawn by Burchinal et al. (2002), while analyzing data from the longitudinal Cost, Quality, and Outcomes Study. Evidence indicated that bachelor's degrees in early childhood education or related fields (and even for some training) were predictors of global classroom quality, caregiver sensitivity, and child outcomes (in the area of language development). Other researchers have found a similar link between teachers with bachelor's degrees (especially with a child development focus) and higher levels of positive emotional climate in the classroom and use of developmentally appropriate interactions (Fuligni et al., 2009).

While multiple research studies suggest a positive relationship between possession of a bachelor's degree and high quality programs resulting in better outcomes for children, other

researchers have found less conclusive results. Using data from the NCEDL Multi-State Study of Pre-Kindergarten, Early et al. (2006) suggested that, while a bachelor's degree may correlate to positive effects in some areas, just having the degree was not enough to improve quality and outcomes. Analysis of qualitative interviews conducted about professional development (Ackerman, 2004) suggested early childhood teachers agreed that focusing solely on attained degree was not enough to get a full picture of teacher quality. They indicated that more should be taken into account, such as the content of coursework, previous experience, and factors such as turnover, etc. As a result, Ackerman recommended ongoing training and professional development opportunities specifically targeted and personalized to the needs of the teacher.

An analysis of seven large-scale studies (Early et al., 2007) provided additional insight into the links between teacher education, classroom quality, and child outcomes. Researchers examined specific education level, highest degree attained, and whether the degree was early childhood or child development focused as it compared to classroom quality and children's academic gains. This analysis did not provide sufficient evidence to support the link between teachers' education level and classroom quality and child outcomes. However, the authors stressed that this does not mean there is no association, rather, the relationship may be complex and require deeper analysis. They alluded to the possibility that other structural and process factors are in play in terms of the context of the classroom (such as administrative support, available materials, etc.) as well as factors associated with the education level of teachers (experiences and content within the college program).

The high level of variation across educational preparation programs may explain why the link between formal education level (e.g., a bachelor's degree) and quality is not always clear. Bogard, Traylor, and Takanishi (2008) explained the need for more common standards for

teacher preparation programs. While these authors supported a recommendation for pre-kindergarten teachers to begin with a bachelor's degree, they did caution against making assumptions about the link to quality and outcomes without having a better understanding of the actual education and content the preservice teacher received. There are also other possible factors mediating the relationship between education or degree and related quality.

This variance between early childhood teacher preparation programs at institutions of higher education (IHE) was investigated more deeply when Early and Winton (2001) reviewed early childhood program offerings from over 600 two- and four-year IHEs. They found a variety of causes for concern and variation among programs. Teacher preparation programs included a wide range of ages (e.g., birth to 5 years, birth to kindergarten, birth to age 8, 3 to 8 years); consequently, students may not examine all ages with adequate depth. For example a pre-k through grade six certification may focus heavily on the later elementary years and not adequately cover early childhood development. They also found that colleges and universities continued to be challenged to form articulation agreements transferring coursework from associate's degrees into bachelor's degree programs. Lastly, they found that programs struggled to keep qualified candidates in the early childhood field due to low salaries for early childhood teachers and less of a professional identity than other fields (Early & Winton, 2001). Results from the National Survey of Early Care and Education released in 2013 reported that in the United States the median hourly wage of center-based teachers and caregivers is approximately $10.60, with those working with children ages birth to 3 years earning slightly less, on average ($9.30 per hour) and those working with children ages 3 through 5 years earning slightly more, on average ($11.90 per hour) (NSECE Project Team, 2013). When these results are further analyzed by education level of the provider the highest median wage is $14.70 per hour for those

with at least a bachelor's degree or higher. Although this figure is significantly higher than the median hourly wage for all providers, it still adds up to $30,576 annually, which for a family of four would be within 150% of poverty (using 2013 poverty guidelines provided by the U.S. Department of Health and Human Services).

Vu et al. (2008) examined the impact of teachers' education in terms of not only highest degree attained, but also possession of the California Child Development Permit (CCDP) (which takes into account other credits earned, experience, etc.). Researchers compared assistant teachers, lead teachers, and administrators at different permit levels with and without bachelor's degrees on various measures of classroom and instructional quality. Findings indicated a relationship between classroom quality and education and credential level, specifically for the director, primarily related to support of quality practices in the program.

Overall, the most predictive factor of classroom quality was the auspice of the program. Auspice is a way to differentiate programs or classrooms by setting and/or funding type. Vu and colleagues examined classrooms within the following auspices: (1) classrooms in private, non-profit agencies; (2) classrooms in private, for-profit agencies; (3) Head Start classrooms; and (4) California Department of Education-sponsored programs (including general child care classrooms in private, not-for-profit agencies, general child care classrooms in school districts, and state preschool classrooms also sponsored by school districts). Programs in school districts and state preschools had higher levels of regulation and support, thus the level of teacher education was less predictive than in other settings, such as private nonprofit classrooms, where the educational preparation of the teacher produced a greater difference (Vu et al., 2008). Collectively, these studies demonstrate that although education can and does play a role in

predicting quality, there are other factors to consider aside from just highest attained degree. Early childhood teachers are working in a larger context and there are factors at work.

Trainings are an informal way that professional development is offered to teachers. When Vesay (2008) surveyed a group of assistant early childhood teachers, lead teachers, and administrators about their preferences for professional development, they tended to prefer shorter, one-time trainings to longer courses. These early childhood staff showed a strong preference for on-site training, preferably over a lunch break or during regular work hours with a sub scheduled. Although administrators acknowledged the importance of high-quality, ongoing training, several barriers were identified. The main barriers identified were finding adequate funding and time to allow the trainings to happen and for staff to attend.

Training programs, similar to formal education programs, also vary greatly and have differing levels of impact on the teacher's use of content/knowledge and outcomes for children. In a meta-analysis of studies published between 1980 and 2005, which included some element of specialized caregiver training with a focus on interaction skills with children in a child care setting, Fukkink and Lont (2007) set out to answer the question: "Does training matter?" The studies examined in the meta-analysis, coded for instructional and methodological characteristics, represented mostly classroom-based courses that were often integrated within child care practice. Most of the courses included an element of supervision (such as coaching, mentoring, guided practice, etc.). The average training lasted approximately six months. The authors concluded that training affects caregivers' level of competency, but gains appear larger for the attitude domain when compared to applied skills and knowledge. Due to the varied nature of the studies reviewed, outcomes ranged from positive to negative for different training programs. Overall, Fukkink and Lont concluded that trainings may have positive outcomes, but

additional studies are required for deeper investigation into content and methods of the training. Simply having completed trainings does not improve teaching quality; the trainings must include elements to help teachers decide how and when to use content knowledge appropriately in practice.

Coaching and consultation. As research on quality has shifted from a focus on whole classroom quality to more emphasis on teacher quality and the actual interactions and instruction in the classroom, there has been a rise in research surrounding professional development options that include coaching and consultation as opposed to focusing on formal education level (e.g., Cusumano, Armstrong, Cohen, & Todd, 2006; Neuman & Cunningham, 2009). Coaching in early childhood is defined as a relationship-based process "designed to build capacity for specific professional dispositions, skills, and behaviors and is focused on goal-setting and achievement for an individual or group" (NAEYC & NACCRRA, 2011, p. 11). Coaching is different from typical face-to-face training in that instead of simply providing content knowledge, there is assistance provided to use that knowledge to develop skills and apply them directly into practice. Coaching is a reciprocal relationship between trainer and trainee that may include any combination of the following: questioning, listening, observation, reflection, feedback, prompting, modeling, and practice (NAEYC & NACCRRA, 2011).

As previously discussed, the Classroom Assessment Scoring System (CLASS) is one measure that focuses on teacher-child interactions and is also linked to MyTeachingPartner (MTP), a web-based system of professional development resources. Pianta, Mashburn, et al. (2008) utilized the MTP online system and compared outcomes for teachers assigned to receive online consultation and teachers who only had access to the web resources (including video exemplars). Both sets of teachers created videos of themselves in the classroom and submitted

them regularly throughout the study. The intervention lasted one year for both groups with all teachers submitting videos of themselves every two weeks. The consultation group met online in a video-chat with the consultant to discuss feedback and problem-solve together. The consultation group earned higher scores and experienced a significantly greater rate of change compared to the control group on several CLASS dimensions measuring teacher interactions. These included teacher sensitivity, instructional learning formats, and language modeling. The authors attributed much of this improvement to the importance of the individualized feedback the teachers in the consultation group received (Pianta, Mashburn et al., 2008).

A follow-up study conducted by Downer et al. (2009) investigated exposure and responsiveness to the consultation, looking only at that treatment group from the above study. They reported some interesting conclusions on characteristics of teachers linked to participation. Older teachers actually spent more time with the consultant on iChat than younger teachers. They also found that self-efficacious teachers (as measured by an abbreviated version of the Teacher Self-Efficacy Scale) watched more videos of themselves and others, perhaps because these teachers felt secure with their own teaching practices so they were comfortable viewing the exemplars. Finally, the researchers found that teachers with more disorganized classrooms at the beginning of the year were actually more responsive to the consultation. Understanding how different groups of teachers respond to this type of professional development allows future programs to plan accordingly.

Coaching for early childhood teachers has been found in many cases to be very effective, especially for content-specific instructional strategies, particularly language and literacy development (i.e. Hsieh, Hemmeter, McCollum & Ostrosky, 2009; Mohler, Yun, Carter & Kasak, 2009; Neuman & Wright, 2010). Hsieh and colleagues (2009) examined specific regular,

in-class coaching to support literacy and found that the coaching was effective to promote use of emergent literacy strategies, even after the intervention had ended. Evaluations of the Preschool Literacy Project (PLP), implemented in southern California, also suggested positive impacts on caregiver interactions with coaching (Mohler et al., 2009). This project included a specific curriculum, implemented within state preschool classrooms, as well as coaching for literacy to accompany the curriculum. Positive outcomes for children were found in these classrooms where the teacher received coaching. For example, on the Emerging Literacy Survey (ELS), which includes nine subtests (e.g., letter naming, concepts of print, rhyming, word recognition), the percentage of PLP children who scored at criterion compared to the control group was 4%-25% higher on every subtest. These authors concluded that the impact of coaching was strong and even asserted that this was evidence that knowledge and strategies can be attained without advanced degrees but through on-the-job coaching (Mohler et al., 2009). In 2010, Neuman and Wright compared the impact of a college course versus coaching, both compared to a control group that received no treatment. In line with previous findings they found evidence that the coaching method was the most effective in producing gains in structural characteristics in classrooms. However, they did not find any major differences in teacher practice, specifically instructional and environmental supports for language and literacy (as measured by the Early Language and Literacy Classroom Observation (ELLCO) or teacher knowledge (as measured by scores on the Teacher Knowledge Assessment of Early Language and Literacy Development) between the control group and the group that completed the college course in language and literacy development.

A similar study was conducted by Cusumano et al. (2006) to examine the impact of a college course in research-based instructional strategies for literacy development, as well as

coaching, on development of early reading skills. The authors compared three treatment groups: one that completed a college course in literacy, one that completed the course along with coaching, and the third group which received no intervention (control). Some evidence suggested that teachers who completed the college course in literacy had some effect on children's literacy development, but little evidence was found to support the additional impact of the coaching. Researchers believed that at least some of the lack of support for the coaching can be attributed to the short duration of the intervention with regard to when measures were completed. Gupta and Daniels (2012) reviewed various studies on coaching in early childhood settings and found that overall coaching has been shown to have positive effects, but more research is truly needed to investigate the "how" of coaching and what smaller aspects of the coaching relationship might actually be affecting outcomes.

Snyder et al. (2012) reviewed early childhood professional development literature to help determine what needs to change in terms of reporting on professional development methods and outcomes in order to systematically improve (and determine what improves) professional development. This review included over 250 studies of some type of early childhood professional development that reported empirical evidence. Some information regarding what is being offered is consistent with current trends and ideas of best practice. For example, the most common content offered included social-emotional topics (such as teacher-child-interactions and challenging behaviors), followed closely by pre-academic skills and instructional practices. Many of the studies reviewed included a follow-up component, of which the most common was by far an element of coaching with performance feedback (Snyder et al., 2012). Coaching to produce higher quality instruction has been shown to be highly effective (e.g., Hsieh et al., 2009; Neuman & Wright, 2010; Pianta, Mashburn et al., 2008).

In summary, findings from the above research indicate clear linkages between quality of care and outcomes for children in both the short (Burchinal et al., 2010; Curby et al., 2013) and long term (Peisner-Feinberg et al., 2001; Vandell et al., 2010). The teacher's level of formal education (Kagan & Neuman, 1996), and specifically, the possession of a bachelor's degree (Burchinal et al., 2002; Fuligni et al., 2009; Saracho & Spodek, 2007), also predict higher quality care in most studies. Some studies revealed mixed findings about the necessity of having a degree and its impact on quality (Early et al., 2006; Early et al., 2007; Vu et al., 2008), but benefits of a degree still seem to have generally more explicit positive outcomes than looking at teachers with little formal education or training only. Methods for professional development, such as coaching, that include an element of individualized feedback and continuous improvement, have also shown to have very positive impacts on teachers' quality of instruction as it relates to outcomes for children (Pianta, Mashburn, et al., 2008), especially in the areas of language and literacy development (Hsieh et al., 2009; Mohler et al., 2009; Neuman & Wright, 2010).

Chapter 4 - Conclusions, Limitations and Implications

Conclusions from the Current Research

Research on quality in early childhood programs indicates the importance of having educated and well-trained teachers who provide high quality teacher-child interactions and have an understanding of what is developmentally appropriate for young children. The fact that Snyder et al. (2012) found evidence that most current professional development is geared toward social-emotional topics and pre-academic skills is in line with this need. Social-emotional and language developmental milestones during these early childhood years are highly susceptible and quality care is needed to ensure positive outcomes. Ensuring that professional development meets the needs of adult learners is perhaps the best way to begin making positive changes in classroom quality and allows early care and education providers to directly apply knowledge and skills in ways that are meaningful to them and the child. In this way, providing appropriate professional development to early care and education providers allows them to increase the quality of care provided which in turn is linked to better outcomes for children in the social/emotional and language/literacy domains.

Limitations of the Current Research

The research presented, although suggesting some clear relationships and outcomes, is not free from limitations. These must be considered carefully depending on the implications for future use. To begin, many studies looking at teachers' education and training levels use this data based on an individual's self-report (e.g., Burchinal et al., 2002), which may not always reflect an accurate picture of that person's experience or include necessary details on content of the education. This variation in teacher preparation depending on the type of program and the

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location (whether it be difference in auspice or physical location, such as the state) is also a factor to consider when comparing certain education levels, such as degrees (Early et al., 2006). Another major limitation of this type of research in general is that studies involving children and quality tend to be correlational (e.g., Burchinal et al., 2000; Burchinal et al., 2010; Curby et al., 2013; Gerber, Whitebook & Weinstein, 2007), thus it is difficult to determine causation between variables. Finally, the research presented here is limited by its ability to represent the total population of children and caregivers. Not only are some of these studies limited in effect sizes (or lacking discrete information on actual effect sizes at all) and using non-representative samples (e.g., Burchinal et al, 2000; Fuligni et al., 2009; Hsieh et al., 2009), but many are also specifically focused on low-income populations (e.g., Fuligni et al., 2009; Jeon et al., 2010; Mohler et al., 2009), making it difficult to generalize best practice as it applies to all children.

Implications for Research

The overwhelming amount of research conducted in the arena of early childhood professional development recently is promising; however, there are still certain areas that will require further investigation in order to make systematic improvements to professional development. Researchers in the field need to have a better understanding of all elements involved to determine best practice. Snyder et al. (2012) reiterated the importance of "unpacking" all ingredients associated with the facilitated teaching and learning experiences within any given professional development model to gain a better understanding of what structural and process features actually contribute to the perceived outcomes of a given intervention. For many of the research studies reviewed, key elements (such as dose and/or intensity of intervention or fidelity of the intervention implementation) were absent, causing difficulty in creating specific recommendations for future practice (Snyder et al., 2012).

Given the focus on professional development as a critical contributor to program quality and the investments being made at multiple levels (federal, state, and community) in improving workforce qualifications, the need for an intensive examination of the research evidence linking professional development and quality is pressing (Tout, Zaslow, & Berry, 2006, p. 78).

Early et al. (2007) suggested that future studies examine not just levels of education but also "specific teacher behaviors and instructional practices in the classroom that are tied to positive child outcomes" (p. 577). They also concluded that, "a comprehensive professional development system for preservice and in-service teachers could provide the knowledge, skills, and supports for teachers to provide high-quality early education experience that can positively impact children's development" (p. 577). This proposition of a comprehensive system for professional development is highly supported by adult learning literature that suggests adults benefit from ongoing reflection toward improvement of practice (Dunst & Trivette, 2009).

Additionally, researchers need to evaluate other aspects of quality and developmental outcomes as well. The domains reflected here are only a portion of the developmental spectrum. By including all measurable areas of development and possible outcomes, more may be revealed about these links between professional development, quality of care, and outcomes for children. Family child care is also an important setting to examine in terms of quality and professional development. According to the 2012 National Household Education Survey, approximately 24% of a children ages birth to 5 years attend family child care provided by a non-relative (Mamedova & Redford, 2013). While some researchers have delved into this area (e.g., Koh & Neuman, 2009; Lanigan, 2011; Neuman & Cunningham, 2009), the variance in program quality and early care provider characteristics is greater than with center-based care due in part to differences in

regulation. Infant and toddler care is also crucial to include and examine, given the importance of the foundational developmental processes occurring during those first few years of life. It would also be beneficial to expand the pool of research examined. All of the research utilized for this report was from within the United States and reflects only this culture and population. Other countries with strong backgrounds in early childhood education may have additional insights to contribute as to what works best to improve children's outcomes. Clearly, there are many options to expand the scope of research reviewed and new ways to go about collecting information on this topic.

Implications for Professional Development

Three recommendations emerge for professional development based upon the empirical evidence reviewed. First, evidence suggests that coaching is an essential component of comprehensive professional development and it is recommended that this be utilized in a more widespread manner. Knowles (1984) emphasized the importance of creating an environment that is conducive to adult learning and provides mutual respect as well as encouraging collaboration and trust. Langer (2002) supported this proposition by concluding that the goal of adult learning should be developing an atmosphere in which adults feel safe and challenged. Coaching is one method that fits nicely within these parameters. The coach works collaboratively and adapts to the needs of the learner, providing increasing support as needed to help create improvements in teaching.

Second, formal education, though sometimes debated as the best preparation method for early educators, is more often than not associated with higher quality of care, thus it should be encouraged. The ability of teachers to apply knowledge is enhanced when content aligns with everyday work and teachers are motivated and encouraged to use new skills. Given these

findings, the T.E.A.C.H. Early Childhood® Scholarship Project is an ideal model for those wishing to obtain formal education. The T.E.A.C.H. program allows professionals to continue working in early education settings where they can directly apply knowledge learned and earn degrees with early childhood focused content. Additional benefits of the program, such as personalized counseling support, supports in the work environment (release time), and financial benefits allow staff to be successful in obtaining degrees and continuing to stay motivated in furthering their professional development (Miller & Bogatova, 2009).

Third, professional development should be an ongoing process that allows adults to utilize their past experiences and continue to stay abreast of updated research in the early childhood field. New research on quality continues to arise and new tools are being developed to more accurately measure certain aspects of quality and teacher interaction. Although some teachers may be hesitant to make changes within their programs, having a supportive work environment can aide in encouraging them to apply developmentally appropriate practices. As research continues within the fields of professional development and which aspects of quality will most influence a child's developmental success, more reliable tools will be developed that allow educators to pin point specific practices that have the largest impact.

Overall, professional development should be available to early care and education professionals through a variety of methods so that these adults can select what is most useful to their own personal learning style and that is relevant to their practice. This review of adult learning research suggests that adults must be able to see the link to practice and make the content directly applicable to their work. Research on education levels of teachers has also shown the importance of having early childhood content and receiving feedback on teaching practices. Allowing teachers to target specific teaching strategies and practices within the

classroom helps them provide high quality environments for young children and improve

specific developmental outcomes.

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