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# Early Childhood Education Trainers' Knowledge and Use of Andragogical Principles

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This is to certify that the doctoral study by

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## Abstract

Early childhood education (ECE) teachers often lack the experience and skills to provide children with supports necessary to foster academic and social skill development. Professional development can improve ECE teachers' skills, but ECE trainers often lack understanding of adult learning principles, known as andragogy. Knowles' conceptual framework of andragogy was used to explore the knowledge and use of andragogical principles of 8 ECE trainers selected via criterion-based purposive sampling. The research questions focused on ECE trainers' knowledge and use of andragogical principles. Three cases, each consisting of 2 or 3 live professional development trainings for early childhood educators, were used in this study. Data sources included (a) observations of ECE trainings, (b) semi-structured interviews with ECE trainers, and (c) content analysis of ECE training materials. Thematic analysis revealed that although participants were not formally trained in andragogy and were unfamiliar with the associated verbiage, most had a strong grasp of andragogy and used andragogical principles to drive the development and presentation of their training materials. The 3 main themes that emerged were (a) lack of training/background in andragogy, (b) training strategies employed, and (c) training design. Findings from this study provide an original contribution to the limited existing research on the professional development of early childhood educators and expand the existing body of research on andragogy. This study contributes to social change by revealing that trainers may benefit from formal andragogical training, which may then improve the education provided by ECE teachers to young children.

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# Dedication

This dissertation is dedicated to my mother, Lillian L. Glover, and to the loving memory of my father, Robert C. Crain, and stepfather, Raymond Glover. Their unconditional love and words of encouragement propelled me to believe I could be the first in my immediate family to earn a doctorate.

# Acknowledgments

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Special acknowledgement to each early childhood education trainer and training organization for sharing time and resources to help make this dissertation possible. May the fruits of my study be valuable to the work you do on behalf of young children with providing high quality professional development to early childhood education adult learners.

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# Chapter 1: Introduction to the Study

## Introduction

Nearly 11 million U.S. children under the age of 5 years spend time in public and private care settings (Child Care Aware, 2012). Early childhood education (ECE) programs are valuable ways to support children's early learning needs, as well as their academic success later in life (Egert, Fukkink, & Eckhardt, 2018; Markowitz, Bassok, & Hamre, 2017; Weber-Mayrer, Piasta, & Pelatti, 2015). The quality of care and education provided to children in ECE programs can significantly influence the development of early language, math, and social skills (Green, 2013). However, ECE teachers often lack the experience and background to provide children with supports necessary to foster such skill development (Egert et al., 2018; Pianta, 2011). Thus, the training and education provided to ECE teachers is critical to the success of children enrolled in ECE programs (Jensen & Rasmussen, 2018). Due to state differences in requirements, credentials, and teacher preparation, the nature of the ECE workforce across the United States varies significantly (Gomez, Kagan, & Fox, 2015). These vast differences have resulted in extremely heterogeneous programs and professional requirements in terms of ECE teachers' professional backgrounds, experience, and education (Gomez et al., 2015).

One way to improve the skills and knowledge among ECE teachers is through professional development (PD). Researchers have indicated that ECE programs providing specialized training to teachers generally have more significant and positive influences on children's outcomes (Connors-Tadros & Horwitz, 2014; Ginsburg et al., 2014; Zaslow, 2014). While the body of research on ECE PD is small, it is slowly

growing. Researchers are steadily discovering the characteristics of ECE teacher PD and training that produce the greatest benefits to children enrolled in ECE programs (Barber et al., 2014; Connors-Tadros & Horwitz, 2014; Egert et al., 2018; Ginsburg et al., 2014; Pianta, 2011; Weber-Mayrer et al., 2015; Zaslow, 2014). However, scholarly understanding of the PD needs of the trainers who facilitate ECE PD is quite limited (Byington & Tannock, 2011). Because training and development among ECE teachers has the potential for significant, positive effects on the academic and social development of young children, it is important to understand the training and development needs of the professionals who facilitate ECE PD.

My aim in this study was to explore ECE trainers' knowledge and use of andragogical principles. In this chapter, I introduce and contextualize the study. The chapter begins with the background of the problem, followed by the problem statement, purpose, research questions, and theoretical framework. I briefly review the nature of the study, provide operational definitions, and review the study's assumptions, scope, delimitations, and limitations. The chapter closes with the study's significance to social change and a short summary.

## Background

Professional development trainers are often chosen based on their status as subject matter specialists for topics of interest (Kaufman, 2015). However, an individual who is a subject matter expert has not necessarily mastered adult learning principles, often referred to as andragogy (Knowles, 2011). The role of andragogy in PD has been explored in a variety of training contexts for professionals including nurses (Curran,

2014; Ward, Knowlton, & Laney, 2018), public school principals (Hardwick-Franco, 2018; Zepeda, Parylo, & Bengtson, 2014), medical professionals (Chacko, 2018; Rener-Primec et al., 2012), military professionals (Ferguson, 2015), and business and life coaches (Lubin, 2013).

Despite the importance of effective PD for educators, a dearth of andragogical research in ECE exists (Byington & Tannock, 2011). ECE trainers often provide education, training, and technical assistance to early childhood educators (Egert et al., 2018; NAEYC, 2011). Research on andragogical practices among ECE trainers has indicated that trainers often lack understandings of adult learning principles (Barber, Cohrssen, & Church, 2014; Byington & Tannock, 2011; Powell, Diamond, Burchinal, & Koehler, 2010). Further, discrepancies exist in the learning formats that ECE trainers use and the formats that early childhood educators find most beneficial (Barber et al., 2014). As Powell et al. (2010) explained, the fledgling body of research on ECE PD has "reached a point where greater consideration of pedagogical differences in the design and delivery of PD programs would advance researchers' understanding of PD intervention effects" (p. 300). That is, andragogical research on ECE PD is needed to address a gap in practice and improve the quality and effectiveness of trainings.

Much of the existing research on ECE PD has focused on the contexts in which development occurs (Hoekstra, Korthagen, Brekelmans, Beijaard, & Imants, 2009; Jensen & Rasmussen, 2018; Pianta, Mashburn, Downer, Hamre, & Justice, 2008; Postholm, 2012) and the effects that the content of ECE PD has on children (Bierman et al., 2008; Clements & Sarama, 2008; Domitovich et al., 2009; Markowitz et al., 2017;

Powell et al., 2010). Although important, this emphasis on context and content has resulted in research gaps regarding knowledge of the cognitive processes of PD at the micro level (Evans, 2014). This gap in knowledge is reflected in the high level of interest in training on adult learning principles expressed by ECE trainers (Byington, 2009; Byington & Tannock, 2011). The disconnection between andragogy and ECE trainers can result in poor knowledge transfer and impede the overall goals of in-service trainings (Curran, 2014).

ECE is a segment of the educational industry that typically receives insufficient funding (O'Sullivan, 2013); thus, it is essential that PD dollars appropriated for early childhood educators are used effectively. Nationwide, approximately 11 million children under the age of 5 years attend some sort of early childcare center (Child Care Aware, 2012) and are cared for by over 2 million early childhood educators and caregivers (Brandon, Stutman, & Maroto, 2010). The care and education that children receive during early childhood can have a significant impact on their language skills, social skills, behaviors, and school readiness (Egert et al., 2018; Green, 2013). One of the most important factors in the quality of care provided to young children is the training that early childhood educators receive (Green, 2013; Smith, 2015).

## Problem Statement

Scholars have indicated that ECE trainers often lack understanding of adult learning principles (Barber et al., 2014; Byington & Tannock, 2011; Powell et al., 2010). Consequently, the training formats and learning principles employed during ECE PD rarely align with the learning needs and preferences of early childhood educators (Barber

et al., 2014). Although researchers have explored andragogical knowledge and use among trainers in other disciplines (Chacko, 2018; 2014; Ferguson, 2015; Hardwick-Franco, 2018; Ward et al., 2018; Zepeda et al., 2014), little is known about andragogy among ECE trainers. Most of the existing research on ECE PD has focused on training contexts and the effects of ECE PD on children (e.g., Hoekstra et al., 2009; Jensen & Rasmussen, 2018; Markowitz et al., 2017; Novitasari & Sugito, 2018; Postholm, 2012). Thus, the problem I addressed was the significant knowledge gap regarding ECE trainers' knowledge and use of andragogical principles.

## Purpose of the Study

The purpose of this study was to explore ECE trainers' knowledge and use of andragogical principles. A better understanding of ECE trainers' existing knowledge and use of adult learning principles may allow organizational leaders and other stakeholders to create specialized training to develop ECE trainers into more effective educators of adults. To address the study problem, I explored ECE trainers' use and implementation of adult learning principles via observations of ECE professional development trainings, interviews with trainers, and content analysis of training materials used during trainings.

## Research Questions

The study was guided by the following research questions:

RQ1: What, if any, understandings do ECE trainers have of Knowles' six andragogical principles?

RQ2: How do ECE trainers implement Knowles' six andragogical principles when facilitating professional development?

## Conceptual Framework

The conceptual framework for this study was based on Knowles' (1980) concept of andragogy, which he developed to describe the ways in which adults learn. Andragogy improves communication between students and teachers, helping them to collaborate in ways that meet learners' needs (Chan, 2010). Knowles (2011) argued that adult training and educational programs must be based around learners' needs and interests, rather than just imparting knowledge or skills. Andragogy differs from pedagogy, which "is a teacher-directed authoritative educational system, where the teacher takes complete responsibility to design the material that will be learned, the instructional method that will be used, and the amount of time that will be allotted for each topic" (Albert & Hallowel, 2013, p. 130). The principles of andragogy are based on learners' needs, are more self-directed, promote student-instructor trust, and enhance students' self-awareness (Chan, 2010). Knowles believed that adult learners need to see value in the information they are learning. Andragogical principles can enhance interest and commitment to learning.

According to Knowles (2011), andragogy is based on the following six principles:

1. Self-concept: Adult learners are self-directed, autonomous, and independent.
2. Role of experience: An adult learner's experience is a strong learning resource. Adults often learn by drawing on past experiences.
3. Readiness to learn: Adults are willing to learn things they believe they need to know.

4. Orientation to learning: Adults learn for immediate application, rather than for future use. The learning orientation of adults is problem-centered, task-oriented, and life-focused.
5. Internal motivation: Adults are internally motivated.
6. Need to know: Adults need to understand the value of learning and why they need to learn (Chan, 2010).

I developed this study around the six andragogical principles outlined above. These principles guided my observations of ECE trainings, analysis of training materials, and interviews with ECE trainers. A deeper discussion of this conceptual framework and key elements related to this study are provided in Chapter 2.

## Nature of the Study

In this study, I investigated ECE trainers' understanding and implementation of Knowles' (2011) six principles of andragogy. As mentioned earlier in this chapter, these six principles are (a) self-concept, (b) role of experience, (c) readiness to learn, (d) orientation to learning, (e) internal motivation, and (f) need to know. I used an embedded, multiple case study design (Yin, 2011). According to Yin (2003), a case study design is appropriate when the goal of the research is to investigate *how* and *why* questions. Thus, a case study design was appropriate for seeking an understanding of *how* ECE trainers employ existing andragogical knowledge during trainings. The study consisted of three cases, which were defined by three different types of training organizations, including those that provide trainings for (a) state-funded ECE centers such as Head Start, (b) private ECE centers, and (c) home-based centers.

Each case consisted of two or three live PD trainings for early childhood educators. I included data from a total of eight trainings. Within each case, I analyzed the following three embedded units: (a) observations of ECE trainings; (b) face-to-face, semi-structured interviews with ECE trainers; and (c) content analysis of ECE training materials. I chose a multiple case study design over a holistic single case design because the context of each case was unique, yet complementary (see Baxter & Jack, 2008).

The ECE trainers were located in an urban area of Texas. To be eligible to participate, individuals had to have at least 2 years of experience working as an ECE trainer, a minimum of 2 years of classroom experience working with young children (ages birth to 5 years), and at least a bachelor's degree in the disciplines of ECE, child development, and/or early intervention.

I collected data via (a) observations of ECE trainings; (b) face-to-face, semi-structured interviews with ECE trainers; and (c) content analysis of ECE training materials. First, I attended a live workshop or training for early childhood educators and took field notes on the trainer's use of andragogical principles throughout the session. Each observed training lasted at least 1 hour. I observed three types PD trainings for early childhood educators who worked for (a) state-funded ECE centers such as Head Start, (b) private ECE centers, and (c) home-based providers. Each of the three cases were represented by one of these types of training providers. Following each workshop or training, I interviewed the trainer who served as the main facilitator. Interviews were 60 minutes or less in length.

A panel of subject matter experts (SMEs) validated my interview protocol. Using my personal industry contacts, I recruited two SMEs, including (a) the director of continuing education at a local school district, and (b) an ECE education consultant supporting early learning publishing companies with professional development and curriculum implementation. I designed interview questions to explore ECE trainers' understandings of Knowles' (2011) principles of andragogy. Specifically, I used interview questions to gain an understanding of trainers' educational background in andragogy (*what* they know, *how* they gained that information), and *how* they employed that knowledge when designing and facilitating trainings with early childhood educators. Finally, I conducted a content analysis of the materials used during the training, such as PowerPoint presentations and handouts.

Data were organized by individual trainings for analysis. That is, I thematically and holistically analyzed data collected from each training (interviews, observations, and training materials). I transcribed audio-recorded interviews. I then employed Braun and Clarke's (2006) approach to thematic analysis on all data sources for each training. This form of analysis includes the following: (a) reading and re-reading data, (b) generating initial codes, (c) combining codes into themes, (d) analyzing themes from a theoretical perspective, (e) developing a definition for each theme, and (f) writing up the results. After the analysis for each individual training was complete, I organized the data into the three cases. This allowed me to make comparisons between each case to explore any differences in andragogical knowledge and practice by training organization type.

The credibility of the study was enhanced through triangulation, the use of two or more sources of data to provide a comprehensive understanding the phenomenon under investigation (Padgett, 2008). Through the thematic analysis process, I was able to cross check data from the interviews transcripts, training observations, and training materials to develop a comprehensive understanding of each training.

## Definitions

*Andragogy:* Andragogy refers to adult learning theory, which involves action, experience, self-direction, and projects (Knowles et al., 2011). It is based on the following six principles: self-concept, role of experience, readiness to learn, orientation to learning, internal motivation, and need to know (Knowles et al., 2011).

*Early childhood education (ECE):* Educational program provided to U.S. children prior to entrance into kindergarten. The aim of ECE is to provide children with academic readiness skills prior to kindergarten that they can use to leverage academic success (Weber-Mayrer et al., 2015).

*ECE teachers:* ECE teachers include childcare workers and preschool teachers (BLS, 2014). Childcare workers provide care for children up to the age of 5 years and often work in private settings. In addition to the responsibilities of childcare workers, preschool teachers provide education to children up to the age of 5 years (BLS, 2014). For the purposes of the current study, both groups of professionals were considered ECE teachers.

*Pedagogy:* Authoritative, teacher-directed learning in which instructors determine what and how content will be taught (Albert & Hallowell, 2013). Pedagogical methods

are more effective with young learners, but adults tend to prefer greater educational autonomy that is relevant to their experiences, interests, and professional needs (Wilkins, 2011).

*Professional development (PD):* Professional development describes educational training activities, seminars, and workshops that increase knowledge among ECE teachers through the provision of strategies and techniques. ECE teachers can then use skills learned through PD to help children meet academic goals (Weber-Mayrer et al., 2015).

## Assumptions

This study was based on several assumptions. Most importantly, I assumed that participating trainers responded openly and honestly to my interview questions. To develop a deep understanding of trainers' knowledge and use of andragogy, it was important that participants felt free to share their thoughts, experiences, and perspectives without censorship or fear of repercussions. To create a setting that encouraged honest and open answers, I explained that all participants' identities would remain completely confidential. Pseudonyms were assigned to participants, as well as to their employing organizations, to ensure that no identifying information appeared in data analysis or results.

I also assumed that participants possessed the knowledge and experience to share their perspectives related to andragogy and ECE training. To facilitate this, only individuals who met the following inclusion criteria were included: (a) at least 2 years of experience working as an ECE trainer, (b) a minimum of 2 years of classroom experience

working with young children (ages birth to 5 years), (c) and at least a bachelor's degree in the discipline of early childhood education, child development and/or early intervention. I also assumed my interview questions, in conjunction with my training observations and analysis of training materials, would appropriately address the research questions. To ensure validity of the protocol for addressing the research questions, I had a panel of two SMEs review it prior to the study.

## Scope and Delimitations

The study was bound by several delimitations. First, the study only included participants located in an urban area of Texas. Although I included trainers employed by three different types of centers (state funded ECE centers, private ECE centers, and home-based ECE providers), I only attended two or three live ECE trainings for each type (for a total of 8 eight trainings). This delimited the number of trainings I attended to eight, which represented a delimited number of trainers and associations. This delimitation prevented generalizability, but that was not the goal of this qualitative case study.

The research was also delimited by the inclusion criteria. Although designed to ensure all participants possessed the knowledge and experience to share their perspectives related to andragogy and ECE training, it was possible that individuals with less classroom or training experience may have valuable insights to contribute. Similarly, individuals with degrees in disciplines other than ECE, child development, and/or early intervention may possess helpful insights into the ECE trainers' use and knowledge of andragogy. However, by limiting participants to those with a formal education in ECE, I

uncovered possible gaps in ECE-related college preparation programs on the topics of adult learning.

Finally, my decisions regarding theoretical framework and methodology were delimiting factors. Although other study designs were available, I chose an embedded, multiple case study design because this type of design is appropriate for exploring *how* and *why* questions (Yin, 2003). Thus, because I aimed to explore *how* ECE trainers employed existing andragogical knowledge during trainings, a case study design was well aligned with my goals for the study. Similarly, competing theoretical frameworks on adult learning exist, such as transformational learning (King, 2000), action learning (Revans, 2011), and project-based learning (Krajcik & Blumenfeld, 2006). However, I chose andragogy because it is one of the most-cited adult learning theories and is directly concerned with *how* adult learning takes place, which was central to the current research.

## Limitations

Time was the main limitation of this study. Data collection for each training occurred during a single point in time. A longitudinal investigation may have been more helpful for detecting differences in andragogical knowledge among various trainers over time and across training topics; however, time constraints were prohibitive of longitudinal investigation. This study was also limited to those organizations and trainers who agreed to participate. Although I ensured the confidentiality of participants and organizations, some organizations may have been reticent to grant study permissions out of concerns that the research may *expose* a lack of knowledge or skills among trainers and reflect poorly on organizations. My guarantee of confidentiality should have

reassured potential participants; however, the nature of this study may have created challenges with recruitment.

This study was also limited to the investigation of ECE trainings and trainers that organizations allowed me to attend. It was possible that organizations would only allow me to attend trainings facilitated by trainers with the most success and experience, thus potentially influencing my data. In terms of the content analysis component of the study, I was limited to analysis of the training materials that ECE trainers provided to me.

## Significance

This study addressed a gap in knowledge and practice by investigating the andragogical knowledge and strategies used by ECE trainers. Early childhood care and education significantly affects the development of children's educational and social skills (Green, 2013). Consequently, one of the most important factors in the quality of care provided to young children is the training that early childhood educators receive (Green, 2013). Due to the growing child population in the State of Texas and the large number of early childhood educators and caregivers, demands for high quality training and education for early childhood educators in Texas are on the rise (Green, 2013). Acknowledging the growing demand for high quality training and the impact of training on the care and development of young children, the Texas legislature passed House Bill 4 in 2015, which provides additional state support for high-quality training and education for early childhood caregivers and educators (Texas Education Agency, 2015). While Bill 4 has made improvements in the funding available for the training and development of early childhood educators, training dollars remain extremely limited (O'Sullivan,

2013). Thus, effective use of monies set aside for the training and development of early childhood educators is critical.

Albert and Hallowel (2013) indicated that the implementation of andragogical principles can significantly improve the transfer of knowledge from trainers to attendees of PD trainings and workshops. In addition, andragogical research may facilitate the development of more effective ECE PD (Sheridan, Edwards, Marvin, & Knoche, 2009). Thus, exploration of the andragogical knowledge and facilitation techniques of ECE trainers may help training and educational companies improve the effectiveness of trainings for early childhood educators, which may lead to better care and education for young children, as well as more effective use of funds designated for the development of early childhood educators. Findings from this study provide an original contribution to the limited existing research on the PD of early childhood educators and expand the existing body of research on andragogy.

The setting for the research was also significant. I chose the State of Texas for a couple of reasons. As of 2012, there were over 68,000 childcare providers working in over 23,000 facilities throughout the state (Child Care Aware, 2012). Demands for early childhood education trainers have grown in recent years in accordance with increases in the number of state-mandated annual training hours required of care providers and facility directors (Green, 2013). The specific urban location selected for this study was chosen for its large population of children; the location has experienced some of the state's sharpest increases in the population of young children (Frey, 2011).

## Summary

The care and education provided to children prior to entry into kindergarten has a significant effect on their academic success throughout life (Green, 2013). Thus, it is important that the ECE teachers who care for and teach young children possess the knowledge and skills to be effective. One way to improve the knowledge and skills of ECE teachers in through PD. Due to budgetary constraints, many childcare centers are only able to provide limited training to ECE teachers; thus, it is critical that the limited training that teachers do attend is maximally effective. The effectiveness of adult PD can be significantly enhanced through the utilization of adult learning principles, or andragogy. Research indicates that ECE trainers may lack knowledge and skills needed to utilize andragogy during ECE PD (Byington & Tannock, 2011); thus, my research was needed to shed light on ECE trainers' knowledge and use of andragogy. Exploration of the andragogical knowledge and facilitation techniques of ECE trainers may help training and educational companies improve the effectiveness of trainings for early childhood educators, which may lead to better care and education for young children. Findings from this study provide an original contribution to the existing research on the PD of early childhood educators and expand the existing body of research on andragogy.

This chapter served as an introduction to my study. I presented the problem statement, purpose statement, nature, theoretical framework, and operational definitions. In addition, I reviewed assumptions, limitations, and delimitations inherent to the study. The following chapter includes an overview and synthesis of the existing research on ECE and PD.

# Chapter 2: Literature Review

## Introduction

Although researchers have explored trainers' use and knowledge of andragogy in other disciplines (Curran, 2014; Egert et al., 2018; Ferguson, 2015; Jensen & Rasmussen, 2018; Lubin, 2013; Markowitz et al., 2017; Rener-Primec et al., 2012; Zepeda et al., 2014), little is known about andragogy among ECE trainers. Most of the existing research on ECE PD focuses on training contexts and the effects of ECE PD on children (e.g., Bierman et al., 2008; Clements & Sarama, 2008; Domitovich et al., 2009; Hoekstra et al., 2009; Pianta et al., 2008; Postholm, 2012; Powell et al., 2010). Thus, the problem I addressed in this study was the significant knowledge gap ECE trainer's knowledge and use of andragogical principles. The purpose of this qualitative study was to explore the knowledge and use of andragogical principles among ECE trainers.

This chapter helps to contextualize my research by providing an analysis and synthesis of existing research on the topics of ECE and PD. It begins with a description of the search strategy I employed to locate studies discussed in this chapter. Next, the theoretical framework based on Knowles' (1980) theory of andragogy is discussed. Because the principles of andragogy formed the foundation for the research, I included a significant examination of the theory in the context of ECE. Finally, I provide a synthesis of existing research to support the need for the current study.

## Literature Search Strategy

I used several databases accessed through Walden University's online library to locate literature for review including Academic OneFile, ProQuest, JSTOR, Academic

Search Premier, Gale InfoTrac, Digital Commons, Education Source, SAGE, Taylor & Francis Online, IngentaConnect, Project MUSE, ScienceDirect, ABI/INFORM, and Wiley. I also used Google and Google Scholar to locate additional sources. When possible, I limited studies to those published within the last 5 years; however, older seminal works were included, especially those pertaining to the theory of andragogy. I used several search terms, including the following: *early childhood education, preschool, pre-kindergarten, Head Start, professional development, student achievement, school readiness, literacy, andragogy, self-concept, adult learning, pedagogy, childcare workers, ECE, education funding, workshops, mentoring, coaching, in-service training, pre-service training, teaching credentials, continuing education, professional development facilitators,* and *trainers*.

## Conceptual Framework

The conceptual framework for the study was based on the theory of andragogy. This section includes a discussion of the background and development of the theory. In addition, I provide a brief discussion of relevant studies.

### Andragogy

Pedagogy describes authoritative, teacher-directed learning in which instructors determine what content will be learned and how it will be taught (Albert & Hallowell, 2013; Ha, 2018). Pedagogical methods are often useful when teaching young learners, but are less effective with adult learners. Unlike young learners, adult learners prefer greater autonomy and are more likely to engage with educational materials that are relevant to their experiences, interests, and needs (Brockett & Hiemstra, 2018). As

Albert and Hallowell (2013) explained, when adult learners understand the value and reason for learning, they are more committed to learning. In addition, adults are more motivated to learn when collaborating with other learners and when working to seek solutions to common problems. To design PD for adult learners, programs must be learner-centered. The major differences between andragogy and pedagogy are summarized in Table 1.

Table 1

*Differences Between Andragogy and Pedagogy*

| Assumption | Andragogy | Pedagogy |
|---|---|---|
| Need to know | Adult learners need to know how learning will be beneficial to them before engaging in the learning process | Traditional learners do not usually need to know exactly how learning will benefit them before engaging in learning, and are comfortable following directions given by a teacher |
| Learner self-concept | Adult learners prefer to be self-directed and believe they are capable of making decisions regarding their learning | Traditional learners are usually dependent, rely on the expertise of their instructors, and are more willing to accept imposed learning methods |
| Experience of learners | Adult learners often have diverse backgrounds, education, and experiences, which are valuable resources to utilize during the learning and inquiry process | Traditional learning methods rely on the experience of the teacher and his or her instructional resources. It is often assumed that traditional learners have inadequate experience and background in content knowledge to warrant consideration |
| Readiness to learn | Adult learners are often open to learning things that are essential to dealing with problems and issues in real life | Traditional learners are ready to learn whatever is imparted by the teacher |

(*table continues*)

| Assumption | Andragogy | Pedagogy |
|---|---|---|
| Orientation to learning | Adult learners are usually task or problem-centered and prefer learning lessons that they can apply practically to their life experiences | Traditional learners are subject-oriented and follow the material based on subject or other logical organization |
| Motivation | Adult learners are motivated by some external factors (such as promotions and salaries), but they are more likely to be intrinsically driven by factors that will enhance their quality of life or improve job satisfaction | Traditional learners are driven by external factors such as recognition, good grades, or pressure from parents. |

*Note.* From " Revamping occupational safety and health training: Integrating andragogical principles for the adult learner" by A. Albert and M. R. Hallowel, 2013, *Australasian Journal of Construction Economics and Building*, 13, 132-133.

The foundation for modern andragogy is steeped in Kapp's 1833 discussion of educational theory (Attebury, 2014). The theory of andragogy is based on humanistic and pragmatic philosophies, and the term was first used by Knowles to describe Plato's instruction to adult students (Knowles, Holton, & Swanson, 2011). The concept became common among European scholars in the mid-twentieth century, but Knowles (1980) is credited for andragogy's growing presence in U.S. scholarship (Attebury, 2014). Knowles' principles of andragogy, also referred to as *assumptions*, have been widely adopted by scholars in a variety of disciplines (Cohen & Billsberry, 2014; Gill, 2010; Henning, 2012).

Adult learning theory involves learning through action, experience, self-direction, and projects (Knowles et al., 2011). Andragogy differs from pedagogy, which is authoritative and teacher-directed (Albert & Hallowel, 2013). The principles of

andragogy are based on learners' needs, are more self-directed, promote student-instructor trust, and enhance students' self-awareness (Chan, 2010). Knowles (2011) believed adult learners need to see value in the information they learn. Through andragogical principles, this understanding can enhance a learner's interest and commitment to learning. At its core, andragogy requires that adult learners are active participants in the learning process and emphasizes the process and relevance of learning over the actual content of the curriculum (Curran, 2014).

According to Knowles (2011), andragogy is based on the following six principles:

1. Self-concept: Adult learners are self-directed, autonomous, and independent.
2. Role of experience: An adult learner's experience is a strong learning resource. Adults often learn by drawing on past experiences.
3. Readiness to learn: Adults are willing to learn things they believe they need to know.
4. Orientation to learning: Adults learn for immediate application, rather than for future use. The learning orientation of adults is problem-centered, task-oriented, and life-focused.
5. Internal motivation: Adults are internally motivated.
6. Need to know: Adults need to understand the value of learning and why they need to learn. (Chan, 2010)

Originally, Knowles' (1973) theory of andragogy was based on just four of the assumptions listed above (self-concept, role of experience, readiness to learn, and

orientation to learning). In the following subsections, I offer a more complete discussion of these andragogical assumptions.

**Self-Concept**

The first assumption of andragogy is based on the idea that adults prefer self-directed learning. Adults' pursuit of education and training is a choice, and adults are able to decide what topics they expand their knowledge in, in a way that children cannot. As adult learners mature, they become increasingly self-directed and more likely to recognize their own learning needs, create learning goals, locate educational resources, and develop personal learning strategies (Knowles, 1973). Adult educators can employ Knowles' first assumption through appreciative inquiry (Hagen & Park, 2016), and leaders can permit more choice and autonomy by allowing professionals to have a choice regarding the types of trainings and seminars they attend.

**Role of Experience**

Because adults enter learning situations with an existing wealth of knowledge and experience, it is essential that adult learning build upon existing knowledge in order to fill gaps and complement what they already know (Knowles, 1980). In addition, experience will influence the ways in which adult learners approach learning (Curran, 2014). Two ways that trainers can elicit adults' existing experience and knowledge in learning situations is through problem-based and experiential learning (Hagen & Park, 2016). In addition, peer learning is an effective way for emphasizing the role of experience in adult learning (Curran, 2014).

**Readiness to Learn**

As adults mature, they become increasingly interested in learning opportunities that are oriented toward solving problems and developing skills they need to improve in their roles, both professionally and socially (Taylor & Kroth, 2009). On the contrary, adults may demonstrate little interest in learning new knowledge and skills that are not relevant to their roles (Hagen & Park, 2016). The goal of this andragogical assumption is to help learners define their interests and learning needs within the facilitator's instructional framework (Hagen & Park, 2016). According to Knowles (1980), the readiness to learn should be the central principle upon which adult learning is based because adults are most receptive to learning skills and knowledge that they can actively apply to real-life scenarios (Hagen & Park, 2016). In order to ensure that this principle is met, PD designers and facilitators should utilize needs assessments to identify areas of need among adult learners (Curran, 2014).

**Orientation to Learning**

In addition to being able to apply knowledge and skills acquired in adult learning situations, it is also important that the knowledge and skills acquired can be applied to learners' *present* situations. That is, "Adults regard learning as a process for improving their ability and competence to deal with practical problems they currently have" (Hagen & Park, 2016, p. 180). Thus, PD facilitators should provide learners with opportunities to practice application of learning to professional situations they are likely to encounter. Fogarty and Pete (2004) made the following five suggestions for integrating adult learning principles into PD:

1. PD should be sustained and implemented over time.
2. Training should occur at, or be otherwise embedded, in the work site.
3. Training should be interactive, inviting the active engagement and involvement of participants.
4. PD should be collegial through the intentional creation of a supportive learner community.
5. Training should integrate a variety of modes, such as textual, online, and in-person.

**Internal Motivation and Need to Know**

After the development of the aforementioned four assumptions, Knowles et al. (2011) added the following two additional assumptions: (a) internal motivation and (b) need to know. These assumptions posited that adults are more internally driven to learn and more likely to put effort into learning when they understand the reasons for doing so (Knowles et al., 2011). If they feel like learning is being imposed on them, and they are not provided with an understanding for learning, adult learners will often resist learning (Curran, 2014).

Ultimately, Knowles et al. (2011) believed that when adults are given a greater degree of control and autonomy over the learning process, the rate of knowledge transfer increases. Knowledge transfer describes the creation, dissemination, and adoption of new information and can be used to assess the effectiveness of teaching strategies (Curran, 2014; Li & Luo, 2011). As Curran (2014) explained, andragogy supports self-directed learning; consequently, curriculum and teaching methods that are self-directed and

learner-centered promote transfer of knowledge into a learner's professional experience. Andragogical assumptions can be integrated into adult learning in a variety of ways, including needs assessments, problem-solving scenarios, group discussions, role-playing, learning games, and integrating short periods of lecture into interactive and collaborative learning activities (Curran, 2014).

**Andragogy Research**

Although a significant body of research exists on andragogy, studies on andragogy and ECE teachers and trainers are lacking. Thus, it is necessary to analyze andragogical PD research in other disciplines. For example, Kaufman (2015) conducted a study to explore correlations between adult trainers' teaching experience, professional disciplines, and their use of andragogical principles when facilitating trainings. Participants included 393 professional trainers from the following eight primary categories of disciplines: (a) business, (b) construction and engineering, (c) education and vocational training, (d) health care, (e) information technology, (f) law and criminal justice, (g) natural and physical sciences, and (h) social sciences and humanities. Participants completed a survey that gathered information on their fields, training experience, and typical training settings. The survey also included Knowles' (2005) Personal Adult Learning Style Inventory (PALSI), which was used to assess individuals' understandings and use of andragogy. The PALSI consists of 30 items, organized into the following six categories: (a) learning orientation, (b) learning design, (c) how people learn, (d) learning methods, (e) program development, and (f) program administration.

Kaufman's (2015) analysis indicated no significant relationships between participants' training experience, discipline, and use of andragogy. The researcher concluded that "adult educators' professional/academic discipline that the adult educators teach in does not relate to the adult educator's use of andragogy practices to facilitate adult educators' knowledge transfer and exchange sessions" (Kaufman, 2015, p. 71). Regarding andragogical knowledge, 3.8% of participants were classified by the PALSI as pedagogically oriented, 39.4% were classified as andragogically oriented, and 56.7% indicated a lack of commitment to either andragogical or pedagogical orientations. Findings from Kaufman's study are significant because they indicated that a lack of andragogical knowledge seems to be a problem across trainer disciplines, and experience may not correlate with greater andragogical knowledge. That is, andragogical orientation is not something that increases as trainers gain experience. Rather, adult trainers may need explicit and continued training in andragogy in order to maximize the effectiveness of PD design and execution.

Kaufman's (2015) indicated that although a trainer may be an expert at developing and facilitating PD on the topics of education and vocational training, this does not mean he or she has any greater understanding of andragogical assumptions than trainers in other fields. Thus, it is dangerous to assume that ECE trainers understand andragogy simply because they may be content experts in education. In fact, it is possible that ECE trainers who teach pedagogical skills to ECE teachers may have a tendency to orient to pedagogy, rather than andragogy, without having an explicit understanding of the differences between principles of adult and child learning.

While Kaufman's (2015) research focused on andragogy in traditional PD settings (i.e., seminars and workshops), Lubin (2013) explored andragogy within the more intimate PD platforms of coaching and mentoring. Lubin posited that coaching might be particularly effective for engaging adult learners through the principles of andragogy. The researcher conducted a mixed methods exploratory study on business and life coaches to investigate the extent to which relationships existed between andragogy in practice and coaching techniques demonstrated by participants. Specifically, Lubin investigated which andragogical principles were most reflected in participants' coaching practices, and what best practices were among coaches who employed andragogy. The researcher found that andragogy was a state of being for coaches, moving beyond techniques and methods to a holistic application of andragogical principles. While none of the participants knew what the six assumptions of andragogy were, they were all intuitively implementing the principles in their coaching and based on their own personal and professional experiences. That is, the coaches in Lubin's study employed the principles of andragogy without even knowing it. This finding is relevant to the current study because Lubin indicated that even if ECE trainers cannot list and describe andragogical principles, or have never heard of Knowles, they may still be implementing the principles, instinctively.

It is important to note that Lubin (2013) studied business and life coaches who may teach adults in significantly different ways from trainers who facilitate PD. In addition, although one-on-one coaching is an effective PD platform for ECE teachers, this strategy is not likely to be cost effective or fiscally realistic for many of the

constrained ECE budgets under which public programs and private centers operate. For these reasons, my assessment of ECE trainers' andragogical knowledge in the current research used the following three sources of data: individual interviews, content analysis of program materials, and observations of the trainings. In this way, even if trainers were unable to explain adult learning principles during interviews, I was able to determine whether they intuitively employed andragogical strategies through my analysis of their training content and presentation strategies.

The use of andragogy has been studied in a variety of training contexts, beyond business and education. For example, Ferguson (2015) assessed knowledge and application of andragogical assumptions at a U.S. Army academy for noncommissioned officers. The sample consisted of 16 students and four instructors. Students completed the andragogy in practice inventory, and instructors completed the modified instructional perspectives inventory. Ferguson reported that the academy integrated a blend of pedagogy and andragogy, although learners expressed an awareness of their life goals, motivation to learn, self-direction, and responsibility. The researcher recommended further research to determine the effectiveness of the Army learning model and consideration of more learner-centered approaches.

An important component of andragogy is the facilitation of cognitive processes that make learning meaningful (Mayer, 2011). Cognitive processing describes an individual's ability to absorb information, organize it, and then integrate that new information with existing knowledge (Mayer, 2011). Trivette et al. (2009) explored the effectiveness of different adult learning methods and found that those instructors who

actively involved learners in cognitive processing had the most positive outcomes. The researchers reported several activities aimed at cognitive processing to be particularly effective, including (a) practice applying new knowledge to problem-solving tasks, (b) self-assessment of strengths and weaknesses, (c) reflecting on new knowledge, and (d) demonstrating new knowledge through simulation. In a study on the relationship between neuroscience and andragogy, Hagen and Park (2016) found that andragogy may improve adult learners' encoding, retention, and recall.

In a study on PD in the field of education, Zepada et al. (2014) explored the characteristics of adult learning embedded in PD for school principals. The researchers employed a case study design to explore the PD practices in four school districts in the State of Georgia. Eighteen individuals participated, including superintendents, assistant superintendents, human resources directors, and school principals. Data were obtained through one-on-one interviews and document analysis. The cross-case analysis indicated several practices for effective andragogy-based PD, including ongoing and embedded learning, collaboration, and a focus on student achievement. The researchers also explained that the practices were oriented toward professionals' goals and were problem-centered. Although a degree of self-directed learning was noted, Zepada et al. noted that tensions existed between PD options selected by educational leaders, which limited principals' abilities to direct their own PD needs. The researchers recommended that principals be provided with greater autonomy to make choices regarding their PD. In addition, the researchers urged PD developers and facilitators to make sure that PD is

aligned with the needs of participants, the system, and is situated on a platform that supports adult learning.

## Early Childhood Education

The need for ECE in the United States began to grow in the 1960s as more women joined the workforce (Gomez, Kagan, & Fox, 2015). A wide range of ECE programs with different goals were developed, including private nursery schools and publicly funded programs such as pre-K and Head Start (Gomez et al., 2015). Because public ECE programs are state funded, the varied budgets and investments of states have created a patchwork of ECE programs that lack common characteristics and goals (Gomez et al., 2015). Similarly, the nature of the ECE workforce varies across the country due to differences in the requirements, credentials, and preparation of ECE teachers (Gomez et al., 2015).

According to Child Care Aware (2012), nearly 11 million U.S. children under the age of 5 years spend time in public and private childcare settings. Authors of research indicated that the demand for early childhood services and teachers is expected to grow as an increasing number of women around the world return to paid employment after giving birth (Jovanovic, 2013). ECE is a valuable way to support early learning, and efforts aimed at improving ECE are based on research that indicates ECE can explain for variances in children's academic outcomes (Weber-Mayrer et al., 2015). The academic readiness skills that children possess upon entry into kindergarten are key to leveraging their success in school. Because of this, educational policymakers and staff members of programs such as the *Federal Race to the Top Early Learning Challenge* have

emphasized the importance of ECE (Pianta et al., 2014). Nurturing learning and development among young children requires skilled instruction, warm interactions, responsiveness, and verbal stimulation from ECE educators (Pianta, 2011).

The quality of care and instruction provided to young children can make a significant difference in the development of early language, math, and social skills (Green, 2013). To maximize the effectiveness of ECE, educators must "intentionally and strategically weave instruction into activities that give children choices to explore and play, must engage them through multiple input channels, and should be embedded in natural settings that are comfortable and predictable" (Pianta, 2011, p. 5).

The benefits of ECE are particularly significant among disadvantaged children. Academic achievement is boosted to a greater degree by ECE among disadvantaged children (Domitrovich et al., 2009). Despite its potential benefits, most disadvantaged children are not exposed to adequate levels of instructional support in ECE programs to have a significant influence on academic achievement gaps (Pianta, 2011). According to Pianta, there are a few plausible reasons for the low levels of academic support provided by ECE educators including (a) difficulties inherent to teaching young children, (b) high levels of poverty and other forms of social disadvantage among many children who attend publicly-funded ECE programs, such as Head Start; and, (c) inadequate economic resources available to ECE programs (Weber-Mayrer, Piasta, & Pelatti, 2015). The quality of ECE programs is largely contingent upon ECE teachers' skills to meet the needs of children, especially in terms of academic preparation. Thus, the training and

education provided to ECE teachers is fundamentally important to the success of children in ECE programs.

**ECE Teachers**

Over 2 million individuals provide care to young children in the United States (Green, 2013). As Gomez et al. (2015) explained, vast differences in program types and professional requirements have resulted in an ECE workforce that is extremely diverse in terms of professional backgrounds, experiences, and education levels. According to the Bureau of Labor Statistics (BLS; 2014), ECE workers include the two main categories of childcare workers and preschool teachers. Childcare workers include individuals who care for children up to the age of five years, and typically work in private childcare programs. In addition to the responsibilities of childcare workers, preschool teachers provide education to children up to the age of five years (BLS, 2014). For the purposes of the current study, both categories of professionals were considered part of the workforce of ECE teachers.

In terms of race and gender demographics, the ECE teaching workforce is quite homogenous. According to the BLS (2014), 94.8% of childcare workers are women, and 97.8% of preschool teachers are women. The workforce is also quite homogenous in terms of race, with 70.5% of preschool and 61% of childcare workers identifying as White. However, "despite the uniformity in the ECE teaching workforce's gender and race, their levels of experience and education vary significantly" (Gomez et al., 2015, p. 171). According to research conducted by Maroto and Brandon (2012), 7% to 12% of childcare workers have an associate's degree, 11% to 17% have a bachelor's degree, and

less than 4% have advanced degrees. Preschool teachers tend to possess more advance levels of education, with 28 to 73% holding bachelor's degrees (Maroto & Brandon, 2012). Variations in professional requirements to become ECE teachers, low levels of compensation, and the multiple pathways for PD has resulted in a field of professionals that lacks support. Inadequate ECE PD is the result of poor quality in the delivery of training, unequal access to services, inadequate funding, and poor implementation fidelity (Gomez et al., 2015). Because the effectiveness of adult learning is often influenced by learners' characteristics, and because andragogy (Knowles, 1968) is based on the idea that effective PD must be learner-centered, it is important to understand the backgrounds and experiences of ECE teachers and how those characteristics may influence their learning. As Weber-Mayrer et al. (2015) explained, "According to andragogy, such factors may influence educators' selection of PD experiences and the desired depth of coverage" (p. 46).

ECE teachers generally have less formal training and education than other teachers (Maroto & Brandon, 2012; Rhodes & Huston, 2012). Coupled with poor funding, turnover tends to be high among ECE teachers (Gomez, Kagan, & Fox, 2015; Jovanovic, 2013). For example, in a study on education, training, job satisfaction, and turnover intentions among 32 ECE teachers, Boyd (2013) reported that only 15 teachers planned to remain in the field of ECE. Participants felt their roles and responsibilities required a great degree of training and expertise; yet, "they were expected to increase their qualifications, participate in professional development trainings and take on more responsibilities while at the same time experience wage stagnation or cutbacks and a

decrease in their benefits" (Boyd, 2013, p. 16). The result is a constantly changing workforce with varied backgrounds, experiences, and beliefs regarding the education of young children (Maroto & Brandon, 2012; Weber-Mayrer et al. (2015). The problem of turnover is particularly relevant to the current research on ECE PD because, as Jovanovic (2013) reported, most ECE teachers express a desire to increase their professional knowledge and skills so they may learn to better support young learners.

## Professional Development

Professional development (PD) is defined as "activities that increase educator knowledge and advance effectiveness of instruction, with the goal of furthering educators' understandings of strategies for supporting children to meet challenging academic content and achievement standards" (Weber-Mayrer, Piasta, & Pelatti, 2015, p. 44). PD is often described using various terms, including *in-service training* and *workshops* (Lauer, Christopher, Firpo-Triplett, & Buchting, 2014). Among ECE professionals, PD activities are usually defined as preservice and in-service training. Preservice training describes that which individuals complete prior to entering the profession, while in-service training describes ongoing PD that professionals participate in after they begin working in an ECE setting (Gomez et al., 2014). The goal of in-service training is to improve the skills or expertise of ECE teachers. Upon completion of different types of in-service training, ECE teachers may earn different credentials, certificates, or continuing education credits. Although the requirements vary significantly from state to state, 48 of the 50 U.S. states require ECE teachers to participate in annual PD (Gomez et al., 2014).

By helping individuals to build specific skills and knowledge, PD should catalyze intended changes among professionals (Lauer, 2014). According to Guskey (2002), significant improvements in the field of education rarely occur without PD. The goals of PD are to improve the skills, attitudes, and knowledge of educators so that they may improve students' learning (Barber, Cohrssen, & Church, 2014). The improvement of knowledge among educational professionals is typically achieved through PD (Spelman, Bell, Thomas, & Briody, 2016). Professional development can take place in a variety of contexts and is not limited to trainings and events specifically designed to teach professionals (Hoekstra, Korthagen, Brekelmans, Beijaard, & Imants, 2009). As Evans (2014) explained, professional development can occur implicitly through informal interaction with other professionals.

In attempts to maximize the benefits of professional development, stakeholders must understand that more is not always better (Barber et al., 2014). As Guskey and Suk Yoon (2009) explained, extending the length of time with which ineffective things are done does not make them any more effective. This concept is particularly important in increasing the effectiveness of PD because findings from a single study conducted by Garet et al. (2001), who suggested that PD of longer duration was more effective for teachers, is heavily cited in the body of research on PD for education professionals (e.g., Hill, 2007; Hoban & Erickson, 2004; Kennedy, 1999). However, other studies suggest that the duration of PD is less important than *what* is taught and *how* it is taught (e.g., Ingvarson et al., 2005; Lauer et al., 2014). For example, Lauer et al. (2014) conducted a meta-analysis of 23 PD studies to explore the minimum duration of PD needed to effect

positive changes in participants' skills, knowledge, and/or beliefs. The researchers reported that a great deal of the PD activities described in the studies were aligned with andragogy. Table 2 describes the correlations between Lauer's et al. summary of findings on features of effective, short-term PD and Knowles' (2011) principles of andragogy.

Table 2

*Relationship Between Lauer's et al. Findings and Andragogy*

| Principle of andragogy | Feature of effective short-term PD |
|---|---|
| Self-concept: Adult learners are self-directed, autonomous, and independent | Occurs in learner-centered environments and integrates participants' work settings<br>Provides opportunities to practice new skills |
| Role of experience: The repository of an adult learner's experience is a strong learning resource. Adults often learn by drawing on past experiences | Provides opportunities for group discussion, which allow learners to share experiences |
| Readiness to learn: Adults are ready and open to learning the things they believe they need to know | Addresses the needs identified by participants |
| Orientation to learning: Adults learn for immediate application, rather than for future use. The learning orientation of adults | Provides demonstrations of knowledge and skills, such as modeling and vignettes<br>Involves active learning |
| Internal motivation: Adults are more internally than externally motivated | Involves objectives that meet needs identified by participants, and which provide participants with knowledge and skills needed to address professional issues they must deal with |
| Need to know: Adults need to understand the value of learning and why they need to learn | Is based on learning objectives that are clearly communicated to participants |

*Note*. From "The impact of short-term professional development on participant outcomes: A review of the literature" by P. A. Lauer, D. E. Christopher, R. Firpo-Triplett, and F. Buchting, 2011, *Professional Development in Education, 40*, 207-227.

Barber et al. (2014) suggested that the design of PD programs should be a collaborative effort between PD trainers and learners based on teachers' strengths, learning goals, and interests. Collaboration is an important part of PD because teachers may be unwilling to implement new practices unless they feel confident in their abilities to make them work, based on the training and support provided to them. Thus, a collaborative PD process may improve the long-term outcomes of learning sessions by preventing feelings of isolation among teachers and nurturing opportunities for teachers to collaborate with peers, develop understandings, create knowledge, and practice problem-solving (Barber et al., 2014).

**Models of Professional Development**

To be successful, PD programs must demonstrate certain characteristics. First, programs must provide support to teachers as they acquire new knowledge and teaching strategies (Long, 2012). Programs must encourage participant reflection, engagement, and cooperation (Spelman et al., 2016). PD should also demonstrate breadth, while also maintaining meaningful depth (Long, 2012). According to Gomez et al. (2015), the four most common PD modalities employed with ECE teachers include workshops, communities of practice, coaching and mentoring, and credit for relevant experience and education. Workshops describe in-person attendance in classroom settings for a specified amount of time. Communities of practice describe groups of ECE professionals who come together as a group to engage in a shared inquiry (Gomez et al., 2015). Coaching and mentoring describe personalized instruction and assistance provided by a content expert. Finally, credit for previous education or professional experiences may be

awarded in cases when states develop processes through which teachers can demonstrate their expertise on a relevant topic and receive college credit for it (Kagan & Gomez, 2011).

Traditionally, PD has been carried out through in-service training, but authors of research indicated that these delivery methods often result in fragmented and superficial learning (Darling-Hammond & Richardson, 2009). Darling-Hammond and Richardson (2009) reported that traditional PD models emphasized the development of teacher proficiency in content, resulting in no significant effects on student learning. The problem, according to Darling-Hammond and Richardson, was that most PD models focus on a one-time learning session; however, learning is an inherently continuous process. Further, according to Buly, Coskie, Robinson, and Egawa (2006), changes in teacher practices resulting from PD attendance are rare, and less than 10% of teachers typically implement changes learned in workshops or in-service trainings.

In recent years, a variety of PD models have been created. According to Evans (2014), these models tend to be concept- or process-focused. Conceptual models focus on *what* PD is, while processual models focus on *how* professional development occurs. To counter the fragmentation described by Darling-Hammond and Richardson (2009), many new models of professional development are collaborative, ongoing, and learner-centered. The common goal of these models is high quality interaction and support between ECE educators and the children they teach (Pianta, 2011).

**Integrated PD model for professional teaching**. Kuijpers et al. (2010) developed this practice-based model according to nine principles. The researchers

combined the following two PD approaches that are most often employed independently: teaching techniques and developmental-reflective approaches to cognition. Kuijpers et al. reviewed existing PD models to develop the following nine aspects of an integrated PD model:

1. Focusing on school goals, at teacher and student levels;
2. Creating conditions that foster a sense of urgency among participants, clarify the goals of PD, nurture participant/facilitator relationships, and provide appropriate context for the PD;
3. Providing participants with an understanding of the relevance of the knowledge and skills to be acquired through the PD;
4. Allowing teachers to demonstrate skills relative to the information acquired in the PD;
5. Providing a stimulating implementation for teaching competence;
6. Creating secure environments that encourage teachers to become responsible for their own development;
7. Observing teachers' skills to gain insight and assess competence;
8. Post-workshop follow-up, in the form of coaching and feedback; and
9. Evaluating and monitoring after PD.

The nine aspects described above are strongly aligned with Knowles' (1980) theory of andragogy, especially in terms of ensuring that PD addresses participants' professional needs, provides environments that foster collaboration, builds on existing knowledge and experiences, and promotes participants' readiness to learn.

**Quality learning circle.** Lovett and Gilmore (2003) designed the quality learning circle (QLC) based on a variety of features from other PD programs that proved effective. The model encourages collaboration and is learner-focused. Participants of QLC work in small groups of teachers to develop their practices and support each other's education and development. Teachers meet regularly to discuss selected themes and share information and practices relevant to that theme with fellow group members (Lovett & Gilmore, 2003). The QLC model can provide an effective way for teachers to combat the isolation that often accompanies the profession. In terms of andragogy, QLCs can be used to meet the principles of learner self-concept, experience of learners, and orientation to learning.

**Instructional coaching.** Due to criticisms of traditional teacher PD as fragmented and ineffective (Darling-Hammond & Richardson, 2009), some researchers have emphasized the importance of instructional coaching models. As Spelman et al. (2006) explained, "If workshops and professional development in-service experiences alone are insufficient to change teacher practices, then the role of an instructional coach becomes critical" (p. 32). However, budgetary constraints may prevent the implementation of personalized coaching and mentoring among ECE teachers.

## Research on ECE PD

As Pianta et al. (2014) explained, although skill-focused PD is valuable to student-teacher interaction and student outcomes, investigation of the specific features of effective PD is lacking. Researchers indicated that ECE programs that provide specialized training to teachers generally have more significant and positive influences on children's outcomes (Connors-Tadros & Horwitz, 2014; Ginsburg et al., 2014; Zaslow,

2014), but understandings regarding the type and quantity of trainings that have the most positive effects are less clear (Gomez et al., 2014).

One area of teacher PD research that has received scant attention is mentoring/coaching models. In response, Pianta et al. (2014) conducted an investigation of the minimum degree of coaching/mentoring needed to create positive changes in teachers, as well as the point at which greater degrees of coaching results in diminished returns. Participants of Pianta's et al. study included 170 ECE teachers from eight states (New York, Connecticut, Illinois, California, Ohio, Tennessee, North Carolina, and Rhode Island). Teachers participated in the intervention program, My Teaching Partner (MTP), which provided support and activities to participants through a video library, video-based coaching, phone calls, and online assignments. MTP coaching cycles focused on emotional support, classroom organization, and instructional support, and were repeated throughout the year. To assess the teacher-child interaction outcomes of MTP, the researchers utilized the Classroom Assessment Scoring System (CLASS; Pianta et al., 2008) to measure the following dimensions along a 7-point scale: (a) positive climate, (b) negative climate, (c) teacher sensitivity, (d) regard for student perspectives, (e) behavior management, (f) productivity, (g) concept development, (h) instructional learning formats, (i) quality of feedback, and (j) language modeling.

Results from Pianta's et al. (2014) investigation indicated that the more coaching cycles in which teachers participated, the greater change they experienced over the course of the year. However, the researchers also found that teachers' behaviors did not change appreciably after a fixed quantity of coaching. Of the two main modes of the MTP

program—watching videos and responding to prompts—the researchers found that prompts were far more effective for improving all three domains of teacher-child interaction (emotional support, classroom organization, and instructional support). The researchers reported that the videos only seemed significantly valuable for the emotional support domain.

Findings from Pianta's et al. (2014) study echoed those reported in an earlier investigation by Pianta (2011), in which ECE teachers demonstrated significant improvements to their instructional interaction, emotional supports, and organization after receiving significant coaching support. Similar support for the benefits of coaching support to ECE teachers have also been reported by other researchers (e.g., Bryant & Taylor, 2009; Powell et al., 2010).

Pianta (2011) posited that in order to improve the quality of ECE programs and children's school readiness, new ways to support teachers' effectiveness must be developed, especially in the form of PD. Regardless of the quality or type of training provided to ECE teachers, even of proven strategies for improving the educational outcomes of children in ECE programs, the effectiveness was low when quality and implementation fidelity of new skills and knowledge were low (Pianta, 2011). Formal education does not appear to be a strong strategy for ensuring that ECE teachers are prepared with adequate training and skills. Even ECE teachers with 4-year degrees are often poorly prepared to implement appropriate educational activities in ECE classrooms and receive few opportunities to improve those skills (Pianta, 2011). Although researchers (Bryant & Taylor, 2009; Pianta, 2011; Pianta et al., 2014; Powell et al., 2010)

found significant support for PD models that integrated ongoing, individual coaching support for ECE teachers, it is important to remember that such resources may not be available to all programs and ECE professionals. Due to the notorious budgetary constraints of ECE programs, individual coaching and professional consultation for ECE teachers may be an ideal, but unfeasible, option. Thus, while one-on-one coaching is certainly effective for improving the training and knowledge of ECE teachers, it is critical to develop ways to improve the quality and effectiveness of traditional in-service training, which are more likely to be in the financial realm of ECE programs.

Similar to the push for ECE observed in the United States, a surge toward improving ECE in Australia has occurred due to challenges that teachers are having meeting the country's National Quality Standards (ACECQA, 2011). Barber et al. (2014) conducted a case study to explore the professional learning needs of kindergarten teachers in Australia. Similar to the United States' Common Core State Standards, Australia is moving towards more consistency in curriculum and teacher qualifications, making it increasingly important to meet the PD needs of ECE teachers. Participants included 11 lead kindergarten teachers between the ages of 18 and 30 years. Six had completed college degrees, two had post-graduate qualifications, and two held 2-year degrees. Four respondents reported they were allowed to choose the PD sessions they attended, and five respondents reported their employers provided financial reimbursement or time off to attend PD.

In context of the current study, one of the most relevant findings from Barber's et al. (2014) research related to participants' comments regarding the presentation formats

used in PD sessions, as well as their preferred formats for these sessions. Notably, participants preferred hands-on learning and field trips over handouts and PowerPoint presentations, which were the most commonly reported facilitation formats. Thus, one of the implications for practice reported by the researchers was the implementation of more hands-on learning and less lecture-style PD formats. While Barber's et al. study shed light on the preferences of teachers regarding the PD delivery formats, further research is needed to understand why facilitators seemed to favor traditional methods over more collaborative and hands-on delivery. It is possible that facilitators have to operate within constraints that favor traditional lectures, such as limited time. Alternatively, it is possible that facilitators lack understandings of adult learning and the most effective ways to deliver PD, which was explored in the current study.

As Weber-Mayrer et al. (2015) explained,

> Understanding the characteristics of PD participants is a critical first step in aligning PD with principles of adult learning theory to enhance effectiveness, especially as the field moves to serving greater numbers of early childhood educators via large-scale state-implemented PD. (p. 47)

However, studies on large-scale, state sponsored ECE PD have largely failed to examine the variances of learner characteristics that may affect the PD experiences of ECE teachers. Thus, Weber-Mayrer et al. examined the characteristics of ECE teachers participating in PD in the State of Ohio, which emphasizes large PD efforts to improve the overall quality and effectiveness of ECE PD. Participants included 263 ECE teachers who participated in the Assessing Preschool Professionals' Learning Experiences

(APPLE) project, from which study data were drawn. Data were taken from the APPLE project during the fall of 2010 and 2011. Participants ranged in age from 23 to 73 years, with an average age of 41 years.

As part of the APPLE project, teachers completed questionnaires that were used to gather data on education level, majors, credentialing, licensure, teaching experience, and past PD attendance (Weber-Mayrer et al., 2015). Teachers also indicated the following information for their current positions: work setting, accreditation of the program, program type, and class enrollment. The questionnaire also gathered data on teachers' (a) general ECE knowledge, (b) understanding of ECE instructional practices, and (c) knowledge of spoken and written English. General knowledge was assessed via 20 items from the Early Childhood Subject Matter Test from the Massachusetts Tests for Educator License (1998); ECE instructional practices were assessed via the Knowledge Assessment of Early Language and Literacy Development Survey (Neuman & Cunningham, 2009), and written and spoken English knowledge were assessed via the Teacher Knowledge Assessment Survey (Cunningham et al., 2004). The questionnaire also assessed teachers' beliefs related to self-efficacy, openness to change, adult and child-centered perspectives, and constructivist approaches to ECE.

A major finding of Weber-Mayrer's et al. (2015) investigation was a significant variation in the educational backgrounds, experiences, and specialization of ECE PD participants. Accordingly, the researchers explained that PD developers and facilitators should look beyond a *one-size-fits-all* approach to find more individualized strategies that accommodate the vast learning needs and backgrounds of educators participating in

large-scale PD. Weber-Mayrer et al. offered a few suggestions for accommodating the diverse backgrounds of ECE teachers attending large-scale PD. For example, PD may be intentionally differentiated to capitalize on educators' diverse experiences, especially through coaching and opportunities to reflect critically on knowledge and experience. Study and peer coaching groups might also provide effective PD models that acknowledge and attend to differences in ECE teachers. The researchers urged PD developers and facilitators to avoid assuming participants share a common base of knowledge and experience because understanding differences among PD attendees is critical to adult learning theory. Adult learners are more likely to engage with content and training when PD facilitators acknowledge these differences and build upon the varying levels of knowledge and experience among all participants. Weber-Mayrer et al. also urged PD facilitators to understand participants' beliefs in terms of their self-efficacy, orientations to teaching, and openness to change, because these factors significantly influence individuals' willingness to make behavioral changes.

While the understanding and acknowledgment of differences among ECE teachers is critical for planning and implementing effective PD, the study by Weber-Mayrer et al. (2015) did not examine *what* ECE PD trainers knew about adult learning. A disconnection remains between an understanding of what ECE teachers need from PD and how ECE PD trainers can most effectively meet those needs. Further, there are additional andragogical assumptions that ECE PD trainers should implement to maximize the effectiveness of their facilitation; yet, Weber-Mayrer's et al. study only emphasized the importance of integrating one of Knowles (1980) principles of andragogy. Thus, the

current study built upon Weber-Mayrer's et al. investigation by examining what ECE PD trainers understood about all of Knowles' andragogical assumptions and if those adult learning principles were utilized by this sample of PD trainers.

While the body of research on ECE PD is small, it is slowly growing. However, an understanding of the PD needs of the trainers who facilitate ECE PD is almost nonexistent (Byington & Tannock, 2011). Because training and development among ECE teachers has the potential for significant, positive effects on the academic and social development of young children, it is important to understand the training and development needs of the professionals who facilitate ECE PD. To explore the PD needs of ECE trainers, Byington and Tannock (2011) distributed an online survey to ECE trainers in the State of Nevada. The researchers' goals were to assess the PD needs of trainers and to explore whether differences in the needs of new and experienced trainers existed. The researchers utilized a survey instrument consisting of 31 items, including questions regarding demographics, PD facilitation methods, interest in receiving training on adult learning techniques, and strategies trainers already employed to support their own PD needs.

Byington and Tannock (2011) collected completed surveys from 166 ECE trainers in the State of Nevada. The overwhelming majority of respondents were female (97%) and Caucasian (83%). Respondents were asked to indicate the frequency with which they employed 16 different teaching techniques, including the use of handouts, lecture, small and large group activities, games, hands-on learning, icebreakers, PowerPoint presentations, assessments, roleplay, video, music, flipcharts, and journal writing. The

most commonly cited techniques included handouts (86%), lectures (73%), small group activities (72%), and large group activities (69%). In terms of education and training respondents participated in to develop their PD facilitation skills, the most commonly reported behaviors included attending local ECE trainings, attending state and national ECE conferences, and completing college courses in ECE training.

Byington and Tannock (2011) also asked participants about topics related to adult learning that they would be interested in learning more about. A presentation of the topics for which participants indicated high interest levels is provided in Table 3.

Table 3

*Training Topics that ECE Trainers are Highly Interested In*

| Topic | % of participants indicating high interest |
|---|---|
| Utilizing latest ECE research | 58% |
| Understanding principles of adult learning | 55% |
| Teaching techniques | 52% |
| Designing and presenting effective trainings | 51% |
| Creating positive emotional environments | 46% |
| Applying theories of child development | 44% |
| Improving presentation skills | 42% |
| Incorporating pre-K standards | 40% |
| Inclusion and special needs | 39% |
| Dealing with disruptions and student behavior | 39% |
| Icebreakers and opening activities | 39% |
| Incorporating core knowledge areas | 38% |
| Using a/v materials | 32% |
| Creating needs assessments | 29% |
| Creating effective physical environments | 26% |

*Note*. From "Professional development needs and interests of early childhood education trainers" by T. A. Byington and M. T. Tannock, 2011, *Early Childhood Research & Practice, 13*, 6.

It is important to note that the topic ECE trainers indicated the second highest level of interest in was adult learning principles. It is assumed that trainers must possess more than just content area knowledge to be successful adult trainers. As the researchers explained, understanding andragogical principles is critical to the effectiveness of ECE trainers because it allows them to facilitate PD that is responsive to participants' existing skills, experiences, and knowledge. Because respondents also indicated regular use of less effective training strategies, such as the use of lecture and handouts, additional training on adult learning principles among ECE trainers may be needed. The researchers explained that participant respondents indicated ECE trainers might benefit from PD on adult learning principles. Consequently, Byington and Tannock (2011) recommended that PD opportunities for ECE trainers include instruction on adult learning principles.

In a review on the history, status, and challenges associated with ECE PD in the United States, Gomez et al. (2015) posited that for any ECE PD to be effective, it must be supported by a solid infrastructure consisting of (a) a mechanism of governance, (b) adequate economic support, (c) quality enhancement strategies (such as standards and curricula), (d) performance assessments, and (e) family and community engagement. The researchers provided several recommendations for innovations needed to improve the state of ECE on state and federal levels, including the improvement of ECE PD. The two recommendations for improving ECE PD included the integration of coaching and mentoring programs and evaluations of how teachers' work environments influence their teaching practices and adult learning. Noticeably missing from Gomez's et al. recommendations was an analysis of the adult learning strategies employed by ECE PD

facilitators. The researchers admitted that the dearth of research on ECE PD made it difficult to recommend strategies for improvement. Most of the existing studies on the topic are concerned with program data and how effective different PD programs have been at helping ECE teachers meet credentialing requirements.

**Effects of PD on Student Success**

Researchers have examined the influence that teachers' PD has on student achievement (Bredeson, Kelley, & Klat, 2012). A growing body of research points to the positive effects of early ECE PD on children's outcomes (e.g., Domitrovich et al., 2009; Powell, Diamond, Burchinal, & Koehler, 2010). The ECE programs that demonstrate the greatest long-term effects on children's outcomes are often those that provide ECE teachers with specialized training (Connors-Tadros & Horwitz, 2014; Ginsburg, Hyson, & Woods, 2014; Zaslow, 2014). As Pianta (2011) explained, "Perhaps most important to realizing the promise of early education in the United States is to meet the needs of caregivers and teachers for support that enhances their actual effectiveness in the setting(s) in which they practice" (p. 4). Because ECE programs such as Head Start face increasing pressure to improve the literacy skills of students, growing research interest on ECE PD has occurred. Although researchers indicated that improvements in ECE teachers' practices can improve children's preparation for school, especially literacy readiness, many studies also indicated low levels of language and literacy instruction among early childhood educators (Justice, Mashburn, Hamre, & Pianta, 2008). Powell et al. (2010) posited that this could be the result of low implementation ECE training.

Powell et al. (2010) explored the effects of a literacy-focused PD intervention among 88 Head Start teachers to investigate any differences between in-person and remote delivery of expert coaching. The study intervention included participation in a 2-day workshop and expert coaching (either in-person or remote). The coaching lasted for one semester, and participants who received remote coaching were given media resources such as videos organized into five modules (reading, writing, conversations with children, phonological awareness, and individualization). Participants who received in-person coaching did not have on-demand access to these media resources, but coaches shared different media resources with participants during in-person sessions. The effectiveness of the intervention was measured using the early language and literacy classroom observation (ELLCO; Smith, Dickinson, Sangeorge, & Anasatosopoulos, 2002), the early childhood environment rating scale—revised (ECERS-R; Harms, Clifford, & Cryer, 1998), and classroom observations. Child assessment measures included the Peabody Picture Vocabulary Test–Third Edition (PPVT-III), the Woodcock-Johnson III Test of Achievement-Letter Word Identification (McGrew & Woodcock, 2001), and five additional measures to assess print concepts, alphabet knowledge, writing, blending, and initial sound matching.

In general, results from Powell et al.'s (2010) study indicated positive effects on classroom environment and support for language and literacy development. Specifically, significant improvements were noted for children's letter knowledge, blending skills, writing, and concepts about print. No significant differences in the effects of the remote versus in-person coaching were indicated. While Powell et al.'s study provided support

for a coaching PD model for ECE teachers, the researchers did not indicate any understandings of andragogy among the three coaches who served during this intervention.

In another investigation, Spelman, Bell, Thomas, and Briody (2016) conducted a 2-year longitudinal study on the effects of professional development and instructional coaching on the environments of PreK-3 classes in five urban schools. Piantas et al.'s (2008) CLASS instrument was used in conjunction with classroom observations to assess three domains of classroom environments: emotional support, classroom organization, and instructional support. Results from the study indicated significant positive effects of PD delivered in conjunction with instructional coaching in the domains of classroom organization and instructional support. The researchers concluded that when PD was combined with feedback and opportunities for participants to practice implementing new skills and knowledge, classroom practice and student achievement were positively affected.

While much research exists to support the benefits of ECE PD, the relationships between PD and children's school readiness are not always clear (Son et al., 2013). Because research on the benefits that ECE teacher credentials, certification, educational levels, and training have on children's school readiness is conflicting, Son et al. simultaneously explored the effects of multiple indicators on teacher's academic outcomes and ECE classroom environments. The researchers considered the effects of different teacher qualifications, such as educational attainment, college major, teaching experience, and certification. In addition, the researchers explored the effects of

specialized in-service training and coaching on classroom environment and children's school readiness.

Son et al. (2013) used a secondary dataset from the Head Start Family and Child Experiences Survey (FACES) 2003, which was part of an initiative designed to explore the effect that Head Start programs had on children's outcomes, as well as the overall well-being of the children's families. Data were used for a cohort of 3- and 4-year old Head Start children from 63 programs throughout the United States. The sample consisted of 2,159 children from 310 classrooms. Researchers had participating teachers complete a questionnaire consisting of demographic questions (education, teaching experience), as well as the number of hours of specialized in-service and coaching support they had received in the previous 12 months. Classroom environments were assessed based on items from the early childhood environment rating scale-revised (ECERS-R; Harms et al., 1998), teachers' reports of instructional practices, and a summative measure of various dimensions of the classroom environments. Items from the ECERS-R were also used to assess provisions for learning, teachers' social-emotional practices, and parent involvement. Results from a variety of additional instruments were used to assess children's early reading and mathematics skills, receptive vocabulary, social skills, and learning behaviors.

Results from Son et al.'s (2013) analysis indicated that some factors of ECE teacher qualifications, especially educational background, were correlated with children's school readiness. However, associations varied across factors. The researchers explained that the pathway through which children's early reading readiness was affected by

teachers' education levels was not clear, and suggested that selection factors such as endogeneity bias may have mediated the pathway relationship. The researchers concluded that teachers' educational majors in ECE were related to children's school readiness, but that training and education outside of formal education were also beneficial. For example, coursework in child development and care alongside teaching experience could have influenced ECE teachers' abilities to improve children's school readiness, although coursework in ECE does not necessarily indicate completion of a college degree. Finally, the other indicators explored by the researchers (experience and certification) were not significantly related to children's school readiness. Overall, study results confirmed the benefits of in-service training and coaching to improve ECE teachers' abilities to improve children's school readiness. The researchers concluded that "it is timely to discuss teacher training in the current policy context where there is heightened public awareness of the effect of Head Start programs on children's school readiness" (p. 547). Although the study certainly indicated support for in-service training and PD, the researchers did not examine the effectiveness of PD delivery or the knowledge that ECE PD trainers possessed regarding adult learning.

**Costs of ECE PD**

Despite the proven benefits of ECE on student success, the implementation of ECE programs remains poor across the United States, and the single greatest contributor to the dearth of quality ECE programs is inadequate funding (O'Sullivan, 2013). Opponents of public ECE funding often argue that ECE cannot be provided to all U.S. children due to costs and the associated burden to taxpayers, who may not benefit from

ECE programs (O'Sullivan, 2013). O'Sullivan (2013) provided a detailed counterargument to those critical of ECE spending. Although ECE is essential to closing the achievement gap, policymakers are often hyper-focused on short-term gains rather than long-term results. Thus, instead of spending money on ECE, which would not demonstrate benefits until later in a students' education, policymakers implement standardized testing, performance pay for teachers, and other programs that pay off in the short term. O'Sullivan argued,

> Education policy makers must consider the equalizing effect that early childhood education will have on the achievement gap, and must set aside short-term considerations in order to ensure that U.S. educational policy continues to strive for an equal system that produces globally competitive students. (p. 116)

According to a report by the Center for American Progress (McClure et al., 2008), the development of a universal ECE program for all 3- and 4-year-old children would cost $50 billion initially, but would produce $213 billion in value over the course of 40 years. Because ECE programs are so poorly funded, it follows that spending appropriated for the training and development of ECE teachers is inadequate. Thus, the implementation of the most effective PD designs is critical to stretching the budgets of ECE programs and businesses.

Stakeholders have searched solutions to the problem of budgetary constraints and ECE PD. For example, to meet the growing ECE PD demands in the State of Texas, which contains over 68,000 childcare providers working in 23,000 centers (Child Care Aware, 2012), educational leaders and stakeholders worked together to develop an online

training program for ECE teachers. State requirements in Texas mandate 24 hours of annual training for childcare providers and at least 30 hours for directors (Green, 2013). In response, the Family Development and Resource Management unit at Texas A&M created an online training platform to deliver PD to ECE professionals. The platform provides almost 100 courses in three languages (English, Spanish, and Vietnamese), developed by subject matter experts. Green explained that "designed to provide maximum flexibility to users, the online program allows students to enroll in and/or complete courses anytime, day or night" (p. 3). Between 2010 and 2013, over 300,000 courses were completed by childcare providers and directors. The reach of the online program has been impressive; in 2012, 20,694 face-to-face trainings were conducted, compared to 208,677 online trainings (Green, 2013).

Despite the large reach of Texas's online childcare training platform, criticisms can be made. For example, online trainings are often less effective than in-person PD. The real indicator of the success of the online platform are the school readiness skills of children who have been cared for by providers who completed online development. Completing a course to simply meet state credentialing requirements is very different from learning and implementing knowledge and skills that will improve children's care and education. In addition, in Green's (2013) presentation of Texas's online platform, no mention was made of *if* and *how* adult learning principles were utilized to create the online programs. While the platform is certainly cost saving and far-reaching, the effects it has on children's school readiness must be studied before it can be considered an acceptable ECE PD strategy.

**PD Mandates**

The training and educational mandates for ECE teachers varies from state to state. For example, Pianta (2011) explained that in 2006, 78% of states had higher education requirements for ECE center directors in 2006, but only 25% mandated higher educational requirements for the actual teachers. Of the states that do mandate educational requirements for ECE teachers, licensure and certification requirements often vary greatly by state (Pianta, 2011). In family or center-based ECE, teacher requirements are even lower. As Pianta explained,

> Child care providers and teachers play an essential role in fostering high-quality learning opportunities for young children, but children passing through early education and care settings in the birth to 5 year period can expect a stunning level of variation from year to year and setting to setting in even the most basic qualifications of these providers. (p. 5)

Pianta went on to explain that due to wide variations in requirements, relying on certification and licensure to drive the development of ECE teachers "would be folly" (p. 5). Thus, effective PD of ECE educators is essential to compensating for loose regulations and low entry requirements of ECE teachers.

A specific, federal mandate of Head Start programs was implemented in September 2013, which required at least 50% of teachers in Head Start programs to have at least a bachelor's degree (Administration for Children & Families, 2008). This requirement was based on research that indicated teachers with college degrees, certification, and relevant experience often provided better educational experiences that

nurtured the school readiness skills of young children (Burchinal et al., 2002; Tout et al., 2005). However, other research indicates that even ECE teachers with college degrees are often poorly prepared to implement appropriate educational activities to enhance children's school readiness (Pianta, 2011). Further, as Son et al. (2013) explained, such qualifications represent limited forms of professional development, and fail to consider training and education acquired from in-service training and ongoing coaching. Thus, Son et al. echoed Pianta's supposition that "focusing only on strengthening teacher qualifications may not be enough to lead to substantial improvements in professional development and children's school readiness" (p. 526). Other researchers (Honig & Hirallal, 1998; Tout et al., 2005) found that a background in ECE or early child development among ECE teachers had a greater influence on children's school readiness than education level. Those who had education and training in ECE provided children with greater social and emotional support, as well as more effective instructional activities, than those without ECE focused education or training.

Studies on the teaching credentials and certification of ECE teachers have indicated positive relationships with children's school readiness (Darling-Hammond, 2000; Tout et al., 2005); however, authors of these studies failed to indicate causal associations between credentials and classroom practices. As Son et al. (2013) pointed out, it is possible that teachers who possessed certification were simply more likely to choose to work in ECE centers that were attended by students from more privileged backgrounds. In addition, requirements and standards for ECE teaching certifications vary significantly from state to state, with some requiring college degrees or the

completion of specified ECE training. Thus, complex associations among certification, education level, and major exist, making it difficult to determine what value, if any, different credentials or educational backgrounds have for ECE teachers.

## Summary

ECE is an important factor in young children's academic readiness (Domitrovich et al., 2009; Green, 2013; Pianta, 2011). Researchers indicated that the PD provided to ECE teachers can have a significant influence on the benefits of ECE programs to young children (Green, 2013). Despite the importance of PD for ECE teachers, the discipline is constrained by poor funding (Gomez et al., 2015), low entry requirements (Pianta, 2011), and inconsistent credentialing and certification standards across the United States (Green, 2013). Because of these challenges, it is particularly important that the PD with which ECE teachers engage is effective. Scholars indicated that the implementation of andragogy is an effective strategy for PD trainers and facilitators (Pianta et al., 2014), but little is known about the knowledge and use of andragogy among ECE PD trainers (Byington & Tannock, 2011). Thus, the purpose of the this qualitative study was to explore the knowledge and use of andragogical principles among ECE trainers. In this chapter, I provided the necessary background on andragogy and existing, relevant research to contextualize the current study. In the following chapter, I provide details of the chosen design and methodology.

# Chapter 3: Research Method

## Introduction

The purpose of this study was to explore ECE trainers' knowledge and use of andragogical principles. A better understanding of ECE trainers' knowledge and use of adult learning principles may allow organizational leaders and other stakeholders to create specialized training to develop ECE trainers into more effective educators of adults. In this chapter, I present the method used in this investigation. I begin with a discussion of the research design, rationale, and my role as the researcher. Next, I provide methodological details, including the population, sample, sampling strategy, instrumentation, procedures for recruitment, participation, data collection, and data analysis. The chapter closes with my strategies for ensuring trustworthiness and the ethical treatment of participants.

## Research Design and Rationale

The central phenomenon of investigation was ECE trainers' understanding and implementation of andragogical knowledge. I carefully considered quantitative and qualitative research methods for this study. Quantitative approaches follow a positivist tradition based on the notion that reality is independent of human perception (Sale, Lohfeld, & Brazil, 2002). Quantitative researchers investigate causal relationships between predetermined variables to search for statistical significance. Techniques employed by quantitative researchers include randomization, highly structured protocols, and fixed-response surveys (Sale et al., 2002). Sample sizes in quantitative investigations are larger than those in qualitative study because the aim of empirical research is

representativeness and generalizability (Khan, 2014). I did not test predetermined variables or seek to establish statistical significance; therefore, I did not select a quantitative method.

Qualitative research, on the other hand, involves the study of phenomena in their natural contexts. Through qualitative inquiry, researchers attempt to "make sense of, or to interpret, phenomena in terms of the meanings people bring to them" (Denzin & Lincoln, 2011, p. 3). Qualitative researchers view social experiences through dynamic and holistic lenses (Ritchie & Lewis, 2003). The main forms of qualitative data collection include observation, individual interview, focus groups, participant narratives, and document analysis (Ritchie & Lewis, 2003).

Because my aim in this study was to develop an in-depth understanding of the research phenomenon through the perceptions, behaviors, knowledge, and experiences of participants in their natural settings, I selected a qualitative method. In the next step, I considered several qualitative designs, including phenomenology, narrative analysis, grounded theory, ethnography, and case study. The first design I considered was phenomenology. Phenomenological study involves the exploration of participants' perceptions and lived experiences surrounding a phenomenon (Tracy, 2013). Phenomenology allows researchers to investigate individuals' thoughts, emotions, and nuances in order to increase understandings of the essence of a phenomenon (Moustakas, 1994). Participants in a phenomenological investigation share their lived experiences with researchers who collect data through interviews. Although I employed interviews in the current study, I also utilized two other forms of data collection. The scope of this

study extended beyond participants' perceptions and experiences; thus, I did not select phenomenology for this investigation.

The next design I considered was narrative analysis, which utilizes participants' stories to relay information, knowledge, experiences, and histories (Merriam, 2009). A key characteristic of narrative analysis is the researcher's attempt to understand events and experiences, chronologically (Corbin & Strauss, 2007). Narrative analysis is most appropriate for research focused on participants' experiences with specific events; thus, I did not select this design.

I also considered grounded theory and ethnography. The goal of grounded theory is to develop theories based on iterative examination of data surrounding participants' past and present experiences with a phenomenon (Moustakas, 1994). Because my goal was not to develop a theory, I did not select grounded theory. Ethnography is used to explore specific aspects of cultures or groups, such as languages and ceremonies (Tracy, 2013). Ethnographic researchers submerge themselves into the research setting to perform the roles of participant, observer, and interviewer (Tracy, 2013). I did not select ethnography because my aim was not to develop cultural understanding surrounding a phenomenon.

Finally, I considered case study designs. According to Yin (2003), a case study is appropriate when researchers seek to broadly define research topics, explore contexts rather than isolated variables, and utilize multiple data sources. The use of multiple data sources allows researchers to explore phenomena through multiple lenses in order to understand the many facets of related issues (Baxter & Jack, 2008). In order to conduct a

case study, a researcher must first define the study's unit of analysis, or case. Next, researchers must determine whether the case study will be explanatory, exploratory, descriptive, or multiple in nature (Yin, 2003).

After considering the various qualitative designs, I selected an embedded multiple case study design for this research. A multiple-case study design allowed me to investigate the differences between cases. This study consisted of three cases, which were defined by three different types of training organizations, including those that provide trainings for (a) state-funded ECE centers, (b) private ECE centers, and (c) home-based centers. A case study design was also appropriate for this research because context (types of training organizations) can significantly influence the study phenomenon (knowledge and use of andragogy among ECE trainers). In order to explore the dynamic characteristics surrounding participants' use and implementation of andragogical knowledge, it was necessary to use multiple sources of evidence. According to Merriam (1998), the use of multiple cases leads to more compelling data. Theiler (2012) suggested that, by investigating multiple cases of the same phenomenon, researchers may extend or corroborate findings, which could not occur with just one case.

Embedded case studies are those that incorporate different sources or levels of data (Yin, 2003). The use of multiple data collection sources, according to Houghton, Casey, Shaw, and Murphey (2013), creates cases that are more accurate and convincing. I chose an embedded design because I expected participants' knowledge and use of andragogy to be embedded within the context of the trainings they gave. An embedded design allowed me to analyze data within, between, and across all cases (Baxter & Jack,

2008). Each case covered three or four live PD trainings for early childhood educators. I included data from a total of eight trainings. Within each case, I analyzed the following three embedded units: (a) observations of ECE trainings, (b) face-to-face, semi-structured interviews with ECE trainers, and (c) content analysis of ECE training materials.

## Role of the Researcher

In qualitative studies, the researcher serves as the instrument through which data flow (Tracy, 2013). I was the sole investigator in this study. My role involved designing the study, obtaining cooperation from participating organizations, securing participant consent, conducting all data collection (including individual interviews, training observations, and content analysis), transcribing interviews, and analyzing data.

To maintain the integrity of data, researchers must be aware of their own thoughts in order to prevent personal bias or opinions from influencing the data (Tracy, 2013). To accomplish this, I practiced reflexivity throughout the duration of the data collection and analysis processes. According to Dowling (2006), reflexivity describes researchers' "continuous self-critique and self-appraisal" (p. 8) and "involves being aware in the moment of what is influencing the researcher's internal and external responses while simultaneously being aware of the researcher's relationship to the research topic and the participant" (p. 8). To accomplish this, I bracketed my biases and opinions through the use of a reflexive journal. Prior to engaging in data collection or analysis, I reflected on and documented my personal thoughts and opinions relative to the topic of investigation in order to become aware of and bracket any potential biases. I engaged in this process of reflexivity during and after data collection and analysis.

In research, it is important to acknowledge any power differentials, conflicts of interest, or potentials for coercion. Because I had no personal or professional relationships with any of the organizations studied or individual participants, no conflicts of interest were present. In addition, I did not offer any incentives. Participation was completely voluntary and all participants had the opportunity to withdraw from the study at any point; thus, there were no threats of coercion.

## Methodology

### Population and Participant Selection

The three cases for this research were defined by three different types of training organizations, representing (a) state-funded ECE centers (b) private ECE centers, and (c) home-based centers. Below, I describe each of the organizations that comprised the cases for this study.

**Organization 1.** Case Organization 1 covers a national solutions provider of early learning research-based curriculum resources. ECE trainers render professional development, technical assistance, and follow-up support to both state-funded and private childcare center adopters of their prekindergarten program to ensure implementation fidelity. Additional professional learning offerings include age-specific differentiated learning strategies, customized trainings, along with an annual local area Texas conference presentation where trainers and adult learners engage to share best practices in the early learning discipline.

**Organization 2.** While the primary focus of Organization 1 trainers is to assist ECE teachers with curriculum implementation effectiveness, case Organization 2

functions as a local affiliate of a national early childhood professional association. Among the 270 organizational members, ECE trainers present professional learning offerings to advance developmentally appropriate practices for young children. A mix of ECE professionals from Head Start, private centers, childcare home providers, and administrators attend these trainings. Training sessions are often 1 to 2 hours in length and facilitated during weekday evenings and on Saturdays.

**Organization 3**. The third case organization was a state-run early learning association and professional network for home-based and center-based childcare staff. Childcare licensing standards require that home- and center-based providers meet annual training requirements to be in compliance with operating an ECE and care program. Professional development opportunities provided by this association includes access to training workshops, webinars, and an annual professional conference that helps professionals maintain childcare licenses.

**Summary of organizations.** Each case covered three or four trainings. The study participants included trainers at each training, for a total of eight individuals. To ensure that all participants possessed the professional experience required to explore the study phenomenon, I employed a criterion-based purposive sampling strategy. To be eligible to participate, individuals had to have (a) at least 2 years of experience working as an ECE trainer, (b) a minimum of 2 years of classroom experience working with young children (ages birth to 5 years), and (c) at least a bachelor's degree in the discipline of ECE, child development, and/or early intervention.

I attended a total of eight trainings and interviewed the trainer for each training; thus, the total sample size was eight participants. In qualitative research, the required sample size is based on the concept of saturation, which refers to the point at which the integration of more participants does not lead to any new themes or categories (Tracy, 2013). Because saturation is the indicator that a sample size is adequate and saturation varies across studies, there are no definitive rules for estimating the sample size in qualitative investigation. However, recommendations are available to guide qualitative researchers. For example, Bertaux (1981) recommended a minimum of 15 participants, while Francis et al. (2010) recommended 10 to 13 participants. Morse (1994) recommended a minimum of six participants for qualitative research, and Tracy (2013) suggested a sample of five to eight participants. Based on these recommendations, I included eight participants in this study. Saturation was reached with this sample size; thus, recruitment of additional participants was not necessary.

**Instrumentation**

I used a self-developed interview protocol (Appendix A) to collect data through semi-structured interviews with participating trainers. Semi-structured, open-ended interviews allowed participants to share details of their andragogical knowledge and use. Open-ended questions also reduce researcher bias, improve the credibility of data, and ease the process of data analysis (Moustakas, 1994). When appropriate, I followed up with probing questions to draw out additional information from participants.

I developed this protocol based on the principles of andragogy, as described by Knowles (2011). My development of this protocol began with a review of recommended

procedures for interview protocol development published by previous scholars (Castillo-Montoya, 2016; Hindman, 2004; Jacob & Furgerson, 2012). The protocol began with questions regarding the trainer's educational and professional background, which helped me understand *what* participants understand about andragogy and *how* they may have obtained that knowledge via their educational and professional training. The protocol also contained questions regarding the processes trainers used to develop training and their familiarity with andragogy. Six of the questions were dedicated to the six principles of andragogy. For each of these questions, I explained how the principle was defined and then asked *if* and *how* participants employed that principle in their trainings. The final question of the protocol invited participants to share any other relevant information that was not covered by the interview questions.

Prior to data collection, a panel of two subject matter experts reviewed the interview protocol to establish face validity. The panel included professionals from the field of professional development and adult education. I asked each panel member to review the interview protocol to ensure all questions aligned with the research questions, were not leading, and were free of bias. Feedback from these individuals did not indicate the need for any changes to the protocol.

I also developed an observation protocol (Appendix C) that I used during my observation of each training. To develop this instrument, I studied published articles discussing the development of a variety of observation protocols designed to observe pedagogical (Sawada et al., 2002; Shekhar et al., 2015; Walkington et al., 2011) as well as andragogical practices (Meeder, 2012; Vizzi, 2016). The observation protocol served

as a guide during my general observations of the (a) setting for each training, (b) the trainer's physical description and mannerisms, (c) activities, (d) interactions between trainers and attendees, and (e) any recurrences in trainers' behaviors, verbal communications, non-verbal communications, and interactions. In addition, the protocol helped me organize and document my specific observations related to each of the six principles of andragogy. For each principle, I indicated whether the trainer implemented the principle or indicated knowledge of it. Then, I described how knowledge and use of each principle were indicated, whether through activities, materials, instructions from the trainer, or verbal communication used by the trainer.

## Procedures for Recruitment, Participation, and Data Collection

Before I begin recruitment, I contacted leaders of prospective training organizations via e-mail to seek their cooperation for this study (Appendix B). I obtained the e-mail addresses of organizational leaders from each organization's website. My initial e-mail to these organizational leaders described the purpose of my research and participation requirements. In addition, in the e-mail I requested permission to attend trainings and collect data in the form of interviews, observations, and content analysis. I invited organizational leaders to contact me via email or phone with any questions they had about the study. Among those organizational leaders that consented to the study, I obtained signed letters of cooperation.

Once I obtained cooperation from each of the selected training organization (state-funded ECE centers, private ECE centers, and home-based centers), I requested the contact information of trainers from each organization who met the study's inclusion

criteria. After receiving this contact information, I e-mailed invitations to prospective participants, inviting them to participate in the research study. These invitations described the purpose of my research, participation requirements, and participant inclusion criteria. Trainers were welcomed to contact me with any questions they had, and interested prospects were invited to contact me to schedule observations and interviews.

Among those who contacted me to participate, I reviewed inclusion criteria with them to ensure their eligibility. Next, I e-mailed the participant consent form to eligible individuals. I requested that individuals sign and return the consent form to me. After obtaining consent, I asked participants to send me copies of their training materials, such as PowerPoint presentations or handouts. For each case, I collected data via (a) observations of ECE trainings, (b) face-to-face, semi-structured interviews with ECE trainers, and (c) content analysis of ECE training materials. All observations and interviews were conducted during the spring months of 2017.

**Observations of trainings.** Observations provide researchers with a valuable form of naturally occurring data, which is particularly valuable for investigating study phenomena in real-world contexts (Ritchie & Lewis, 2003). According to Ritchie and Lewis (2003), "observation offers the opportunity to record and analyze behavior and interactions as they occur, although not as a member of the study population" (p. 35). Observation allows events to be seen through the researcher's eyes without requiring the observed to construct meaning (Ritchie & Lewis, 2003). Through observation, researchers can gather data on nonverbal communication, interaction among individuals

or groups, and observe events that informants may not fully report on in interviews (Kawulich, 2005). The role I assumed during data collection was that of *observer as participant.* Through this role, I participated in the group activities (by attending the ECE training) while retaining my role as data collector.

According to Kawulich (2005), researchers must make many considerations when conducting participant observations, including ethics, rapport, determining the process for conducting observations, determining *what* to observe, documenting observations through field notes, and writing up findings. A primary consideration when conducting participant observations is ethics. That is, the researcher must disclose who he or she is observing and why. Covert observation was not necessary to gather data for this study; thus, I made all trainers aware of my presence and the reason for my observations prior to my attendance and observation of trainings. The purpose of my observations was included in the consent form and study invitation.

I established rapport with the trainers prior to my observation of their trainings. I did this during my initial correspondence with participants. In addition, I introduced myself to each participating trainer on the day of the training event, before it began. The process of observation I followed was *selective observation* (Angrosino & DePerez, 2000). I observed the full training event, but I selectively focused my attention on trainers' andragogical knowledge and application. Using the research questions and Knowles' (2011) six andragogical principles, I took notes on *what* trainers said and *how* they presented their knowledge (Appendix C). This allowed me to perform subsequent analysis on how participants utilized the principles of andragogy during trainings. As

discussed in previous chapters, Knowles' (2011) andragogical principles include (a) self-concept, (b) role of experience, (c) readiness to learn, (d) orientation to learning, (e) internal motivation, and (f) need to know.

I used the observation protocol (Appendix C) to capture data from my observations. Notes recorded in this protocol, as described earlier, included records of what I observed, what the trainer said, how he or she presented materials, interactions between trainers and attendees, activities the trainer guided attendees through, and nonverbal communication and cues employed by trainers. I also employed Schensul, Schensul, and LeCompte's (1999) suggestions that follow for keeping field notes, which were integrated into the training protocol:

1. When possible, use exact quotes.
2. Employ pseudonyms to protect the identities of the observed.
3. Describe activities in the order in which they occur.
4. Describe interactions and events, without making inferences.
5. Record contextual details.
6. Bracket thoughts and assumptions.
7. Record the date, time, location for each set of observations.

**Training materials.** The content analysis of ECE training materials is another form of naturally-occurring data I used in this research. Content analysis involves studying existing documentation to understand the content or elicit deeper understandings. Qualitative content analysis involves the review of textual data from which researchers generate and categorize codes and themes (Forman & Damschroder,

2008), as detailed later in this chapter. According to Forman and Damschroder (2008), "Qualitative content analysis examines data that…[are] the product of open-ended data collection techniques aimed at detail and depth, rather than measurement" (p. 41). This form of data is particularly valuable for studies in which written communications are part of the phenomenon of investigation (Ritchie & Lewis, 2003), as was the case in the current research. Analysis of training materials also allowed me to triangulate data from individual interviews and observations. Participants provided me with training materials used during their events. Some participants provided these materials before I attended the training, others provided the materials during or after the training. Training materials included a variety of textual data, such as PowerPoint presentations and handouts.

**Individual interviews.** The other form of data I included was generated from individual interviews. Generated data is that which requires the researcher's reconstruction and interpretation (Bryman, 2001). Generated data "provide the only means of understanding certain psychological phenomena, such as motivations, beliefs, decision processes" (Ritchie & Lewis, 2003, p. 36). In addition, generated data enable researchers to explore participants' thoughts and understandings of social phenomena (Ritchie & Lewis, 2003). Individual interviews are one of the most common sources of data in qualitative research. Interviews provide researchers with opportunities to obtain rich data on participants' perspectives of study phenomena, as well as the context within which phenomena occur. Ritchie and Lewis (2003) suggested that individual interviews provide researchers with opportunities to unearth rich details and seek clarification from participants when necessary.

As described above, I obtained informed consent from all interview participants prior to data collection. I performed interviews with participants directly after observing their trainings. I met with each participant individually in quiet settings free of disruptions. Before I began interviews, I reviewed the consent form with participants and provided them with opportunities to ask any study-related questions. After all questions had been answered, I began the interviews, following the protocol detailed in Appendix A. All interviews were audio-recorded and lasted no longer than 60 minutes. Once interviews were complete, I thanked individuals for their participation and assured them of the value and importance of their contributions (Janesick, 2011). After I transcribed the audio-recorded interviews to ensure the credibility of the information collected, I sent each participant a copy of his or her transcript to check for the accuracy of the data. This process of transcript review ensured the transcripts were valid and accurately captured what each participant intended to communicate (Harper & Cole, 2012).

**Data Analysis Plan**

As stated earlier, the first phase of data analysis involved the transcription of interview data. I completed transcriptions and then proceeded with the actual analysis. I employed Braun and Clarke's (2006) approach to thematic analysis on all data sources for each training (interview transcripts, notes from observations, and training materials). Braun and Clarke described thematic analysis as "a method for identifying, analyzing, and reporting patterns (themes) within data" (p. 6). This form of analysis includes the following steps: (a) reading and re-reading data, (b) generating initial codes, (c)

combining codes into themes, (d) analyzing themes from a theoretical perspective, (e) developing a definition for each theme, and (f) writing up the results.

For the first step of the thematic analysis, I familiarized myself with the data through immersion. According to Braun and Clarke (2006), immersion describes repeated and active reading of data that involves searching for patterns and meaning. As I immersed myself, I began making notes of ideas for coding that I could use in the following step.

In the second step of thematic analysis, I began generating initial codes, which identified features of the data that seem related to the research phenomenon. During this phase, I identified and coded words, phrases, and ideas. I moved through each piece of data for each case, starting with interview transcripts, then proceeding with notes from my observations, and finally to analysis of training materials. Once coding was complete, I began the third step of searching for themes. During this phase, I reviewed the list of codes generated during the previous phase, and began sorting those codes into potential themes. While searching for themes amongst the codes, I considered how different combinations of codes may contribute to different themes. To assist with this organization, I employed thematic mapping to create visual representations of each theme. Thematic mapping allowed me to consider relationships between different themes, and different levels of themes, such as overarching themes and subthemes. I conducted thematic mapping using spreadsheets in Microsoft Excel. During this phase, I identified and discarded codes that no longer seemed relevant to the research topic or did not fit into any of the established themes.

During the fourth phase, I began reviewing the themes I established in the previous phase. During this step, I refined, reorganized, combined, or separated themes and subthemes as necessary within the Excel spreadsheets. I worked to ensure that data within each theme demonstrated coherent and meaningful relationships, and that clear distinctions existed between all of the themes (Patton, 1990). After all subthemes and themes were established and organized, I reviewed them again to ensure they combined to holistically reflect the data. Braun and Clarke (2006) suggested that recoding may be necessary during this phase of data analysis because "coding is an ongoing organic process" (p. 21). At the end of this step, Braun and Clarke stated that researchers should have a good understanding of what each of the themes are, how themes relate to one another, and what holistic story is told by the themes.

In the fifth step, I defined and named themes. As required, I further refined themes during this step. By the end of this phase, I was able to define each theme and clearly elucidate what each theme was about. I made sure that the names I assigned to each theme were concise and "immediately give the reader a sense of what the theme is about" (Braun and Clarke, 2006, p. 23). Finally, during the last step of the analysis, I wrote up the results, which are reported in Chapter 4.

After the analysis for each individual training was complete, I organized the data into the three cases. This allowed me to make comparisons between each case to explore any differences in andragogical knowledge and practice by training organization type. Through the thematic analysis process described above, I was able to triangulate data

from the interviews transcripts, training observations, and training materials to develop a comprehensive understanding of each training.

## Trustworthiness

The quality of research is assured through the adoption of established trustworthiness criteria (Anney, 2014). The trustworthiness of data is reflective of how accurately collected data reflects participants' actual perceptions and experiences. While quantitative researchers employ reliability, objectivity, and validity to ensure the trustworthiness of data, qualitative researchers employ dependability, credibility, transferability, and confirmability (Guba & Lincoln, 1982). The assurances of credibility, transferability, dependability, and confirmability throughout the data collection and analysis process help improve the trustworthiness of study data (Elo et al., 2014).

Credibility describes, "The confidence that can be placed in the truth of the research findings" (Anney, 2014, p. 276). It is an assessment of how accurately the researcher's interpretation of participants' data reflects participants' perceptions and opinions (Lincoln & Guba, 1985). Qualitative researchers may establish credibility through (a) prolonged time in the field, (b) time sampling, (c) maintaining a reflexive journal, (d) triangulation, and (e) member checking (Anney, 2014). I increased the credibility of data by being mindful of how my behaviors may influence participants. To prevent personal biases or opinions from influencing data in any way, I bracketed my personal experiences and maintained a reflexive journal (Moustakas, 1994), as described earlier in this chapter. Multiple data sources, including interviews, observations, and

content analysis, also allowed me to triangulate data. According to Onwuegbuzie and Leech (2007), triangulation refers to the use of multiple data sources or methods to corroborate findings associated with the same research question. Finally, as mentioned in the data collection strategies, I ensured the credibility of study data by employing member checking to ensure my interpretations of study data were reflective of the thoughts and ideas that participants intended to convey. This process allowed participants to review their transcripts and my preliminary analysis to ensure I accurately captured and interpreted data from their interviews.

Transferability describes the "degree to which the results of qualitative research can be transferred to other contexts with other respondents" (Anney, 2014, p. 277). Essentially, transferability is the qualitative equivalent of generalizability in quantitative research (Bitsch, 2005). As recommended by Bitsch, (2005), I established the transferability of study data through thick description and purposeful sampling. Thick description refers to the researcher's detailed documentation of all study procedures including data collection, analysis, and presentation. Through thick description, other researchers may replicate a study, using a similar setting and sample. I ensured thick description by maintaining detailed records of all study procedures. Any deviances from the planned methodology will be recorded and reported in study results. In addition, I utilized a purposeful sample as described earlier.

The study's dependability refers to "the stability of findings over time" (Bitsch, 2005, p. 86). Dependability describes the degree to which the researcher's interpretations and recommendations are supported by participant data (Cohen, Manion, & Morrison,

2011). According to Anney (2014), dependability can be established using an audit trail, stepwise replication, a code-recode strategy, or triangulation. I established dependability through an audit trail that consisted of detailed documentation of all data collection and analysis procedures. In addition, I implemented triangulation.

Finally, confirmability describes "the degree to which the results of an inquiry could be confirmed or corroborated by other researchers" (Anney, 2014, p. 279). Confirmability is used to ensure findings "are the result of the experiences and ideas of the informants, rather than the characteristics of the preferences of the researcher" (Shenton, 2004, p. 72). As recommended by Bowen (2009) and Lincoln and Guba (1985), I established confirmability through an audit trail, reflexive journal, and triangulation.

## Ethical Procedures

I employed several safeguards to ensure the ethical treatment of all participants. Before I began recruitment, I obtained Institutional Review Board (IRB) approval (04-06-17-0170798) from Walden University for this study. In addition to securing letters of cooperation from all participating training organizations, I also obtained participant consent via signed participant consent forms. The consent form included details of the study, participation requirements, and inclusion criteria. In this form, I also explained that (a) participation was completely voluntary, (b) participants had the right to withdraw at any time, and (c) the identities of all participants and their organizations would remain confidential. Although participants had already read and signed the consent form prior to

interviews, I reviewed the form with them in person and gave them another opportunity to ask any questions before I began interviews.

Additionally, I followed the Basic Ethical Principles outlined in the Belmont Report (U.S. Department of Health and Human Services, 1979). By following these principles, including respect, justice, and beneficence, I held the well-being of all participants to the highest standard (Owonikoko, 2013). I designed my research plan to minimize risks to participants. Regarding confidentiality, all participants chose a pseudonym, which I used during interviews and all stages of data analysis and presentation. No key linking participants' pseudonyms to their actual names was retained. Should participants decide they no longer wish to participate, after data was collected, I instructed them to contact me and refer to themselves by their pseudonym. At that point, I would remove all of the participant's data from the research analysis, including his or her interview transcript, my analysis of his or her presentation materials, and my observations of the participant's training. I was the only one with access to raw data. I transcribed all interviews myself, and electronic data were stored on my personal, password-protected computer. Print materials, such as training materials, my handwritten notes, and my reflexive journal, were stored in a locked filing cabinet in my home office to which only I had access. I will retain all study-related data for a period of 5 years as required by Walden University. After 5 years, I will hire a data destruction company to destroy all study data.

No incentives were given to individual participants or organizations. In addition, I had no personal or professional connection to any of the training organizations or study

participants. Thus, there were no threats of coercion or conflicts of interest related to study participation.

## Summary

In this chapter, I presented the methodology for the current research on ECE trainers' knowledge and use of andragogical principles. This study followed an embedded multiple case study design. I included three cases, defined by three different types of training organizations, including those that provided trainings for (a) state-funded ECE centers, (b) private ECE centers, and (c) home-based centers. Each case consisted of two to three live professional development trainings for early childhood educators. I included data from a total of eight trainings. Within each case, I analyzed the following three embedded units: (a) observations of ECE trainings, (b) face-to-face, semi-structured interviews with ECE trainers, and (c) content analysis of ECE training materials.

To maintain the integrity of the data, I bracketed my personal thoughts and opinions using a reflexive journal. I had no personal or professional relationships with any of the study organizations or individual participants, thus no conflicts of interest were present. I utilized a researcher-developed interview protocol (Appendix A) to collect data for semi-structured interviews with participating trainers. Prior to soliciting participants, I obtained cooperation from training organizations. Next, I e-mailed study invitations and consent forms to prospective participants. To be eligible to participate, individuals were required to have (a) at least 2 years of experience working as an ECE trainer, (b) a minimum of 2 years of classroom experience working with young children

(ages birth to 5 years), and (c) at least a bachelor's degree in the discipline of ECE, child development, and/or early intervention. I followed Braun and Clarke's (2006) approach to thematic analysis to analyze data from interviews, observations, and training materials.

The trustworthiness of study data were established through assurances of credibility, transferability, dependability, and confirmability. I ensured the ethical treatment of participants by obtaining IRB approval (04-06-17-0170798), following the principles of the Belmont Report (U.S. Department of Health and Human Services, 1979) and ensuring confidentiality of individual participants and cooperating organizations. Participation was completely voluntary, and all individuals had the opportunity to withdraw from the study at any point. Results from the investigation are presented in the following chapter.

# Chapter 4: Results

## Introduction

The training and education provided to ECE teachers are critical to the success of children enrolled in ECE programs. Because training and development among ECE teachers has the potential for significant, positive effects on the academic and social development of young children, it is important to understand the training and development needs of the professionals who facilitate ECE PD. The purpose of this study was to explore ECE trainers' knowledge and use of andragogical principles. To address the study problem, I explored ECE trainers' knowledge and practice of adult learning principles via observations of ECE professional development trainings, interviews with trainers, and content analysis of training materials used during trainings. The following research questions guided the study:

RQ1: What, if any, understandings do ECE trainers have of Knowles' six andragogical principles?

RQ2: How do ECE trainers implement Knowles' six andragogical principles when facilitating professional development?

My aim in this chapter is to provide a comprehensive presentation of study results. The chapter begins with a description of the study setting and sample characteristics. Next, data collection and analysis processes are reviewed. Results are presented thematically, organized according to research question. I then provide evidence of trustworthiness, including credibility, transferability, dependability, and confirmability. The chapter concludes with a brief summary and transition to Chapter 5.

## Setting

I collected data in ECE trainings conducted by eight participants from three different types of training organizations: (a) state-funded ECE centers, (b) private ECE centers, and (c) home-based centers. Participants provided me with training materials before I attended training events for observations. Next, I attended training events and conducted the observations between the months of April and August of 2017 using the developed observation protocol (Appendix C). Finally, I performed interviews with participants either prior to their training event or directly after observing their trainings. Because of scheduling conflicts that arose as a result of traveling to facilitate professional development sessions, four participants needed more flexibility, and telephone interviews became a viable option. Face-to-face interviews were conducted with the other four participants. I conducted each interview individually in a quiet setting free of disruptions.

To be eligible to participate, individuals had to have (a) at least 2 years of experience working as an ECE trainer, (b) a minimum of 2 years of classroom experience working with young children (ages birth to 5 years), and (c) at least a bachelor's degree in the discipline of ECE, child development, and/or early intervention. Table 4 summarizes the characteristics of the participants in this study. The remainder of this section provides details of participant characteristics including the organizations they trained for, and their professional and academic backgrounds.

Table 4

*Participant Characteristics*

| Pseudonym | Organization | Years of experience as a ECE Trainer | Academic background |
|---|---|---|---|
| KT001 | Organization 3 | 6 years | Doctoral degree, educational leadership |
| KT002 | Organization 3 | 17 years | MBA |
| KT003 | Organization 1 | 2 years | BA, English |
| KT004 | Organization 3 | 20+ years | MS, human development and family |
| KT005 | Organization 2 | 10 years | MS, child development, current doctoral student |
| KT006 | Organization 1 | 9 years | ME, curriculum and instruction |
| KT007 | Organization 1 | 15 years | MS, early childhood, current doctoral student |
| KT008 | Organization 2 | 25 years | MA in elementary education– emphasis in early childhood education |

**KT001.** KT001's professional background was in early childhood. She was a mother of four and owned a childcare center in New York for 14 years. She was among the most highly educated of interview participants, possessing a doctoral degree in educational leadership. Her professional background also included teaching infants and preschoolers and serving as an afterschool care director.

**KT002.** KT002 had a diverse professional background that included work as a consultant, a director, and a teacher. She also had an adult child and thus personal experience with raising a child. Her educational background included a bachelor's degree in applied training and development as well as an MBA. She opted for an MBA instead of an advanced degree in childhood education because, as she explained, "I had done so many courses in early childhood that I felt like the business (degree) would be better, and also, I didn't wanna take the GRE." **KT003.** KT003 was relatively new

to ECE training, having been with Organization 1 for less than 2 years. Before becoming a trainer, she was an early childhood teacher for 7 years. Her experience with adult training included work with a local university where she taught adult ESL research to adult learners. She earned a bachelor's degree in English and an associate's degree in education. She also possessed a teaching license in two states.

**KT004.** KT004, like most of the other participants, had a strong professional background in childhood education. She began her career early, working in afterschool care while she was still in high school and then working in preschools shortly after. Her educational background included a bachelor's in general studies and a master's in human development and family studies. After graduate school, she had to relocate for her husband's job. At that time, she began working for an organization that provided training to preschools throughout Mississippi. In total, she had at least 20 years of experience as a trainer, which consisted of various responsibilities including writing curriculum and assessments and training professionals on how to employ those curriculum and assessments. She had also worked independently as a consultant and had conducted trainings to help ECE teachers earn their CDA.

**KT005.** KT005's professional background began as an early childhood education teacher at a Jewish community center. After teaching there for several summers, she earned a psychology degree. She then moved on to earn a master's degree in child development and was a current doctoral student at the time of the interview. As a doctoral student, she explained that she had spent a lot of time observing classroom

environments over the previous 2 years. She also had professional experience as a director for an early childhood education center.

**KT006.** KT006 worked as a trainer and professional learning specialist for Organization 1. Before her current position with that organization, she worked as an instructional coach teaching Organization 1's curriculum and was an education specialist working for the State of Tennessee. Before becoming an early childhood education trainer with Organization 1, she was a trainer in the medical field, but did not enjoy it, explaining, "So I didn't do that for very long." In terms of her education, KT006 held a bachelor's degree in early childhood and development as well as a master's degree in curriculum instruction.

**KT007.** KT007 was a professional learning consultant for Organization 1, a special projects manager, and an adjunct faculty member at a local university. She had been working as an early childhood education trainer for about 15 years, teaching on the topics of childcare and child development. Her education consisted of an associate's, a bachelor's, and a master's degree–all in ECE. At the time of the interview, she was a doctoral candidate in educational leadership.

**KT008.** KT008 was a master trainer in child development and early childhood education with over 30 years of experience. She holds a doctorate in child development and is the director of professional development at a local university. She has taught at the college and university level for over 20 years.

## Data Collection

I collected data via (a) observations of ECE trainings, (b) face-to-face and telephone, semi-structured interviews with ECE trainers, and (c) content analysis of ECE training materials. I conducted all observations and interviews between April and August of 2017.

For the observations, I used *selective observation* (Angrosino & DePerez, 2000). I observed each training event in its entirety, but selectively focused my attention on trainers' andragogical knowledge and application. Using the research questions and Knowles' (2011) six andragogical principles, I took notes on what trainers said and how they presented their knowledge using the observation protocol developed for this scope (Appendix C). This allowed me to perform subsequent analysis on how participants utilized the principles of andragogy during trainings.

For interviews, I followed the protocol detailed in Appendix A. All interviews were audio-recorded. My intent was to limit them to 60 minutes, but as appropriate, some lasted longer than this. I did not want to cut off my participants, so I let them speak freely when time was not a concern for them. Once interviews were complete, I thanked individuals for their participation and assured them of the value and importance of their contributions, as recommended by Janesick (2011). After I transcribed the audio-recorded interviews, to ensure the credibility of the information collected, I sent each participant a copy of his or her transcript and audio-recorded interview to check for the accuracy of the data. Only one participant noted corrections were needed for the way certain words were spelled as a result of this transcript review process.

The content analysis of ECE training materials was another form of naturally-occurring data I used in this research. Analysis of training materials also allowed me to triangulate data from individual interviews and observations. I performed qualitative content analysis on the training materials, which involved the review of textual data in order to generate and categorize codes and themes. Participants provided me with training material after I attended training events. Training materials included a variety of textual data such as PowerPoint presentations and handouts. As indicated in Table 5, I analyzed a total of 396 PowerPoint slides and 21 pages of handouts.

Table 5

*Training Materials Analyzed*

| Participant | Type of textual data analyzed (and volume) |
|---|---|
| KT001 | PowerPoint (31 slides) |
| KT002 | PowerPoint (31 slides) |
| KT003 | PowerPoint (77 slides) |
| KT004 | PowerPoint (97 slides) |
| | Handouts (3 pages) |
| KT005 | Handouts (5 pages) |
| KT006 | PowerPoint (95 slides) |
| KT007 | PowerPoint (65 slides) |
| KT008 | Handouts (13 pages) |

## Data Analysis

I employed Braun and Clarke's (2006) approach to thematic analysis with all data sources for each training (interview transcripts, notes from observations, and training materials).Thematic analysis is particularly aligned with case study research that involves multiple data sources because it allows researchers to analyze and present data more effectively while reflecting the reality of the data collection process (Alhojailan,

2012). This form of analysis includes the following steps: (a) reading and re-reading data, (b) generating initial codes, (c) combining codes into themes, (d) analyzing themes from a theoretical perspective, (e) developing a definition for each theme, and (f) writing up the results. The steps I employed during this process are as follows. **Step 1**. For the first step of the thematic analysis, I familiarized myself with all of the data through immersion. I read through all interview transcripts, observation notes, and documents provided to me for analysis. As I immersed myself, I began making notes of ideas for coding that I could use in the following step.

**Step 2.** I began generating initial codes, which identified features of the data that seem related to the research phenomenon. During this phase, I identified and coded words, phrases, and ideas. I moved through each piece of data for each case, starting with interview transcripts, then proceeding with notes from my observations, and finally to analysis of training materials. I followed Braun and Clarke's (2006) directions to "work systematically through the entire data set, giving full and equal attention to each data item, and identify interesting aspects in the data items that may form the basis of repeated patterns (themes) across the data set" (p. 18). This advice was echoed by Cruzes, Dyba, Runeson, and Host (2014), who recommended that thematic synthesis for qualitative case studies required researchers to "identify and code interesting concepts, categories, findings, and results in a systematic fashion across the entire data set" (p. 7). My strategy for systematically coding the data began, as described in Chapter 3, with the largest data source (interviews) and ended with the smallest (documents). In so doing, codes that emerged during analysis of interview transcripts were considered as I moved

through the other two data sources. I was conscious of the possibility of new codes emerging from the other two data sources. Importantly, although I analyzed one source of data at a time, the process was holistic in that the coding of each source was not done in isolation from the others. The codes that emerged, as detailed in Table 6, were the product of analysis of *all* data sources.

**Step 3.** This step involved the identification of themes. During this phase, I reviewed the list of codes generated during the previous phase and sorted them into potential themes.

Table 6

*Generated Codes*

| | |
|---|---|
| Andragogical instinct | Training relevance |
| Addressing/assessing participant level | Organizational influence on training design |
| Assessing what adults want | Past early childhood teacher |
| Aligning training topics | Possibly benefits of observations |
| Asking questions to involve | Research-based info |
| Being respectful of time | Required training challenges |
| Educational and professional background | Takeaways/adaptations |
| Emphasizing teacher value | The need for training in adult training |
| Has andragogical knowledge | Training design/guidelines |
| Has adult learning training | Using examples for connections/transference |
| Higher education | Using participatory activities |
| Lack of formal andragogical knowledge | Use of personal stories to connect |
| Lack of formal early childhood training | Visible personal passion |
| Incorporating personal stories | Engaging/fun |
| Making personal connections | |

At this point, I also reviewed the research questions so that as I sorted the identified codes, I would be better able to identify which codes were not relevant to them. While searching for themes amongst the codes, I also considered how different combinations of codes may contribute to different themes. I found several codes that combined into

themes and associated subthemes. For example, the following three codes, *use of personal stories to connect*, *making personal connections*, and respectively *using examples for connections/transference* were combined into the subtheme named *building rapport*. During this phase, I identified and discarded codes that no longer were relevant to the research topic, did not fit into any of the established themes, could be combined with other codes, or simply were not strong enough to stand alone as a theme or subtheme. Four codes were discarded, including *andragogical instinct, aligning training topics, possible benefits of observation,* and *required training challenges.*

**Step 4.** For this step, I began reviewing the themes I established during Step 3. During this step, I refined, reorganized, combined, or separated themes and subthemes as necessary. I worked to ensure that data within each theme demonstrated coherent and meaningful relationships, and that clear distinctions existed between all of the themes (Patton, 1990). After all subthemes and themes were established and organized, I reviewed them again to ensure they combined to holistically reflect the data.

**Step 5.** I defined and named themes during Step 5. By the end of this phase, I was able to define each theme and clearly elucidate what each theme was about. The final themes and subthemes to emerge from the data are presented in Table 7.

After the analysis for each individual training was complete, I organized the data into the three cases, based on the organization type. This allowed me to make comparisons between each case to explore any differences in andragogical knowledge and practice by training organization type. I was able to triangulate data from the

interviews transcripts, training observations, and training materials to develop a comprehensive understanding of each training.

Table 7

*Final Themes/Subthemes*

| Theme | Subthemes | RQ1 | RQ2 |
|---|---|---|---|
| Lack of Training/Background in Andragogy | Higher education challenges | X | |
| | Insufficient andragogical knowledge | X | |
| | Insufficient andragogical training | | |
| | Need for training in adult learning | | |
| Training Strategies Employed | Make training engaging | | X |
| | Make training relevant to adult learners | | |
| | Provide practical takeaways | | X |
| | Encourage participation | | X |
| | Incorporate research | | X |
| | Assess learners' previous knowledge | | X |
| | Assess learners' wants | | X |
| | Use questions to foster participation | | X |
| | Respect learners' time | | X |
| | Emphasize teachers' value | | X |
| | Build rapport and relationships | | X |
| Training Design | Design guidelines | X | |
| | Influence of trainers' organizations | X | |

## Results

My aim in this study was to explore ECE trainers' knowledge and use of the Knowles' six andragogical principles. These six principles are:(a) self-concept, (b) role of experience, (c) readiness to learn, (d) orientation to learning, (e) internal motivation, and (f) need to know. These six principles informed the interview protocol that I used to collect data during semi-structured interviews.

Before I reviewed the principles and asked how they used them, I simply asked them about the principles or guidelines they employed when designing and conducting trainings. Most of the participants alluded to andragogical principles, although they did

not identify them as andragogy. Thus, even without formal training in adult learning, which most participants lacked, they seemed to have an intuitive and cursory understanding of adult learning.

The lack of formal training in andragogy was particularly evident when I asked interview questions about each of the andragogical principles. It is possible that the definitions of each principle I included in the interview protocol were not adequate or clear enough for participants to make the connection and give examples of how they implemented each principle. I believe that because all participants were professional trainers, they were eager to share their knowledge with me and provide helpful information. Perhaps they did not ask for clarification on principles they were unclear about because they did not want to appear uninformed or unqualified as trainers of adults. While some participants seemed to have a good handle on the andragogical principles, others gave examples that did not align with the specific principle I was asking about, but was evidence that they implemented another andragogical principle in their trainings. It is also possible that the blurring of the lines between the different principles, that seemed to occur for many of the participants, indicates overlap between some of the principles.

Although participants did not possess formal education in andragogy, they learned about adult learning principles through professional experience or collaborating with their companies or professional peers as they discussed what seemed to work best. For example, KT006 shared that she became familiar with adult learning principles during her onboarding process as a trainer. She explained that during training for the position, she learned a bit about adult learning, but added, “Most of my experience I would say, I

have gathered just from personal experience, just from being a trainer for the last several years, or observing other trainers, or reading my mentors' books, and stuff like that." KT007 shared that she acquired her knowledge of adult learning principles via her professional experience as a university instructor.

The themes and subthemes that emerged from the data often connect with more than one andragogical principle. Further, participants' lack of familiarity with each of the terms made it counter-intuitive to organize results by research questions or principles. Instead, I opted to organize results thematically. Many of the subthemes I discuss below provide evidence of how participants implemented the different andragogical principles despite their lack of andragogical background or familiarity with the terminology. Thus, in the following section, I discuss each of the themes and subthemes, and how they illustrated participants' knowledge and use of the various principles of andragogy.

### Lack of Training or Background in Andragogy

Although it was evident that participants possessed informal, perhaps instinctive, understandings of many of the andragogical principles, their lack of formal understanding (that is, their ability to identify and define principles) may relate to their lack of formal training and background in adult learning. Even after I defined each principle during interviews, many of the responses and examples that participants offered indicated they did not fully comprehend the meaning of the principles. For example, when I asked KT003 to discuss how she employed self-concept after explaining what self-concept was, she replied, "The self-concept, you know, just to make sure that I'm getting this correctly because it's been a while–it's, you know, just acknowledging that they are, that the

participants in my training are coming to me with knowledge, right?" Of course, the adult learning principle of self-concept is much more than that and includes describing the need that adult learners have to be autonomous and self-directed.

Most participants had not been exposed formally to the idea of andragogy but possessed professional and academic backgrounds in childhood education and business. Thus, the lack of training and background in andragogy was a main theme that emerged from the data. Four subthemes emerged within this theme: (a) higher education training challenges, (b) lack of formal andragogical knowledge, (c) lack of formal adult learning training, and (d) need for formal adult learning training.

**Higher Education Training Challenges**

A barrier to formal education on adult learning principles was related to higher education challenges. Some participants discussed issues with transferring credits or obtaining access to the specific classes they sought to advance their education. For example, in order to maximize the transfer of existing credits, KT001 ended up getting a bachelor's degree in applied technology and training development. As she explained, "That was the one degree that I could transfer all my early childhood credits that I took at the community colleges so that I wouldn't lose them, and they could tailor-make your degree without losing all the credits." Similarly, KT003 described her undergraduate education as a "difficult process." She ended up getting a degree in English, although she had a preference for childhood education. The challenges with the school and the childhood education program prevented her from studying what she really wanted.

**Insufficient Andragogical Knowledge**

Participants' lack of formal training and education in andragogy was evident in their lack of familiarity with the term, *andragogy*, as well as the six principles that comprise it. For example, although KT001was one of the most highly-educated participants, her education was not based on adult learning. When asked if she was familiar with the concept of andragogy, KT001 replied, "I've heard the name, but I'm not too familiar with it." Similarly, although KT007 had indicated she had knowledge of adult learning principles via her professional experience as a university instructor, when asked if she was familiar with the concept of andragogy, KT007 responded, "No."

**Insufficient Andragogical Training**

Much of the information that participants possessed on adult learning was that which they had obtained on their own. KT003 explained this well when she stated:

> I do not have formal adult education. Everything that I have in adult education has either been self-taught, you know, through just my own research or online, but it's mainly just self-taught. As far as the university program, you know, like I said, my focus is in education. I took a lot of education courses, but they were mainly for the primary grades. So, it was never centered around adult education.

This seemed to have been the case for most of the participants. As KT006 shared, "Reading and going through little workshops, that's the only formal education that I would say I have for adult learning," illustrating how knowledge about adult learning had been from a combination of professional training and self-learning. When asked if she had formal education in adult learning, KT006 stated that she did not. KT006 also

offered support for the goal of this research, explaining, “Because so few of us have formal education in adult learning, it can only help us to be better trainers if we know the research behind everything.”

KT007 had taken no formal classes on adult learning, but she explained that familiarity with adult learning principles was required for her job as a trainer with the state. To meet these requirements, she learned about adult learning principles via her adjunct faculty work at a local university. It is interesting to note that although KT007 stated she was familiar with adult learning principles, she was not familiar with the term *andragogy*. This lends further support that although participants understood and implemented the different principles of andragogy, they were not familiar with the principles as Knowles labeled them.

Participants’ professional and educational background was generally focused on childhood education–that is, teaching children. Thus, their formal education may have provided a background on pedagogy. Had I asked them about various pedagogical principles, they would have likely been familiar with the labels and definitions for each. However, they were on their own to learn the differences between pedagogy and andragogy, and how to employ adult learning principles in their training. As illustrated throughout the subthemes that emerged from the theme *training strategies employed*, many participants seemed to instinctively leverage andragogical principles.

**Need for Training in Adult Learning**

Some participants specifically described a need for training in adult learning principles. For example, KT003 described the difficulties she experienced applying theory by stating:

> Taking from theory to practice is what I have discovered is the biggest challenge for most of us in the adult world. Even as a trainer, you read about the style of adult learning, you know, that's one thing, but to actually put it into practice is a very different thing.

Thus, for KT003, formal training was needed to provide a bridge between the theory and practice of adult learning. KT004 described the education and training she acquired as a trainer for a large corporation. She explained in the following passage that she was taught about the classroom curriculum she was supposed to train teachers to use, but she never learned how to specifically conduct the trainings according to andragogical principles:

> I did not really have any adult learning courses, nor did they [her employing organization] train us on how adults learn. They trained us on the content and the context, and we were working with young children and the curriculum process and everything, and they were like, "Go at it."

Thus, KT004's organization focused on equipping trainers with an understanding of the curriculum she needed to train, but not on the adult learning strategies that trainers could employ to teach that curriculum. This was a gap that many participants experienced. Participants' educational and professional backgrounds provided them with

knowledge needed to teach young children, and their employing organizations provided them with information needed to teach the curricular content they needed to train, but they had not received formal training in *how* to teach that content to adult learners.

Despite a lack of formal knowledge of andragogy, participants did understand the importance of leveraging adult learning strategies. For example, KT006 was aware of the importance of training in adult learning principles, emphasizing that most training positions required some familiarity with adult learning. However, without formal education in adult learning, KT006 questioned *where* trainers were supposed to acquire this information, if not on their own: "Who has equipped us, you know, for that, if you don't have that formal education?" KT008 explained that often, ECE professionals are great at working with and teaching young children because that is what their professional and academic backgrounds are steeped in. However, she observed that when required to teach adults or speak in front of them, ECE professionals often do not know what to do, stating, "I would watch people get up who were wonderful, and freeze—because now they're in front of adults and this is not their skillset!"

## Training Strategies Employed

Although the strategies and examples that participants shared did not always align with the specific andragogical principle I asked about for a particular interview question, these strategies and examples did provide significant evidence of andragogy throughout all of the participant interviews. In this section, I discuss the subthemes that emerged for the main theme of *training strategies employed* and highlight the evidence of andragogy that I gathered during interviews, observations, and document analysis.

**Make Training Engaging**

All participants discussed the importance of making sure their trainings were engaging and fun. By leading fun and engaging trainings, participants leveraged the fourth principle of andragogy, *readiness to learn.* In addition, by making trainings fun and engaging, trainers could simultaneously combat resistance from attendees while priming them to learn. For example, KT001 explained that she tried to combat some of the reticence to participate in the required training by making it engaging. She shared that she would often begin with an ice breaker to make participants feel comfortable, saying, "I don't want to be here either, but we're going to have fun since we have to be here." She repeatedly emphasized the importance that participants have fun, stating that she wanted participants to learn the material from the training, as it was useful and relevant, but she also wanted them to have fun in the process. KT001 would employ interactive activities that were relevant because she believed this increased participant engagement. KT001's use of this strategy was obvious during her observed training. For example, at one point, she had two participants come up and perform an action song they sang to their students. In another activity designed to make training engaging and fun, KT001 directed participants to move around the room to stand next to emojis that demonstrated how they felt in the moment. She also made an interesting point about her perceptions of teachers as learners: "As teachers and as professionals, we don't feel we can still have fun and learn." By focusing on making learning fun, KT001 believed she increased engagement among her attendees, as well as their retention of training materials.

KT002 also emphasized engagement and enjoyment in her presentations. In order to make otherwise dry training materials engaging and fun, she shared that engagement was something that drove the development of her trainings:

> Because when you're talking about the brain it can be so dry and so boring. So, you have to make it engaging, and when I'm planning a training a lot of, all of this is going through my head–How am I going to engage them?

KT002 clearly used engagement and fun during the presentation. At the beginning of the training, she enthusiastically stated, "This is exciting! We have 3 hours together and we are going to make the most of it. We are going to have fun. We are going to sing! We are going to dance!" KT002's fun, playful attitude was also reflected in her training materials. For example, one slide from her presentation showed a baby in a bowl of chocolate, with the caption, "Chocolate is the answer, who cares what the question is."

KT008 shared that she considered attendees' engagement and fun because wanted her trainings to be more than just a mechanical presentation: "As a teacher and educator, I don't think you work through that if you are just watching a PowerPoint, and it looks cool, and it looks good." She felt that as a trainer, it was her job to "hook people" and make the training fun.

Similarly, during my observation of KT006's training, I noted her consistent use of humor as a strategy to improve engagement among attendees.

KT003 described using humor throughout her trainings, such as sharing a "joke of the day" to engage her attendees. She also explained that she used humor and "real-

world experiences to tie back to something that's relevant to them, they can – it's like I said, a springboard to them." KT003's statement also provided evidence of the principles of *orientation to learning* and *readiness to learn.* By using humor and tying information back to specific problems that attendees had, she was orienting them toward learning. KT003 used the joke of the day in her training, which I noted during her observation.

KT008 also alluded to humor as a strategy for making the training fun, explaining that a training "better be fun. It better be laughable." While KT008 used humor, KT005 integrated eye contact to engage with attendees, sharing that she would ask attendees to put their cell phones away during the training: "I typically tell them, 'Put it away, because I want to make eye contact with you, I want to bond with you, I want to look at you, and you look at me.'" Like other participants, I noted the use of fun activities, singing, and dancing during my observation of KT005's training, as strategies to facilitate engagement among attendees. Overall, participants endeavored to make trainings engaging and fun because they felt that engagement facilitated learning and that it primed attendees for learning via their readiness and orientation. Thus, this strategy provides evidence of the andragogical principles of *readiness to learn* and *orientation to learning*.

Although KT007 did not emphasize engagement during her interview, she fostered engagement with attendees during my observation. Specifically, KT007 used small group activities such as singing, creating lesson plans, and conducting finger plays to increase engagement.

**Making Training Relevant to Adult Learners**

In addition to making trainings fun and engaging, participants stressed the importance of making training relevant. Just as engaging training facilitated *readiness to learn* and *orientation to learning*, so too did ensuring the relevance of trainings. According to Knowles, adult learners are open to learning things that are essential to dealing with problems and issues in their real-life experiences, which reflects the *readiness to learn* principle. In addition, adult learners are usually task or problem-centered and prefer learning lessons that they can apply practically to their life experiences, which reflects *orientation to learning.* By ensuring that training materials were relevant to the challenges attendees experienced and helped attendees develop strategies for dealing with those challenges, participants provided evidence of these two principles in their trainings.

KT001 explained that she would "make sure that the topic aligns with what they're doing in their classroom to be successful with the children." She later stated that it was important that the trainings provided to ECE teachers were relevant to ECE teachers' current needs. Similarly, KT002 would ask herself how she was going to make training relevant to attendees' needs, when she sat down to create a training. By making training relevant, KT002 felt she addressed attendees' question of *what's in it for me?* In so doing, she also addressed the andragogical principle of *readiness to learn.* Assessing participants' needs and prior knowledge and experience was one way that KT002 made training relevant, which also provided evidence of the third andragogical principle, *experience of learners*. She explained that she could then build upon their existing

knowledge to ensure training was relevant to what attendees already knew, as well as what they needed to know. KT002 wanted to make training meaningful and relevant, giving participants information they could apply in practice, not just learn theoretically.

To make training relevant, KT003 explained that she sought feedback from her attendees over other strategies, such as market research, by stating

> Not necessarily market research but we do get a lot of feedback from customers as to what their most, you know, their dire need is right now in terms of training, and we start from there – meaning, what is it that teachers, directors, [and] instructional coaches are really yearning for right now in terms of training?

KT003 also endeavored to make sure training materials were relevant by providing attendees with the information they needed to make the connection between what was being taught in the training and how it was applicable to ECE. For example, instead of just providing information on how to use breathing exercises with young children, she included slides in her presentation that detailed *why* those breathing exercises were important and relevant.

Finally, KT004 explained that when designing and conducting trainings, she aimed to "make sure that it's relevant, and that it like, makes sense." Instead of filling her trainings with "time filler," she really endeavored to get to know what her audience needed, and then tailored her presentation accordingly to ensure relevance. KT006 also emphasized the importance of ensuring trainings were relevant: "making it more relevant to what they do, and what they deal with on a day-to-day basis." During KT005's training, I observed her emphasis on making training relevant to attendees by showing

how she applied the knowledge she was sharing in the training to her personal situations with her son.

**Provide Practical Takeaways**

In addition to making training relevant, participants also worked to make sure the information they provided to ECE teachers could be put to immediate use in the classroom. By providing them with useful takeaways, participants provided further evidence of the principle of *orientation to learning.* That is, takeaways that were designed to help attendees solve challenges they experienced in their early childhood classrooms could foster adult learning via *orientation.*

Many participants provided many examples of helpful takeaways and adaptations in their trainings. For example, KT001 explained that she aimed to provide teachers with knowledge they could employ, immediately. This was also reflected in the first slide of her presentation, which contained a bullet point that stated one of the objectives of the training was: "Participants will have first-hand knowledge of what works and what does not work with preschoolers." In this way, KT001 communicated her intent to provide practical takeaways that attendees could employ in their classrooms.

During her interview, KT002 told me she often asked herself, "What is their takeaway, and how do they adapt to it?" Toward the end of her training, I noted that she specifically asked participants to share their biggest takeaways, which she then incorporated into a fun activity involving music and moving around the room. KT002's presentation also helped make practical takeaways clear for participants. For example, after discussing the importance of nurturing interactions, one of KT002's slides provided

seven actionable strategies for supporting nurturing interactions with children. In a similar manner, KT003 shared that she knew attendees wanted her to "give them the tools that they are lacking, to take back with them to the work field, or go to their personal life and build or fix something." Thus, when creating trainings, she focused on what information she could give attendees that they could then apply immediately in the classroom. This emphasis on practical application was also clear in KT003's presentation, as she included a number of slides in her extensive presentation that provided attendees with actionable, step-by-step directions and strategies that could be implemented in ECE classrooms. She also included slides to help attendees differentiate and modify the curriculum based on the needs of their students, making the information more practical.

KT004 explained that she helps attendees create action plans so they can practice implementing their newfound knowledge. She would do this by asking what steps attendees could take to implement different strategies in the classroom. Several times, she mentioned helping her attendees implement information obtained in her trainings in their classrooms – it was important for her to give them specific steps that they could put into practice. In doing so, KT004 provided her attendees with concrete, actionable takeaways, to further provide attendees with opportunities to practice those takeaway strategies. KT004's use of takeaways was evident throughout her training, as she provided several examples of how attendees could use information from the seminar in their own classrooms. Further, it was evident that KT004 wanted to make clear the key takeaways from her presentation, as she included them in one of her presentation slides.

Her PowerPoint presentation contained a number of slides with actionable recommendations to help attendees conceptualize how to implement information from the training in the learning environment, including suggestions for ways to make the strategies more inclusive and accessible to all students. Important to remark, her final slide included bullet points of the key points she wanted to drive home during her presentation.

Similarly, KT005 provided her attendees with actionable takeaways via a 5-page handout. She explained,

> I've found, and a lot of times, when I used to train I would be very like theoretical and out there and it wasn't something that they could tangibly go do, that they would go back to their center and forget what we trained about or what we talked about, and not have anything tangible to work on.

In this way, KT005 understood that providing hollow information to attendees was futile; in order to be effective, and to *orient* attendees to learning, she had to provide attendees with information that they could digest and implement in practice. I noted her provision of takeaways and/or adaptations during my observation of her training, especially with her use of role playing to help attendees practice implementing the information she was teaching them.

KT006 also discussed providing attendees with materials during trainings and guiding them toward utilizing those materials in the classroom, thus giving them actionable takeaways:

> And so, I think that practical application and that immediate understanding of, 'Oh! This is how it could work,' and then we talk about, you know, how it may look in their environment because this is just an outline, this is just a framework, these things have to fit into your day.

During my observation of her training KT006 also conducted activities that helped participants conceptualize the information and collaborate to determine practical ways to implement new information into their classrooms. Similarly, KT008 gave attendees handouts they could read and take home with them, to help guide them through the implementation of new knowledge obtained at the training. Throughout her training, she provided several examples of practical takeaways, helping participants understand relevant and useful ways to integrate material from the training into their classroom settings. Her handouts were a collection from a number of different sources, which made them rich, diverse, and varied in the takeaways they provided.

Finally, KT007 specifically connected the andragogical principle of *need to know* in providing her audience with takeaways:

> I think, you know, with adults it's basically not so much of an employment of need to know, I don't know that I would phrase it in that way, I would phrase it in a way of what they might, what their takeaway would be for that particular session.

She also alluded to the guide that her organization provided to training attendees, which provided them with actionable takeaways for their classrooms. Her training presentation also included slides to help participants review and recap the highlights from the

presentation, ensuring they had enough understanding of the points to apply them in practical, classroom settings.

**Encourage Participation**

An important way that participants facilitated learning among attendees was through participatory activities. From group discussions, to asking for feedback, to completing a variety of tasks and activities during the actual trainings, participatory activities were foundational to most of the trainings. The participatory activities that participants described drew upon andragogical principles, including *learner self-concept, experience of learners, readiness to learn,* and *orientation to learning.*

During the interview, KT001 explained that she would invite participants to share the tactics they used in their classrooms, drawing upon the andragogical principle of *experience*. She engaged attendees via participatory activities by asking "'Is there anything that you do in your facility?' And they say, 'Yes, I'm gonna show you one,' and I say, 'Okay! Come on up! Let's do it!'" Another way that KT001 used participatory activities was by inviting attendees to share how they put together lesson plans – again, drawing upon their experiences with lesson planning. She felt that in conjunction with making participants comfortable, she used participatory activities to help attendees "get ready to learn." During KT001's training, she employed small groups of four to six attendees to facilitate participation. Her emphasis on participation was also reflected in her training materials; her presentation included slides that aligned with the participation activities she used throughout the training.

KT002 used participatory activities by asking attendees to reflect on their prior knowledge or experiences, or asking them what their main takeaways from a training were. This provided more evidence of the principle of *experience.* KT002 would also leverage activities in which she paired people together and had them share and teach one another. During her training, KT002 specifically stated,

> This is going to be a very informal session. I am just facilitating it but we will learn from each other. So feel free to ask questions. Feel free to talk and respond to it. If you are talking about something that is relevant to your work, I want to hear from you."

She also incorporated activities, such as singing, to foster participations; this was also reflected in her training materials.

As part of her training session, KT005 described a 5-page handout she would give to attendees that required them to engage via completing the handouts. During my observation of her training, I noted her use of handouts to foster participation. While KT005 used participatory activities to check prior knowledge, KT007 used them to ensure attendees were understanding and assimilating the information from the training: "Asking them for their understanding, and then check [their] understanding too."

KT003 used participatory activities to break up lectures and to help improve engagement among attendees. She explained that she would provide "10 minutes or 15 minutes of uninterrupted lecture, and then follow it always with an activity." KT003 also emphasized the importance of *inviting* attendees to participate in activities instead of requiring them to do so: "We always use the word 'invite' to kind of practice that respect

to them, and to their learning." By *inviting* attendees to participate in activities, KT003 simultaneously fostered engagement while also respecting their autonomy and self-direction as adult learners. This respect for learners' autonomy was indicative of the andragogical principle of *self-concept*, which posits that adult learners prefer to be self-directed and believe they are capable of making decisions regarding their learning.

I noted KT003's regular and consistent use of the word, *inviting* during her presentation. Her emphasis on participation was also clear in the presentation. For example, one of her slides contained the lyrics to a song that attendees could teach their students in the classroom. KT003 played music and moved around the room singing the song, encouraging attendees to participate and sing along with her. KT003 also used participatory activities to help attendees immediately learn to put the information they had acquired into use and see how it could be of benefit in the classroom. For example, she would incorporate role-play activities to help attendees gain confidence needed to implement the various strategies being taught in the classroom, as well as help them see the benefits and application, in practice. She explained, "One way I try to build that confidence is to allow them to kind of practice, have a run through there with me, in a safe environment with their colleagues."

KT006 also emphasized attendees' autonomy when utilizing participatory activities to foster engagement and learning among participants: "So, they're given overarching topics, but then they're choosing what they want to read under that topic." By providing participants with topics that they could choose from, they were able to autonomously select those that interested them the most. The slides that KT006 used

during her presentation also facilitated participation and involvement. For example, she provided the lyrics to a song that attendees could use in their classrooms, and then taught them the hand motions that went along with the song, which everyone practiced together. Activities similar to this were repeated throughout KT006's presentation slides. The use of songs sung by the trainer, who encouraged attendees to sing along, was a participation strategy used by other study participants, including KT007.

KT004 also implemented participatory activities, particularly those based on group activities. An important consideration for her when including such activities was to make sure they were relevant and meaningful, and not just time-fillers. When speaking about her group activities, she said, "I wanna make sure that it's relevant, and that it like, makes sense." In addition to relevance, KT004 used participatory activities as a way to empower participants. By placing participants in small discussion groups, she felt they were forced to "take ownership of the discussion." This sentiment may also be an indication of *self-concept*, as she did not necessarily guide the group discussion, but allowed participants to jump in and guide their own participation. For KT004, group activities were a strategy for enhancing autonomy, participation, and relevance of training materials. Participation was strongly emphasized in the handouts that KT004 used during her presentation, which encouraged attendees to participate via note-taking. A key participation strategy I noted in her learning materials was the use of "blank spaces" throughout the handouts, which attendees could fill in as they followed along with the presentation.

During my observation of KT008's presentation, I noted that she and her co-presenter encouraged participation by incorporating open-ended activities that fostered collaboration and creativity among attendees. Like most of the other trainers I observed, KT008 engaged attendees with fun, interactive activities. For example, one of the handouts from her presentation invited attendees to collaborate to create simple, new classroom activities that could be easily implemented and that would not require extensive resources. In this way, KT008 encouraged participation while also helping attendees come up with helpful, practical takeaways. Having an understanding of the backgrounds of the attendees was essential to fostering this type of engagement and participation; while ECE teachers are likely to be happy to dance and sing during professional development, this engagement strategy would not necessarily work with a different group of professionals. Thus, the trainers I observed all seemed to have a solid understanding of the wants, needs, and backgrounds of their attendees.

**Incorporate Research**

Nearly all participants discussed the importance of using research-based information during their trainings. As with the other strategies discussed so far, the use of research-based information fostered *readiness to learn* and *orientation to learning.* In order for participants to ensure they provided attendees with the best information to apply in classrooms and solve issues, it was important for the trainings to be based on the most recent, relevant research. For example, KT001 shared, "It's research-based, and I make sure I'm giving them correct information so that when they incorporate those things, they can bring it into their classrooms and be successful there." KT001's use of research was

evident in the PowerPoint presentation she used at the training. Most of the slides with tips and strategies also contained links that cited appropriate research.

KT002 emphasized the importance of making sure research was current and relevant, not just to ensure she gave attendees the most helpful information, but also to make sure the information she gave them was correct: "I don't wanna stand in front of anybody and give false information." KT002's emphasis on the importance of incorporating research was evident during her observed training. For example, she integrated current research on the brain and behavioral strategies to use with children, citing specific researchers during her discussion, which leant credibility to the information she presented. Similarly, her training materials often cited scholarly sources that attendees could access

As explained by KT006, she always used research when designing trainings, not only to make sure the trainings were useful, but also to improve their relevance to attendees. In the way, the subthemes of *relevance* and *research-based info* seem closely related. I noted KT006's use of research-based information during my observation of her training, particularly during her discussion of early brain development. Similarly, the use of research was reflected in some of her presentation slides, particularly those on language development and phonemic awareness.

Although KT003 did not explicitly mention the use of research in her interview, her employment of this strategy was evident in her presentation. For example, she cited a leading expert in childhood development, Dr. Becky Bailey. She leveraged recommendations from Dr. Bailey in her presentation, including stimulating and

engaging the brain through the following four steps: Uniting, disengaging the stress response, connecting, and committing. Similarly, KT006 and KT007, who were from the same organization as KT003, Organization 1, had presentation slides that touched on the scholarly research of Dr. Becky Bailey. While this use of research was valuable, it was also somewhat isolating. It is possible that emphasizing research from a single expert made the presentation seem less credible; the presentations given by trainers who worked for Organization 1 may have benefitted from including research conducted by scholars other than Dr. Bailey. While there was some mention of Pam Schiller in the presentations associated with Organization 1, no background information was provided in these slides. The lack of accreditation here may backfire on attendees' perceptions of the organization and the trainer.

KT004 also used research to guide her presentations, explaining: "I'm the person that just immerses themselves in like, as much information as I can find." When designing trainings, she would immerse herself in the current research and use that to guide the direction of the presentation. KT004's emphasis on research was also clear in her presentation, which was one of the few in the current study to include a slide that listed practical and scholarly references for attendees to refer to. Similarly, KT005 shared, "I always go back to science, even when we talk about child guidance, I go back to science." By consistently referring back to the research, KT005 felt she was able to improve her credibility with her audience. Her past experiences as an attendee of trainings that were not necessarily steeped in research influenced her to be very conscious of basing her own trainings on research: "I sometimes have attended trainings that

unfortunately were not developmentally appropriate, things were discussed that were not appropriate, that weren't the best practices, weren't based on the latest research." The emphasis on integrating research also helped KT005 avoid giving inaccurate and outdated information, which could be dangerous. Her heavy focus on research was evident during my observation of her training. Throughout her presentation, KT005 provided generous information from popular theorists and scholars.

KT008 referenced the use of research-based information to help attendees address challenges they were having in the classroom: "I find when things are not working in a classroom there is a research reason why – there's a research reason why it's happening." Further, KT008 explained that most of the directions and strategies she offered to attendees were supported by research: "Almost anything that we do we will refer them to a piece of research." During my observation of her training, I noticed her use of research-based information in her review of self-directed learning activities and brain activity. In addition, the handouts she provided to attendees incorporated extensive references to scholarship related to children's emotional and brain development. In fact, of all the training materials I analyzed for this study, KT008's handouts were the most rich, in terms of citing scholarly research.

**Assess Learners' Previous Knowledge**

Another strategy that participants leveraged in their trainings was assessing the needs and levels of individual participants. By doing so, participants were able to ensure the information they presented was relevant to attendees and could be used to address issues they were having in the classroom; this is important to note because the subtheme

of *relevance* was also closely related to *assessing participant level.* Variations in the educational and professional backgrounds of attendees was something that many participants highlighted, and acknowledging the different backgrounds and experiences of attendees reflected the andragogical principle of *experience of learners.* As KT001 explained, "When we train, there's different levels of experience that some have. Some have a little bit of experience, some have minimal experience, medium experience, and some have more experience." In order to make the trainings relevant, some form of assessment was essential. Participants would assess experience level and background in a variety of ways. For example, KT001 used the participatory activity of creating a lesson plan to shed light on participants' experiences with lesson planning.

> KT002 explained with the following how she assessed participant level:
>
> One of the things I did was asking that open-ended question very intentionally, right from the beginning, and that let them know that, "Maybe I don't know it all. Maybe there is something in it for me. Maybe I can learn."

By doing this, not only did she prime them for learning (*readiness to learn*), but she also got a general idea of the knowledge levels of attendees in the room. During KT002's training, she conducted an activity in which participants provided written, tallied responses to indicate their knowledge and understanding of the brain. This activity helped her assess attendees' knowledge and adjust her presentation accordingly. She also conducted an informal assessment of participants' experiences at the beginning of the training, asking them to raise their hands to indicate if they were teachers or directors.

As explained by KT003, when she designed trainings, she tried to keep two things in mind: "What they already know, and what they're hoping to know." She employed different assessment strategies to gauge the knowledge and skill levels of her attendees so she could tailor the training as she did them to make sure she was meeting attendees' needs and expectations. For example, KT003 began her training by asking attendees to stand up, one at a time, and share their professional background in ECE, as well as the questions the hoped to have answered during the training. This indicated the principle of *need to know*, which states that adult learners need to know how learning will be beneficial to them before engaging in the learning process. Like other participants, KT003 mentioned the wide range of ages, experience levels, and educational backgrounds among her training attendees. She explained that she had:

> …participants that ranged from 18 years to 65 years of age, and you know, they get all of
>
> these adult learners spanning from generations and they put them in a classroom, and my job was to understand how to relate to all of them and reach out to all of them.

Like the other participants, KT004 would often begin trainings with a broad assessment of participant level and knowledge, including the ages of the children they worked with and the location of their schools. She explained, "I try to kind of get a feel for where everybody comes from." She often experienced significant heterogeneity among attendees, sharing: "In one classroom I can have somebody that's barely out of

high school and 19-years-old and I can have somebody who, you know, has their CDA and they've been doing this for 30 years and they're in their mid-50s, you know?"

KT005 assessed her audiences, which she also acknowledged were usually diverse, in order to avoid implementing "cookie-cutter" approaches. She explained that while she always began trainings with a plan, she also followed the leads of her participants as she moved through trainings: "we want to follow the lead of our participants, too." By assessing individual needs and abilities, KT005 was able to provide attendees with significant autonomy, which aligns with the andragogical principle of *self-concept.* She understood that generally, the longer a teacher had been in the field, the less willing he or she may be to change their teaching strategies: "the longer that they've been in the field… the less likely they are to be flexible." This awareness, via assessing the experience levels of attendees, allowed her to tailor strategies and identify those who might be harder to convert. KT005 asked questions throughout her training to understand attendees' previous knowledge and to make sure they fully understood each of the points she endeavored to make. She also began her trainings with an assessment, via a show of hands, of the experience levels and backgrounds of her attendees, which allowed her to further tailor her trainings. Similarly, one of the handouts she used contained a series of questions designed to help her better gauge the experience and background of her attendees.

According to KT007, her training organization addressed the variations in attendees' needs by basing them on multiple intelligences, sharing, "we want to make sure that the learning is advantageous to all the students who are participating."

Interestingly, she mentioned the importance of *accepting* attendees' levels of knowledge and experience as fundamental to this concept of assessing participants: "And I think you have to really make sure that you're accepting of their prior knowledge and really accepting of where they are in their knowledge." This piece is important because it demonstrates KT007's willingness to meet attendees wherever they were, in terms of the existing knowledge and research. This acceptance of prior knowledge and experience is also reflective of the principle of *experience of learners.* She did not expect them to come to her, but was willing to cater her training to their needs according to the information she acquired from her informal assessments. She would use questions to check for understanding among audience members.

**Assessing Learners' Wants**

In addition to assessing attendees' backgrounds, participants also discussed assessing what attendees wanted to get out of the training. Assessing attendees to determine what they wanted to get out of a training is reflective of the principle of *need to know*. If attendees come to a training with an awareness of the challenges they need help with, and a trainer addresses those challenges, *need to know* is fulfilled because adult learners can see how that particular information will help them. They *need to know* strategies to overcome issues they are aware of and would like help with. This subtheme of *assessing what adults want* was different from assessing their needs and backgrounds, attending to the fulfillment that attendees sought. KT001 explained that she tried "to make sure that they get a well-rounded session and they're not just sitting there listening to somebody talk all day." KT001's assessment of her attendees' wants was also

reflected in her final presentation slide, which invited them to ask questions. In doing so, KT001 opened the floor up to attendees, allowing them to ask for clarity or acquire knowledge they wanted but had not received up to that point in the training. KT004 also considered the wants of her attendees when designing trainings:

> I really pay attention to the feedback that I get in the trainings, or even when I go and do an observation for the CDA credential, and I really try to listen to what teachers need or what I feel there's maybe a gap on.

KT004 also explained that she routinely updated and tweaked her trainings based on the feedback and responses she received from her audiences. She endeavored not only to provide attendees with the information they needed, but also the information they *wanted*. Similarly, KT008 described using attendee feedback, via evaluations, to guide her trainings. KT005 also assessed the wants of her attendees, with respect to the feedback they provided on her presentations. She shared, "Hey, give me feedback. I want to know what I did well and what I can improve on. We all can improve."

During KT002's training, I noted her assessment of attendees' wants and needs toward the beginning of the training. Specifically, KT002 asked attendees if the lighting in the room was okay for viewing the PowerPoint presentation. Accordingly, she dimmed the lights slightly, based on feedback from attendees, to make sure the presentation was clearly visible. KT002 also made it clear to attendees that her goal was to make sure she was meeting their learning needs – she endeavored to do this by asking questions to assess their previous knowledge and expectations of the training. Further, she concluded her training with a questionnaire that she provided to attendees in order to

obtain their feedback on the training. Some of the questions she included specifically asked participants to rank how well the training met their expectations, objectives, and increased their understanding of the subject matter. By conducting this final assessment, KT002 can use feedback from her participants to adjust future presentations to makes sure she better aligns her training with the wants and needs of her attendees. I also noted KT003's use of assessment of learner's wants in her training materials. She included slides with notes that guided her to provide time for attendees to ask questions, for her to answer them, and for attendees to reflect on what they had learned or needed more information on.

**Use of Questions to Foster Participation**

Almost all participants explained that asking questions was a helpful strategy they used to involve and engage participants. Asking questions had multiple purposes that illustrated alignment with the andragogical principles of *need to know, experience of learners, readiness to learn, orientation to learning,* and *motivation.* For example, when asked how she fostered internal motivation among attendees, KT002 stated that she would ask them open-ended questions. In addition, KT002 used open-ended questions to facilitate reflection and engagement, and to help attendees become clear about what they wanted to get out of the training, which touched upon the principle of *need to know*. An important use of questions was noted during KT002's training, when she asked attendees to share their biggest takeaways from the training. This question not only facilitated engagement, but helped learners recap the important points made during the training.

KT003 also specifically mentioned using questions to involve her attendees. She would ask attendees about their greatest issues in the classroom and how those issues made them feel. Not only did this foster involvement and collaboration among attendees, but it also helped them see that often, they were not alone in the challenges they were having, but that the struggles were common to other ECE teachers. During KT003's training, I noted many instances of asking questions to involve. For example, KT003 would teach a strategy, have participants practice it, and then ask attendees questions regarding their use of such strategies. Her use of questions was also indicated in the notes to the PowerPoint slides she provided.

KT004 specifically discussed using questions to involve her participants. She shared a variety of types of questions she would employ, drawing on their classroom experience and prior knowledge (*experience of learners*). For example, she shared that she would ask, "'Okay. What are some other things that you have done?' You know, 'What are some other things that you have found successful?'" As I observed her training, I noted KT004's use of questions as a strategy to foster communication and participation among attendees. This use of questioning was also apparent in her PowerPoint presentation, which included slides with specific questions posed to attendees, such as "what risky things did You do as a child" to help attendees conceptualize the differences between risks and hazards. KT005 asked specific questions about attendees' teaching strategies and what they did to improve their classrooms. She also asked, by show of hands, what level of children her attendees taught, which helped her get an idea of the specific type of information that may be most helpful to them. The

handouts that KT005 used during her presentation also demonstrated the use of asking questions to involve.

During her training, I observed KT001's use of questions to involve her participants. For example, when going over lesson plan development, she asked attendees, "What frustrates you about lesson plans?" This question not only fostered participation among attendees, but it also helped build connection and rapport by allowing them to discuss common problems with lesson planning and curriculum. This use of questions to foster participation by KT001 was also evident in her PowerPoint presentation. For example, she included a slide with questions designed to assess attendees' knowledge of the ways nurturing relationships can affect children's development throughout their lives.

KT002 also clearly used questions to facilitate attendee involvement during her training. By asking questions, she helped ensure that attendees understood the more complex material she presented, including a discussion of the amygdala and how it affects learning. KT007 also introduced questions after lectures and demonstrations to foster participation and to make sure attendees were absorbing the information she shared. Some of the slides from KT007's presentation included notes to remind the presenter to ask attendees questions and encourage them to repeat or summarize information that was being presented. During my observation of KT006's training, I noted her use of questions to foster participation and to check comprehension among attendees. Specifically, KT006 asked questions such as "What was something that stuck out to you?" after leading participants through a silent reading activity. I also observed

consistent use of questions during KT008's presentation. A particularly salient example involved KT008 asking fellow attendees to share tips and advice after one of them shared a problem she was having in her own classroom. In this way, she not only fostered participation, but leveraged it to help solve a challenge mentioned by one of the attending teachers.

**Respect Learners' Time**

Many participants mentioned the challenges and push-back they received from attendees who were attending the training because their organization required them to. Especially when trainings took place early in the mornings, on weekends, or over the summer, participants explained that they often had the additional hurdle of motivating and engaging attendees who were unwilling to come to the training in the first place. By being respectful of time, participants demonstrated the principle of *readiness to learn* and *internal motivation.* For example, KT003 explained that "They come, a lot of them, because it's so early in the morning and they think, 'I could be at home watching Netflix, it's my summer!'" KT008 understood that her attendees "have plenty of other things to do." To combat this resistance, KT003 explained that she endeavored to always respect teachers' time. She shared that remaining respectful of teachers' time "is a priority in developing my training. You know? I want to make sure that they're within the timeframe that I said they would be."

In addition to providing teachers with useful information during the time they spent in trainings, and staying true to the planned schedule, KT004 was also respectful of the amount of time that attendees had to remain seated during a training. She shared, "I

want to make sure that people are not sitting too long, you know, and that we can get up and move around." She also mentioned giving attendees breaks during the training, which was another form of respect to time. Similarly, KT005 discussed giving breaks between group activities, acknowledging that sitting in a training and remaining engaged for several hours at a time was hard for many people. KT008 also implemented breaks in her trainings, which typically lasted around 4 hours: "Four hours, even if we're doing activities, you need a time off." This respect toward attendees' time was also evident in my observations of KT001's and KT006's trainings, as both were conscious of providing breaks to allow attendees to get up, move around, and refresh. KT003 also provided 5- to 10-minute breaks, which were also indicated by slides that read "time for a break" in her presentation. KT006 also incorporated slides in her presentation that denoted breaks. While the training presentations used by participants employed by Organization 1 all included slides to denote breaks, it should be noted that these presentations were also quite long. For example, KT006's presentation was 95 slides long. It is possible that two 10-minutes breaks for this length of a presentation may have been inadequate.

**Emphasize Teachers' Value**

An important strategy that participants used to facilitate internal motivation was emphasizing the important roles of ECE teachers. This emphasis was reflective of the andragogical principle of *motivation,* which states that adult learners are more likely to be intrinsically driven by factors that enhance their quality of life or improve job satisfaction. By feeling like they are making a difference, and that they are working in careers where they have real value and impact, participants appealed to attendees'

internal motivation. For example, KT002 would exclaim to attendees, "Pretty important work you do!" KT002 tried to emphasize to her attendees that teaching was about much more than just imparting knowledge, but also about "learning and giving," and understanding the impact they can have in children's lives. At another point during KT002's training, I noted that she said "Important work you do" when describing the role and impact of ECE teachers. She later talked about how important teachers are in affecting children's brains, referring to herself and other ECE teachers as "neuro scientists."

Similarly, KT004 explained, "I try to reaffirm what they're doing, that their job is important, and I try to make connections with, you know – Not only is what we're doing with children important right now, but like, down the line, too." KT004 shared that she wanted attendees to recognize that what they do for a living is "a big deal." This emphasis on the teacher's role, responsibilities, and value was also illustrated in KT004's training presentation, which included a number of slides specifically dedicated to the teacher's professional role and value in ECE settings. KT008 endeavored to motivate respondents by getting them excited at "the opportunity that they have each and every day working with children" and asking attendees questions such as "what kind of impact do you want to have?"

Other participants echoed KT002's sentiment using an emphasis on the importance and value of ECE teachers to trigger internal motivation. KT003 discussed helping attendees see "the power that they have in their hands as educators to change the life of a child." She mentioned the "power" that ECE teachers have to be a positive

influence in children's lives several times throughout the interview.KT005 emphasized the value of attendees by referring to them as "professionals" instead of "teachers": "We have early childhood education professionals, and that's what I want to call them and I teach them to call themselves that, ECE professional or Early Childhood Education professionals." She also addressed how attendees treated themselves, and how they allowed others to treat them, urging, "You need to respect yourself as a professional." KT005 shared that she believed ECE teachers often

> …feel inferior to the elementary or middle school and high school teachers because those teachers have four-year degrees and they are paid better, and so, I find that a lot of times our teachers, zero to five, they're like, "Oh, I'm not as good."

During her training, I noted that KT005 also emphasized teacher's value by pointing out the trust that parents placed in them. She explained that parents trust and respect ECE teachers with their children, and that they should demonstrate that same level of respect for themselves. By emphasizing their value, helping them see themselves as important professionals, KT005 may have been tapping into the internal motivation of her audience.

**Build Rapport and Relationships**

Although rapport was not necessarily directly linked to any of the andragogical principles, it emerged as an important subtheme that is still relevant to adult learning. By connecting with their audiences and implementing strategies to build rapport, participants were able to prime their audiences for learning, which can be a precursor to all six of the andragogical principles. Participants employed a variety of strategies to build rapport

with participants, including connecting through personal stories, making personal connections, and using professional examples (such as sharing experiences teaching preschoolers) to increase connection and transference.

For example, KT001 explained, “I give my own personal examples, because I know that as a former teacher, it’s difficult trying to keep children engaged, it’s difficult trying to keep their attention.” KT001 felt that by using examples, she could show that she had was not just a trainer who had no personal experience to build on. Thus, she used her own experiences from the classroom to help attendees relate to her. She felt that using examples also made her more relatable, “because as a presenter they’ll look at you like you’re perfect.” In addition, through sharing their own experiences and challenges they had faced in the classroom, participants felt they were better able to build personal connections with attendees. KT001’s use of personal stories to build rapport was evident during the observation of her training. At the beginning of the training, she began by sharing her personal story of how she became aware of the shortcomings in curriculum and lesson plans in ECE. Her personal experiences and observations helped her understand how important it was to create lesson plans that children found engaging and exciting. At one point, she also leveraged rapport by showing empathy toward attendees who expressed frustration with rebellious teenage kids, sharing, “It will get better, they are almost out of the house!”

KT006 shared that when she started a training, she liked to share a bit about herself to connect with her audience:

> I just immediately like to set the tone and tell them a little bit about myself, a little bit about my background, so that they can understand, Hey, I've used the program myself. I have coached on the program before, and I still coach on the program, just really showing my openness first, because I think that sometimes helps participants to be a little bit more open and willing to be in the training.

In addition, KT006's presentation began with a slide that shared a bit of her background, including her professional experience, personal life, and hobbies/passions. My observation of KT006's training corroborated these statements, as I noted that she began the training by sharing her personal and professional background with attendees. Similarly, the handouts that KT008 provided began with a blurb that contained her professional and educational background and credentials.

KT003 discussed the use of personal anecdotes to connect:

> I will use MANY anecdotes, I use a lot of them, but I do it to build a point of relevance to my audience, I feel they respect you more when they can see that you know what you're talking about, when they see that you've been in their shoes, and so I do it for that purpose, too.

KT003 felt that building rapport and connection with her attendees facilitated learning. Attendees are more likely to engage with and implement strategies taught to them by someone else who has *been there, done that* and can relate to the challenges that ECE teachers experience because they have spent time in the classroom, themselves. She felt that,

> There's nothing more discouraging when you're a teacher than to have somebody step
>
> into your classroom telling you what to do, and they themselves have never taught a day in their life. I feel that that's always disheartening, you know?

Similarly, KT005 wanted her attendees to understand that although she was now a trainer and an academic, she had spent many years in the trenches, herself: "A lot of times I also have to remind them that before I became an academic and I became a professor, I – like, I'm only five years removed," adding that she was an ECE teacher for 15 years before becoming a trainer. During my observation of her training, I noted that KT005 shared her professional background – emphasizing the 10 years she spent as an ECE teacher and the 5 years she spent as a preschool director. During my observation of KT008's training, I noted the handout she provided that included information on her credentials.

KT004 also used these various strategies to connect and build rapport. She explained that she would tell attendees, "Even with my experience and my formal education, I'm still learning more." Later, she shared: "I try to let them know, 'I learn from you all as well,' you know?" In doing so, KT004 humbled herself and reduced the power distance between herself and her attendees. She also felt that by opening up and sharing personal stories, her audience would become more attentive: "like I talk about personal things, but like when I mention my husband and my children, people lean in closer and they start listening a little bit more and then they start connecting with me." I observed KT004's use of personal anecdotes throughout her presentation, including stories from her own teaching experiences in the classroom, as well as her personal

experiences with her son. ” KT005 also shared personal information and stories with her audience, focusing on her experiences as the mother of a toddler “’Oh! I live with a toddler right now,’ so they know that like I’m also living it and not just saying it.”

KT002 used physical connection and affection to help build rapport with attendees. Prior to the start of her training, she greeted attendees with a “Good morning,” followed by a smile and a hug. This warm greeting fostered a unique connection and bond with attendees, increasing their comfort and trust before the training even began. During her training, I observed constant eye contact between KT002 and the attendees, as well as the use of jokes and laughing at silly remarks made by attendees. Her warm, gregarious nature was helpful in building strong rapport with attendees. She also generated rapport by sharing her professional background and extensive experience, which helped give the impression that she was more than qualified to lead the training. This strategy for building rapport was also evident in her training presentation, which contained slides that shared some of professional and educational background.

## Training Design

Training design emerged from the data as a final theme. Although not directly related to the andragogical principles, the factors that influenced training design are salient, as they may influence the ways andragogical principles are implemented. Two subthemes that emerged under this theme were *design guidelines* and *organizational influence on training design.*

**Design Guidelines**

A subtheme that emerged under training design had to do with the personal design guidelines that participants used when designing their trainings. For some participants, research was primarily guided by recent trends and issues in early childhood education. For example, KT001 explained that ensuring her trainings were research-based was the foundation of her design strategy. She also endeavored to make sure trainings were well-rounded and integrated a variety of learning strategies: "we're trying to make sure that they get a well-rounded session and they're not just sitting there listening to somebody talk all day." KT008 also used research to help frame her trainings and to help her determine what was new and popular in the field. After selecting topics, KT008 would create an outline to guide the development of the training.

Like KT001, KT004 reiterated her reliance on research when designing her trainings, explaining that she first determined her objectives, then spent time gathering research, and then poured it all together to create an outline. She also explained that she continuously reworked her trainings based on what seemed to work and what was less effective with different audiences. Her trainings were not fixed, but she remained open to changing them as needed in order to be as effective as possible.

Interestingly, when asked about the guideless that she based her trainings on, KT005 first stated that the topics she chose were based on those she found interesting: "first of all, I make sure that it's on a topic that I find interesting." She went on to explain:

> It's hard for me to train on topics that I don't particularly care about. So, if someone asked me to do a topic, like health and nutrition, you know? I'm just not that into it. So, first thing that has to happen is that I have to be really interested in that topic.

This statement indicated that KT005 had freedom over the topic she trained on, which other participants may not have had. It also revealed the personal passion that KT005 demonstrated in her trainings – she needed to teach topics and materials that she was passionate about and could get excited about. That passion and energy may have helped draw in her audience and in turn, increased the efficacy of her trainings. Other factors that KT005 considered included the amount of time she was allotted, how big the audience would be, and what specific pieces of information on a topic she wanted to include in the training. Like KT005, KT002 also indicated significant freedom to choose the topics she wanted to train on. For her, she was less concerned about being personally passionate about a topic, and more focused on her comfort with teaching a particular topic: "I mean, obviously, we're picking topics that we're comfortable with."

Other training guidelines were evident during my observations of the trainings. For example, I noted that KT008 and her co-presenter stood in the same position each time it was there turn to present. Both of the presenters were dressed in black t-shirts and slacks. The shirts they were wearing had been silkscreen printed with the name of their independent training organization.

**Influence of Trainers' Organizations**

For some participants, the organization they worked with had a strong influence on their trainings. That is, they were not given much leeway in how trainings were designed or presented, but were required to follow the guidelines provided by their employing organizations. I noticed that those who worked for organizations that strongly guided their training design often used the term "we" to describe training strategies. For example, when asked about how she employed the andragogical principle, *orientation to learn*, KT001 replied, "what *we* try to do as co-workers and as an entity, we try to make sure that the courses that we're offering are relevant to now." However, this was not always the case for KT002, who worked for the same organization as KT001, as she explained that "there's kind of a separation between what Organization 3 asks that I consider in the developing of a training, and then there's what I consider to be integrated into the development of training." In other words, KT002 may use her organization's training procedures more loosely than KT001. However, she also shared that the organization required trainers to have a clear objective and target in mind, which trainers could then use to guide the development of their trainings. KT006 worked for the same organization as KT003 and KT007, and explained that she felt the curriculum she trained on was "a wonderful curriculum to work with, and wonderful curriculum to support teachers" however, she did not indicate that the organization had a significant influence on the training strategies she employed, but the curriculum she trained on.

Although KT005 served as board member of Organization 2 and independent ECE trainer, she had past experience working as an instructional specialist for a private

early learning and care organization. She shared how difficult it was for her to work for them because she did not fully believe in their curriculum: "If I ever have to go work for that organization again, it would break my heart because it doesn't fit with what I believe." On the other hand, the training organization she worked with did align with her values, and she did believe in the curriculum they provided. She explained that at the end of the day, the curriculum a trainer is teaching, and the organization he or she works for, must align with the trainer's personal beliefs.

KT002 who worked for Organization 3, seemed to have quite a bit of freedom when it came to the development of her trainings. She explained:

> So, the way these sessions work with Organization 3, we think of a title, we think of a description to put in the catalog, and that's really where it starts. So, that's submitted, and the catalog is out the door, and then you have to create what you're doing.

Despite this freedom, it is also worth mentioning that KT002's training was clearly branded by her employing organization. The Logo and motto of the organization appeared in the lower right-hand corner of each slide. Similarly, the logo and motto of KT001's employing organization (which also employed KT002) was on the bottom of each presentation slide. When asked about the guidelines she used, KT002 harkened back to the importance of relevance and taking a unique angle – she wanted to provide attendees with actionable information from a perspective they had not heard before.

The influence of Organization 1 was also very evident. For example, at the beginning of KT003's presentation, a slide was included that displayed a picture of the

various curricula and educational materials available from the organization, with the caption, “Comprehensive prekindergarten curriculum.” In addition, KT003’s presentation clearly stated the mission of Organization 1 with a diagram that depicted the three-fold mission of providing comprehensive curriculum, differentiated instruction, and innovation. Of the three organizations, the influence of Organization 1 appeared to be strongest in the training materials and presentations that were used by participants. It seemed that trainers working for Organization 1 may have had less autonomy than trainers with the other organizations. Further, the training presentations used by trainers with Organization 1 were developed by the training organization and tended to be “salesy,” in terms of promoting the educational products sold by the organization.

## Evidence of Trustworthiness

I employed a variety of measures to ensure the trustworthiness of this study. The trustworthiness of data is reflective of how accurately collected data reflects participants’ actual perceptions and experiences. As recommended by Guba and Lincoln (1982), I employed strategies to ensure dependability, credibility, transferability, and confirmability. Together, these strategies improved the study’s trustworthiness.

I increased the credibility of data by being mindful of how my behaviors may influence participants. To prevent personal biases or opinions from influencing data in any way, I bracketed my personal experiences and maintained a reflexive journal. I also included multiple data sources, which I was able to triangulate across the three forms of data (observations, interviews, and training materials); thus, enhancing credibility. Interviews provided the main form of data, and two additional forms (observations and

training materials) were analyzed to corroborate findings that emerged from the interviews. In addition, these two additional data sources allowed me to explore things that participants did, but not have been formally aware of, as related to andragogical principles. Finally, I fostered the credibility of study data by employing member checking to ensure my interpretations of study data were reflective of the thoughts and ideas that participants intended to convey. This process allowed participants to review their transcripts and my preliminary analysis to ensure I accurately captured and interpreted data from their interviews.

Transferability, which refers to a study's replicability, was ensured via thick description. I maintained detailed records of my procedures throughout all stages of data collection and analysis. Dependability, which refers to the stability of findings over time (Bitsch, 2005), was established through an audit trail that consisted of detailed documentation of all data collection and analysis procedures, as well as triangulation. Finally, confirmability, which refers to "the degree to which the results of an inquiry could be confirmed or corroborated by other researchers" (Anney, 2014, p. 279) was established through an audit trail, reflexive journal, and triangulation.

## Summary

Professional development is a powerful tool for improving the skills and knowledge of ECE teachers. Research indicates that ECE programs that provide specialized training to teachers generally have more significant and positive influences on children's outcomes (Connors-Tadros & Horwitz, 2014; Ginsburg et al., 2014; Zaslow, 2014). Because training and development among ECE teachers has the potential for

significant, positive effects on the academic and social development of young children, it is important to understand the training and development needs of the professionals who facilitate ECE PD.

The purpose of this study was to explore the knowledge and use of andragogical principles among ECE trainers. A better understanding of ECE trainers' existing knowledge and use of adult learning principles may allow organizational leaders and other stakeholders to create specialized training to develop ECE trainers into more effective educators of adults. This chapter included a discussion of the setting, data collection, and data analysis procedures utilized in this study. The research was guided by two research questions aimed at understanding ECE trainers' knowledge and use of andragogical principles.

A number of salient themes and subthemes emerged, which were thematically presented in this chapter. The three main themes to emerge included (a) lack of training/background in andragogy, (b) training strategies employed, and (c) training design. Overall, although participants were not formally trained in andragogy and unfamiliar with the associated verbiage, data from their interviews, observations, and training materials indicated that most had a strong grasp of andragogy and used andragogical principles to drive the development and presentation of their training materials. An in-depth discussion of study findings, along with a case comparison, implications, and recommendations for future research is presented in the following chapter.

# Chapter 5: Discussion, Conclusions, and Recommendations

## Introduction

The purpose of this study was to explore ECE trainers' knowledge and use of andragogical principles. A better understanding of ECE trainers' existing knowledge and use of adult learning principles may allow organizational leaders and other stakeholders to create specialized training to develop ECE trainers into more effective educators of adults. To address the study problem, I explored ECE trainers' use and implementation of adult learning principles via interviews with trainers, observations of ECE professional development trainings, and content analysis of training materials used during trainings. This study followed an embedded, multiple case study design (Yin, 2011). The study consisted of three cases, which were defined by three different types of training organizations, including those that provide trainings for (a) state-funded ECE centers, such as Head Start, (b) private ECE centers, and (c) home-based centers.

A number of salient themes and subthemes emerged, including (a) lack of training/background in andragogy, (b) training strategies employed, and (c) training design. Overall, although participants were not formally trained in andragogy and were unfamiliar with the associated verbiage, data from their interviews, observations, and training materials indicated most participants intuitively used andragogical principles to drive the development and presentation of their training materials.

Chapter 5 contains a discussion of study findings. I begin with an interpretation of the findings presented in Chapter 4, contextualized against the scholarship discussed in Chapter 2 of this dissertation. Next, I acknowledge important study limitations and

provide recommendations for future research. Important practical and theoretical implications are also addressed. The chapter closes with my concluding remarks.

## Interpretation of the Findings

The interpretation of findings for this study is presented in two sections. First, I interpret findings against Knowles' (2011) six principles of andragogy. I discuss each of the principles and evidence of trainers' knowledge and use that emerged from study data. Next, I discuss the findings thematically, in the context of the research reviewed in Chapter 2.

### Theoretical Contextualization

According to Knowles (2011), andragogy is based on six principles. The first principle is self-concept, which is based on the assumption that adult learners are self-directed, autonomous, and independent. Participants employed this principle by demonstrating respect for learners' autonomy. Such respect was demonstrated in a few ways. For example, participants never forced their attendees to participate in activities at the trainings; rather, they would often *invite* them to participate in an activity or share their thoughts or ideas. Rather than spoon feeding attendees throughout a training, participants would often place them into small groups and give them opportunities to demonstrate autonomy and independence by stepping into roles as leaders and moderators in their small groups. Finally, use of the self-concept principle was evident in participants' use of questions to assess the existing knowledge and experiences of their attendees; in so doing, participants were able to assess the individual needs of their attendees and provide them with greater autonomy throughout the trainings.

The second principle of andragogy is role of experience (Knowles, 2011). This principle is based on the idea that an adult learner's experience is a strong learning resource and that adults often learn by drawing on past experiences. All participants employed this principle, often by asking attendees to share their experiences with other attendees and by using those experiences to demonstrate how to employ a strategy or leverage curriculum or interventions, especially when dealing with difficult situations. By allowing attendees to draw upon and share their experiences with others in the room (either to demonstrate a common challenge they faced or to share a strategy they developed to overcome a challenge), participants leveraged Knowles' (2011) role of experience principle.

The third andragogical principle is readiness to learn, which posits that adults are willing to learn things they believe they need to know (Knowles, 2011). This was another principle that was routinely employed by all participants and was directly tied to the subtheme, *make training engaging.* By leading fun and engaging trainings, participants leveraged the fourth principle of andragogy, *readiness to learn.* Overall, participants endeavored to make trainings engaging and fun because they felt that engagement facilitated learning and that it primed attendees for learning via their readiness and orientation. Thus, this strategy provides evidence of the andragogical principles of *readiness to learn.*

*Readiness to learn* was also associated with the subtheme, *making training relevant to adult learners*. Just as engaging attendees facilitated *readiness to learn,* so too did ensuring the relevance of trainings. According to Knowles, adult learners are

open to learning things that are essential to dealing with problems and issues in their real-life experiences, which reflects the *readiness to learn* principle. Participants employed readiness to learn through making trainings relevant by asking attendees questions that helped them understand what they wanted and needed to learn from the training.

The fourth andragogical principle is orientation to learning, which posits that adults learn for immediate application rather than future use. The learning orientation of adults is problem-centered, task-oriented, and life-focused (Knowles, 2011). The acts of making trainings engaging and relevant, which were associated with *readiness to learn*, also fostered attendees' *orientation to learning.* Overall, participants endeavored to make trainings engaging and fun because they felt that engagement facilitated learning and that it primed attendees for learning via their readiness and orientation. Adult learners are usually task- or problem-focused and prefer learning lessons they can apply practically to their life experiences, which reflects *orientation to learning.* Participants also worked to make sure the information they provided to ECE teachers could be put to immediate use in the classroom. By providing them with useful takeaways, participants provided further evidence of the principle of *orientation to learning.* That is, takeaways that were designed to help attendees solve challenges they experienced in their early childhood classrooms could foster adult learning via *orientation.*

The fifth principle of andragogy is internal motivation, which posits that adults are internally motivated (Knowles, 2011). An important way that participants used this principle was by emphasizing the important role of ECE teachers. This emphasis was reflective of the andragogical principle of *motivation*, which states that adult learners are

more likely to be intrinsically driven by factors that enhance their quality of life or improve job satisfaction. By feeling like they are making a difference and are working in careers where they have real value and impact, participants appealed to attendees' internal motivation.

Finally, the sixth principle of andragogy is need to know (Knowles, 2011), which posits that adults need to understand the value of learning and why they need to learn (Chan, 2010). One way that participants demonstrated *need to know* was by providing attendees with practical takeaways. Another way the *need to know* principle was used was by asking attendees what they wanted to take away from the training. By better understanding attendees' needs, participants were able to tailor their trainings to meet those needs. The *need to know* principle was associated with the subthemes of (a) provide practical takeaways, (b) assess learners' previous knowledge, (c) assessing learners' wants, and (d) use questions to foster participation.

**Academic Research Contextualization**

Because I was unable to locate any studies on andragogy in an ECE PD environment, there is very little previous research with which to compare the current study. Thus, contextualization with previous academic research must be conducted against other disciplines for which andragogical research does exist. For example, Kaufman (2015) explored correlations between adult trainers' teaching experience and professional disciplines, and their use of andragogical principles when facilitating trainings. Participants in Kaufman's study included 393 professional trainers from eight different disciplines, including business, construction and engineering, education and

vocational training, health care, information technology, law and criminal justice, natural and physical sciences, and social sciences and humanities.

Findings from Kaufman's (2015) survey investigation indicated that adult educators' knowledge and use of andragogical principles was not correlated with their specific discipline. This may have also been the case among current participants in the current investigation; however, my findings significantly differed from Kaufman's. In terms of andragogical knowledge, Kaufman's research revealed that 3.8% of participants were classified as pedagogically-oriented, 39.4% were classified as andragogically-oriented, and 56.7% indicated a lack of commitment to either andragogical or pedagogical orientations. Thus, findings indicated that a lack of andragogical knowledge was a problem across trainer disciplines, and that experience did not necessarily correlate with greater andragogical knowledge. It should be noted that Kaufman's study was quantitative; thus, I have made comparisons to my study with caution.

In contrast to Kaufman's (2015) research, findings from my investigation indicated that even without formal background or training in andragogy, adult trainers usually implemented andragogical principles. Andragogical knowledge may, therefore, have less to do with individuals' industries or educational backgrounds, and more to do with their professional experience and the training they receive from their organizations – such seemed to be the case in this study.

Lubin (2013) explored andragogy within the more intimate PD platforms of coaching and mentoring. The researcher conducted a mixed methods exploratory study to investigate the extent to which relationships existed between andragogy in practice and

coaching techniques demonstrated by participants. The researcher found that andragogy was a state of being for coaches, moving beyond techniques and methods to a holistic application of andragogical principles. While none of the participants knew what the six assumptions of andragogy were, they were all intuitively implementing the principles in their coaching, based on their own personal and professional experiences. Findings from my research echoed Lubin's findings in this regard. Although most of my participants did not know andragogical principles by name, they employed them intuitively.

Zepada et al. (2014) explored the characteristics of adult learning embedded in PD for school principals. The researchers employed a case study design to explore the PD practices in four school districts in the State of Georgia. The cross-case analysis indicated several practices for effective andragogy-based PD, including ongoing and embedded learning, collaboration, and a focus on student achievement. The researchers also explained that the practices were oriented toward professionals' goals and were problem-centered. Although a degree of self-directed learning was evident, Zepada et al. noted that tensions existed between PD options selected by educational leaders, which limited principals' abilities to direct their own PD needs. This did not appear to be the case in my investigation. Rather, my participants actively endeavored to assess attendees' wants, needs, and previous knowledge/experience to ensure they were providing attendees with the information they desired from the training.

Overall, the current study contributed novel insights to the body of research on andragogy. Like participants in Lubin's (2013) investigation, my participants demonstrated an intuitive understanding of andragogy. Unlike the trainers in Zepada et

al.'s (2014) study, participants in this study endeavored to make sure they were meeting their attendees' needs and expectations. Finally, in contrast with the trainers in Kaufman's (2015) study, participants in my investigation *did* indicate significant knowledge and use of andragogical principles – they just did not necessarily know the principles by name.

## Limitations of the Study

This study was subject to several limitations. The main limitation was time. Data collection for each training occurred during a single point in time. A longitudinal investigation may have been more helpful for detecting differences in andragogical knowledge among various trainers over time and across training topics; however, time constraints of the current study were prohibitive of longitudinal investigation. This study was also limited to those organizations and trainers who agreed to participate. Although I ensured the confidentiality of participants and organizations, some may have been reticent to grant permission for this study out of concerns that the research may *expose* a lack of knowledge or skills among trainers, and reflect poorly on organizations. My guarantee of confidentiality should have reassured potential participants; however, the nature of this study may have created challenges with recruitment.

This study was also limited to the investigation of ECE trainings and trainers that organizations allowed me to attend. It was possible that organizations would only allow me to attend trainings facilitated by trainers with the most success and experience, thus potentially influencing my findings. In terms of the content analysis component of the study, I was limited to analysis of the training materials that ECE trainers provided to me.

In terms of trustworthiness, I believe there may have been an unavoidable limitation related to participants' desires to appear knowledgeable, even on topics they may not have fully grasped. For example, this limitation was evident when I described an andragogical principle and asked participants to explain how they employed it in their trainings. Sometimes, the responses provided by the participants indicated they clearly did not understand the principle I was asking them about; however, instead of asking for clarification, they would attempt to answer, often providing examples that were not related to the principal I was asking about. Thus, as with most qualitative investigations, it seemed that my presence had an unavoidable effect on participants' responses – as educators, in particular, they might have felt pressure to seem knowledgeable instead of acknowledging lack of background or training on particular principles.

Another limitation related to my presence may have occurred during the trainings. Participants knew ahead of time that I would be observing their trainings; thus, it is possible they may have adjusted their presentations or materials in a way that reflected andragogical principles more clearly. Unfortunately, with the observations taking place on only one point in time, there is no way of knowing the influence my presence had on the presentations given by participants.

Finally, I want to point out that the training materials provided to me by three of the participants (all with Organization 1) were not created by the trainers, but their employing organization. Thus, trainers with this organization seemed to have limited autonomy, which may have impeded their use of andragogy because they were required

to use pre-packaged materials and scripts. Trainer-created materials may have more clearly reflected trainers' individual knowledge and use of andragogy.

## Recommendations

Findings from this investigation reveal a number of opportunities for future investigation. An important direction for future research involves examining the formal educational programs that ECE trainers graduate from to better understand where the gaps in andragogical knowledge begin. While it was evident that participants in this study employed most of the andragogical principles during their trainings, it was also clear that they had not received formal education on andragogy. This might indicate an area for improvement in the formal education of professional development facilitators. A qualitative content analysis of course content and assignments given to individuals studying adult learning might shed new light.

One of the unavoidable limitations of qualitative investigation is the effect of the researcher's presence, especially when conducting observations. As noted earlier, I felt that my presence may have affected study data, particularly because my participants were all educators. I believe it is possible they may have presented differently during the training I observed because they were aware of my presence. One way to help avoid this issue would be to examine andragogy among ECE trainers using quantitative methods. Anonymous surveys designed to assess andragogical knowledge and application might provide different insights, and I believe, reveal more deficiencies in andragogical knowledge and use than the current study revealed.

The scope of the current study was limited to three specific types of organizations, including those that provide trainings for (a) state-funded ECE centers, (b) private ECE centers, and (c) home-based centers. In addition, only individuals working with these three specific organizations were included. The scope of the current research may be expanded by including more organizations, or interviewing a larger sample of individuals employed with one specific organization or organizational type.

Another way future research may build upon the current investigation is to replicate this study, but with laymen's terminology. As I mentioned previously, it was evident that although participants were rarely familiar with the specific principles of andragogy, they did implement them during their trainings. Instead of asking interview questions about the use of andragogical principles, as coined by Knowles et al. (2011), the principles may be described in terms that ECE teachers are likely to understand, and then ask them to describe their use of such principles, from there. Such an investigation may provide more authentic understandings of teachers' knowledge and use of andragogical principles, as it will eliminate any potential barriers related to misunderstanding terminology.

One of the challenges of the current study was the sizable set of data I obtained. Between the interviews, observation notes, and the study materials, I coded and analyzed hundreds of pages of materials. The potential quantity of data may be considered, especially if utilizing a qualitative case study design. It might be more feasible to narrow the scope of future studies to include single data sources rather than three distinct sources as I did in the current investigation. The depth and detail from a qualitative study may be

leveraged with multiple participants via focus groups. It is possible that a focus group setting may result in the emergence of novel data, as it would draw upon the socialization of participants engaged in a conversation about adult learning principles.

Finally, the current study could be replicated with professional development specialists in other industries to see if andragogical principles are applied with more consistency in other fields. It is possible that trainers in other fields, working with other types of professionals, may demonstrate very different understandings and applications of andragogy than ECE trainers. The knowledge and use of andragogical principles among trainers of teachers may be explored for different age groups (elementary and secondary school students). This might reveal discrepancies in andragogical knowledge and application based on the ages of students taught.

## Implications

### Social Change Impact

This study addressed a gap in knowledge and practice by investigating the andragogical knowledge and strategies used by ECE trainers. Early childhood care and education significantly affects the development of children's educational and social skills (Green, 2013). Consequently, one of the most important factors in the quality of care provided to young children is the training that early childhood educators receive (Green, 2013). The implementation of andragogical principles can significantly improve the transfer of knowledge from trainers to attendees of professional development trainings and workshops (Albert & Hallowel, 2013). In addition, andragogical research may facilitate the development of more effective ECE professional development (Sheridan,

Edwards, Marvin, & Knoche, 2009). Findings from this study have social significance in that they revealed that trainers may benefit from formal andragogical training, which may then improve the education provided by ECE teachers to young children. Findings from this study provided an original contribution to the dearth of existing research on the professional development of early childhood educators and expand the existing body of research on andragogy.

**Practical Implications**

The main practical takeaway from the current study is that adult ECE trainers may benefit from formal education on andragogy. Although participants all seemed to intuitively employ most of the andragogical principles, it was evident from interviews that they had not been formally educated on the principles. Had participants received formal education on andragogy, their knowledge and use may have been even better. Because none of the participants in this research had received formal education in adult learning programs, the onus seems to be on employing organizations to make sure trainers understand how to teach adult learners. Therefore, ECE training organizations may consider providing trainers with specialized andragogical education to improve their efficacy as trainers.

**Theoretical Implications**

As discussed earlier in this chapter, data from the current study revealed that while participants understood and used andragogical principles, they just could not identify them by the formal names that Knowles (2011) assigned them. This study provides an important contribution to the andragogical research, including new insights

on how ECE trainers, specifically, employed andragogy. This study also helped expand the use of andragogy by exploring it among a new population (ECE trainers), and revealing trainers' seemingly intuitive understanding of the principles.

## Conclusion

My aim with this research was to expand the body of andragogical scholarship and reveal what ECE trainers know about andragogy and how they employ it in their trainings. Overall, I felt the professionalism, etiquette, and skills of all the wonderful women who participated in this study were impressive. They all exuded passion, creativity, and a genuine love for the field of ECE. I was humbled by their helpful cooperation with my research.

Going in to this study, I expected that participants would have little andragogical knowledge – but my findings certainly challenged this faulty assumption. Data indicated that participants did lack formal education on andragogy, in that they were largely unfamiliar with the terminology. However, despite a lack of formal training on andragogical principles, they seemed to intuitively employ the principles during their presentations. The knowledge participants possessed on adult learning may have been the products of their professional experiences, personal experiences, formal education, the training they received from their organizations, or a combination of these.

Although there was evidence that andragogical principles were implemented by my participants, their lack of formal training on andragogy may be something that ECE organizations take note of. Because the training ECE teachers receive is so essential to ensuring that young children acquire excellent pre-kindergarten education, the trainers

tasked with educating those teachers play key roles in the quality of early childhood education. Formal training on andragogy to help sharpen ECE trainers' knowledge and use of andragogical principles may be of much benefit. For this reason, ECE training organizations may consider implementing professional development or sponsoring outside education for ECE trainers to ensure they are well-versed on adult learning, and to maximize the efficacy of the trainings they provide to ECE teachers.

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# Appendix A: Interview Protocol

1. Please tell me about your professional background and experience as an ECE trainer.
2. Please describe your educational background.
    a. Did you complete a formal college program in adult education? If so, please tell me about what you learned.
3. Please describe any guidelines you use when designing ECE trainings.
4. Are you familiar with the concept of andragogy? If so, please explain what you understand about it, and how you learned about andragogy.

There are six principles to andragogy. I will describe each of them and then ask you to explain if you employ that principle when designing and performing ECE trainings. If you do employ a principle, I will ask you to explain your process.

5. To begin, the first principle of andragogy is self-concept. Self-concept refers to adult learners' need to be autonomous, self-directed, and independent. Do you employ the principle of self-concept in your trainings? If so, please describe how.
6. The second principle of andragogy is called "role of experience." According to this principle, the repository of an adult learner's experience is a strong learning resource, and adults often learn by drawing on past experiences. Do you employ the principle of role of experience in your trainings? If so, please describe how.

7. The third principle of andragogy is readiness to learn. According to this principle, adults are ready and open to learning the things they believe they need to know. Do you employ the principle of readiness to learn in your trainings? If so, please describe how.
8. The fourth principle of andragogy is orientation to learning. According to this principle, adults learn for immediate application, rather than for future use. The learning orientation of adults is problem-centered, task-oriented, and life-focused. Do you employ the principle of orientation to learning in your trainings? If so, please describe how.
9. The fifth principle of andragogy is internal motivation. According to this principle, adults are more internally than externally motivated. Do you employ the principle of internal motivation in your trainings? If so, please describe how.
10. Finally, the sixth principle of andragogy is "need to know". According to this principle, adults need to understand the value of learning and why they need to learn. Do you employ the principle of need to know in your trainings? If so, please describe how.
11. Is there any information that was not covered in this interview that you would like to share?

Appendix B: Solicitation E-mail to Organizations

Kimberly Thornton
[redacted]

Dear _____:

My name is Kimberly Thornton and I'm a doctoral student in higher education and adult learning at Walden University. I'm writing to request your organization' participation in my doctoral research, "Knowledge and Use of Andragogical Principles among Early Childhood Education (ECE) Trainers." As an organizational leader of ECE trainers, you know how vital the information that trainers provide to teachers of young students is. In fact, one of the most important factors in the quality of care provided to young children is the training that early childhood educators receive.

Most of the current research on ECE is focused on the context in which professional development occurs. However, little is known about the andragogical knowledge of ECE trainers. Andragogy, which describes the ways adults learn, improves communication between students and teachers, helping them to collaborate in ways that meet learners' needs. Thus, the aim of my study is to explore the knowledge and use of andragogical principles among ECE trainers.

The study will involve three forms of data collection: (a) my observation of a training/workshop, (b) a face-to-face interview with the facilitator/trainer of that training/workshop, and (c) a content analysis of the trainer's materials. To participate, I would request a brief interview (less than 60 minutes) with each trainer, and I would ask that they provide me with their training materials before or after their training (such as PowerPoints, handouts, etc.) for content analysis.

To be eligible to participate, individuals must have at least two years of experience working as an ECE trainer, a minimum of two years of classroom experience working with young children (ages birth to 5 years), and at least a bachelor's degree in the discipline of early childhood education, child development and/or early intervention.

This project was approved by Walden University's Institutional Review Board (approval number 04-06-17-0170798). The IRB will review my study to ensure adequate protection of all participants. I intend to collect data during spring season of 2017. At the study's conclusion, I will provide you with a copy of the research. I invite you to contact me at the phone number or email below if you have any questions.

All data collected for this study will remain confidential, in accordance with IRB policy and best practices for ethical research. The names of participants, study sites, or organizations will not be published in any reports of the findings.

Thank you for your consideration. I sincerely look forward to hearing from you.

Kimberly Thornton
[redacted]

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# Appendix C: Observation Protocol

Date: _____

Time:_____

Length of observation: _____

Organization pseudonym: _____

Trainer pseudonym:_____

Site: _____

| **General Observations** | |
|---|---|
| Description of physical setting: | Reflexive comments |
| Description of trainer<br><br>_____ | Reflexive comments |
| Description of activities | Reflexive comments |
| Description of trainer's interactions with attendees | Reflexive comments |

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|---|---|
| Observed recurrences (behaviors, verbal communication, non-verbal communication, interactions) | Reflexive comments |

| **Observations of Andragogical Knowledge and Use** | | |
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| | **Check if yes** | **Details if yes** |
| Does the trainer implement "self-concept," encouraging autonomy, independence, and self-direction among attendees?<br><br>Reflexive notes: | | Type of activity: |
| | | Type of material (handout, PowerPoint, etc.): |
| | | Instructions given (if applicable): |
| | | Verbal communication used: |
| Does the trainer implement "role of experience," drawing on attendees' existing knowledge and experiences?<br><br>Reflexive notes: | | Type of activity: |
| | | Type of material (handout, PowerPoint, etc.): |
| | | Instructions given (if applicable): |

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| | | Verbal communication used: |
| Does the trainer implement "readiness to learn," explaining how topics and activities covered in the training are essential to attendees' professional needs, as early childhood educators?<br><br>Reflexive notes: | | Type of activity: |
| | | Type of material (handout, PowerPoint, etc.): |
| | | Instructions given (if applicable): |
| | | Verbal communication used: |
| Does the trainer implement "orientation to learning," using activities and presenting material in a way that is problem-centered, task-oriented, and life-focused?<br><br>Reflexive notes: | | Type of activity: |
| | | Type of material (handout, PowerPoint, etc.): |
| | | Instructions given (if applicable): |
| | | Verbal communication used: |

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| Does the trainer implement "internal motivation," drawing on attendees' intrinsic, rather than extrinsic, motivation?<br><br>Reflexive notes: | | Type of activity: |
| | | Type of material (handout, PowerPoint, etc.): |
| | | Instructions given (if applicable): |
| | | Verbal communication used: |
| Does the trainer implement "need to know," providing an explanation for why the covered materials are integrated into the training?<br><br>Reflexive notes: | | Type of activity: |
| | | Type of material (handout, PowerPoint, etc.): |
| | | Instructions given (if applicable): |
| | | Verbal communication used: |