

An Analysis of the T.E.A.C.H. Early Childhood Project: Factors Related to
Perceptions of Teachers' Knowledge, Skills and Confidence

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ABSTRACT

TISHA ADMIRE DUNCAN: An Analysis of the T.E.A.C.H. Early Childhood Project: Factors Related to Perceptions of Teachers' Knowledge, Skills and Confidence

(Under the direction of Dr. Barbara Day and Dr. Virginia Buysse)

Having highly qualified staff with training in early childhood education can increase the likelihood for young children to receive developmentally appropriate care. The National Institute for Early Education Research reports that 80% of all American families have their child in some form of early care and education program (Doggett, 2006). According to the US Department of Labor (2004), more than 62% of the labor force is working women with children under 6 years old. As more women are entering the workforce, there is an increased demand for childcare, thereby raising questions about whether early childcare providers are adequately trained to meet the needs of the children in their care (Doggett, 2006; McMullen, 1999; Peck, 1994; Vandell, 2004).

In order to investigate which characteristics of the teachers participating in the Teacher Education and Compensation Helps (T.E.A.C.H.) Early Childhood Project predict perceived learning outcomes, the researcher conducted quantitative research through secondary data analysis. The analyses were based on the collection of quantitative data from the

T.E.A.C.H. Scholarship Program Evaluation developed by Child Care Services Association (CCSA) of North Carolina. The survey used in his study provided information on the perspectives of participants (program directors and the teachers they supervised) of the T.E.A.C.H. Early Childhood Project in 2006. The researcher was able to specifically analyze data for 740 learners and 644 directors, linking 208 learners with their directors.

The researcher was unable to conclude that the independent variables had an effect on the dependent variables. Level of education of the learner and age group taught did not influence the perceptions of learners and directors in the areas of knowledge and skills, instructional techniques and practices, and relationships with children and their families. The exception in the results is that age group taught, specifically three, four, and pre-k five year olds, did influence confidence in teaching abilities. Years of experience of the learner did influence relationships with children and their families. The learners' response indicates that course offerings influenced relationship with children and their families.

DEDICATION

To my husband, Alan, for being my biggest fan and my biggest critic in all areas of my life.

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CHAPTER I

Introduction

Background

This chapter provides the background information about this study, *An Analysis of the T.E.A.C.H. Early Childhood Project: Factors Related to Perceptions of Teachers' Knowledge, Skills and Confidence*. The purpose, significance, and research questions are addressed.

Considerable research attention has been given to the effects of non-maternal caregiving on children with babysitters, in family daycare homes, and in child care centers, as the number of infants and toddlers who experience daily care outside of the home has increased significantly over the last three decades, (Howes, 1983; McMullen, 1999; Saluja, Early, & Clifford, 2002; Vandell, 2004). This expansion of the early care and education field, nearly tripling in size since the late 1970's, also increases the need for qualified personnel (Bellm & Whitebook, 2006).

Although many researchers agree that early childhood teachers need more education, at least 70% of the early childhood teachers in North Carolina do not have a college degree (Lamb, 2006). This statistic does not necessarily indicate that there is no interest in further education by teachers

in the profession. According to The North Carolina Childcare Workforce Survey (2003), 32% are already enrolled in coursework; 49% are interested in taking courses; and 69% of family child care providers and 62% of directors were either taking or are interested in taking courses.

T.E.A.C.H. Scholarship Program. North Carolina has made significant gains in teacher training through the Teacher Education and Compensation Helps (T.E.A.C.H.) scholarship program (Kagan & Neuman, 2003). It has now grown into a multi-state initiative to include New York, Pennsylvania, Florida, Georgia, Illinois, Indiana, and Colorado (The Child Care Partnership Project, n.d.). North Carolina developed T.E.A.C.H. to improve the quality of child care by increasing the educational qualifications and the compensation levels of the participants in the program (Cassidy, Buell, Pugh-Hoese, & Russell, 1995). The four major components of T.E.A.C.H. are a) scholarship, b) education, c) compensation, and d) commitment (T.E.A.C.H. Early Childhood Project, 2006). This program allows early childcare teachers to attend child development classes and be reimbursed for their costs in return for agreeing to work in a designated child care facility. T.E.A.C.H. does require the financial support of the facility administrators. They must assist in paying for classes for their staff, but this leads to guaranteeing a longer work contract from the employee.

North Carolina Star Rated License. More and more children are receiving non-parental care and their early development and later school success can be directly linked to quality early care experiences (Lombardi &

Poppe, 2001). It is essential to the optimal development of young children that they receive high-quality care. (Fontaine, Torre, Grafwallner, & Underhill, 2006). Attention to the quality of programs for young children has grown, and there is much debate among early childhood professionals about what constitutes a high quality childcare center, including the contribution of teacher training, environment, and programming to quality (Clifford & Maxwell, 2002; Moss & Pence, 1994; Vandell, 2004, Whitebook, 2003).

The Division of Child Development in North Carolina created the star rated licensing system to provide parents with information about a childcare program's quality. This voluntary licensing system rates centers in the areas of staff education and program quality which are key indicators of quality. The program receives points which are converted into a one to five star rating. One star indicates that a center has met the minimum licensing standards for the state while a five indicates exceeding minimum standards. The star rated license provides a roadmap for programs as they strive to enhance the quality of services (North Carolina Division of Child Development, 2007).

The Study

The purpose of this study was to identify factors related to perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families. The survey used in this study provided information on the perspectives of participants (program directors and the teachers they

supervised) of the T.E.A.C.H. Early Childhood Project in 2006. The study focused on the perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, relationships with children and their families, and demographic information. Early Childhood professionals have interchanging job titles and throughout this study may be referred to as caregivers, providers, educators, and/or teachers.

In order to investigate which characteristics of the teachers participating in the Teacher Education and Compensation Helps (T.E.A.C.H.) Early Childhood Project predict learning outcomes, the researcher conducted quantitative research through secondary data analysis. The analyses were based on the collection of quantitative data from the T.E.A.C.H. Scholarship Program Evaluation developed by Child Care Services Association (CCSA) of North Carolina. A sample of 208 scholarship directors and 208 scholarship recipients were used in this study.

The Research Questions and Hypotheses

Education and learning begins as early as birth; therefore, an emphasis on provider education and training and how they impact high-quality care is invaluable to the future of our children.

This research was investigated using the following research questions and hypotheses:

Research Question 1. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and

age group taught) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Research Question II. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Research Question III. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and a perceived increase in confidence in teaching abilities as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 2: The years of experience of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 3: The age group taught by learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Research Question IV. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in relationships with children and their families as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in relationships with children and their families.

Research Question V. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Research Question VI. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and the perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Research Question VII. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and a perceived increase in confidence in teaching abilities as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Research Question VIII. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in relationships with children and their families as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Research Question VIII. Are the relationship between learners' self-ratings and director ratings of learning outcomes congruent?

Hypothesis 1: The self-ratings of learners and the directors' ratings will have a positive relationship.

The staggering upward trend of the number of children receiving substantive care should force our society to make early childhood education and care a priority. Having highly qualified staff with training in early childhood education can increase the likelihood for young children to receive developmentally appropriate care. Recent statistics analyzed by the North

Carolina Association for the Education of Young Children (Lamb, 2006) indicate that the quality of the childcare environment and abuse and neglect incidence are linked with teacher education. The teaching force can be empowered by increased education.

Significance of the Study

The National Institute for Early Education Research reports that 80% of all American families have their child in some form of early care and education program (Doggett, 2006). According to the US Department of Labor (2004), more than 62% of the labor force is working women with children under 6 years old. As more women are entering the workforce, there is an increased demand for childcare, thereby raising questions about whether early childcare providers are adequately trained to meet the needs of the children in their care (Doggett, 2006; McMullen, 1999; Peck, 1994; Vandell, 2004).

A study by the Smart Start Evaluation Team, a statewide initiative in North Carolina, found that children attending higher quality centers scored significantly higher on measures of skills and abilities that are important for school success in comparison to children from lower quality centers (Bryant, Maxwell, Taylor, Poe, Peisner-Feinberg, & Bernier, 2003). With increased awareness of the connection between young children's learning experiences prior to school, school readiness, and achievement, the early childhood field has become more aware of the need to focus on teacher education level and training. This study will provide the early childhood communities and Child

Care Services Association of North Carolina with information about the factors related to perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families.

Limitations

The following are limitations to this dissertation.

1. Responses from directors and learners completing the T.E.A.C.H. survey, constitute self-reports. Respondents may misinterpret the questions or attempt to answer the questions in a way in which they perceive the researchers want it answered. Additionally, participants may distort their answers since negative information could be perceived as a criticism on themselves, the center, and/or administration. In order to address this limitation, surveys were administered to both director and learners.
2. This research study may have limited generalizability beyond participants in the T.E.A.C.H. scholarship program specifically located in North Carolina.
3. The results of this research may not be representative of all participants because it is based solely on the responses of the participants in the T.E.A.C.H. Early Childhood Project who returned a completed survey.
4. The survey evaluation does not include observational data.

Terms

Independent and dependent variables. Level of education, years of experience, age level taught, adequacy of opportunities to learn, quality of course instructors, and quality of campus services were the independent variables chosen in this research based on statistical analysis.

Independent or control variables. considered were:

1. Learner education level
2. Learner years of experience
3. Age group taught by learner
4. Course offerings
5. Course instructors
6. Campus services

The dependent variables identified in this study were knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families.

Early childhood professional development. The researcher used the conceptual framework for Early Childhood Professional Development (Figure 1, p. 15) developed by the National Association for the Education of Young Children (NAEYC, 1993) position statement. Although the researcher did not develop the evaluation used in this study, the theoretical framework provided by Kirkpatrick's (1975) Model for Summative Evaluation (Figure 2, p. 16) can be used to design an evaluation of the T.E.A.C.H. Project.

General terms. The following terms are found throughout this dissertation. These terms have been adapted from the Summary Report written for Cornerstone for Kids (Kagan et al., 2006).

1. Early Care and Education (ECE): embraces different types of programs, all of which share the goal of nurturing young children's development, growth, and learning.

2. Center-based Programs: includes programs which may be publicly and/or privately supported. They include Head Start, state-funded pre-kindergarten programs, nursery schools, and child care programs. They may be housed in schools, nursery schools, child care centers, or community/religious settings.

3. Family Child Care (FCC): describes care that takes place in a home and is usually licensed by a state's child care regulatory entity, although states vary tremendously in the stringency and scope of their regulations.

4. Family, Friend, and Neighbor Care (FFN): describes care that may be unregulated and often legally-exempt care provided either in the child's or the caregiver's home. This could also be termed as informal care, kith and kin care, or license-exempt child care.

5. Teacher(s) or the Teaching Workforce: includes all personnel whose primary role is to provide direct instructional services for children. Included in this category are lead teachers, assistant teachers, aides, FCC providers, and FFN caregivers.

6. Professional Development: used to describe the formal education, training, and credentialing that ECE teachers pursue to enhance their skills.

7. Formal Education: refers to credit-bearing coursework provided in an accredited educational institution, including 2- and 4- year colleges, and universities.
8. Training: includes all educational activities that take place outside of the formal education system. *Specialized training* refers to training in topics directly related to child development and early education.
9. Credentials: documents the qualifications and skills an individual possesses to carry out a given role. They attest to the fact that an individual has received the requisite formal education and/or training to perform an employment function.
10. National Association for the Education of Young Children (NAEYC): A professional organization which offers early childhood educators professional development opportunities designed to improve the quality of services for children from birth through age eight—the critical years of development.
11. Developmentally Appropriate Practices (DAP): DAP result from the process of professionals making decisions about the well-being and education of children based on what is known about child development and learning, what is known about the strengths, interests, and needs of each individual child, and knowledge of the social and cultural contexts in which children live (NAEYC, 1996).

Survey terms.

1. T.E.A.C.H.: Teacher Education and Compensation Helps project was developed to upgrade the level of education of teachers working with young

children while making the educational process affordable, increasing wages, and reducing turnover.

2. T.E.A.C.H. Project Sponsor: Centers must agree to sponsor a scholarship teacher by contributing a portion of the cost of tuition and books, giving teachers paid release time each week and agreeing to award the teacher either a bonus or raise upon completion of the one-year scholarship contract. T.E.A.C.H. will reimburse centers for one-half the cost of the release time. Sponsors may also be referred to as directors within this study.

3. T.E.A.C.H. Scholarship Recipient: Any teacher who would like to attend a community college and/or university to enroll in coursework in Early Childhood Education and who is employed full-time (30 hours/week minimum) in a licensed child care center or a licensed large family child care home. Scholarships are awarded on the basis of need and commitment to the Early Childhood Education field. Recipients may also be referred to as learners within this study.

Assumptions

It was assumed that directors and learners would provide honest responses to the evaluation questions. The researcher did not have access to identifying information on the participants to ensure anonymity and encourage the sharing of experiences.

Statistical models tested relationships between dependent and independent variables. It was expected that the information from the analysis would reveal what factors related to teacher characteristics and access to

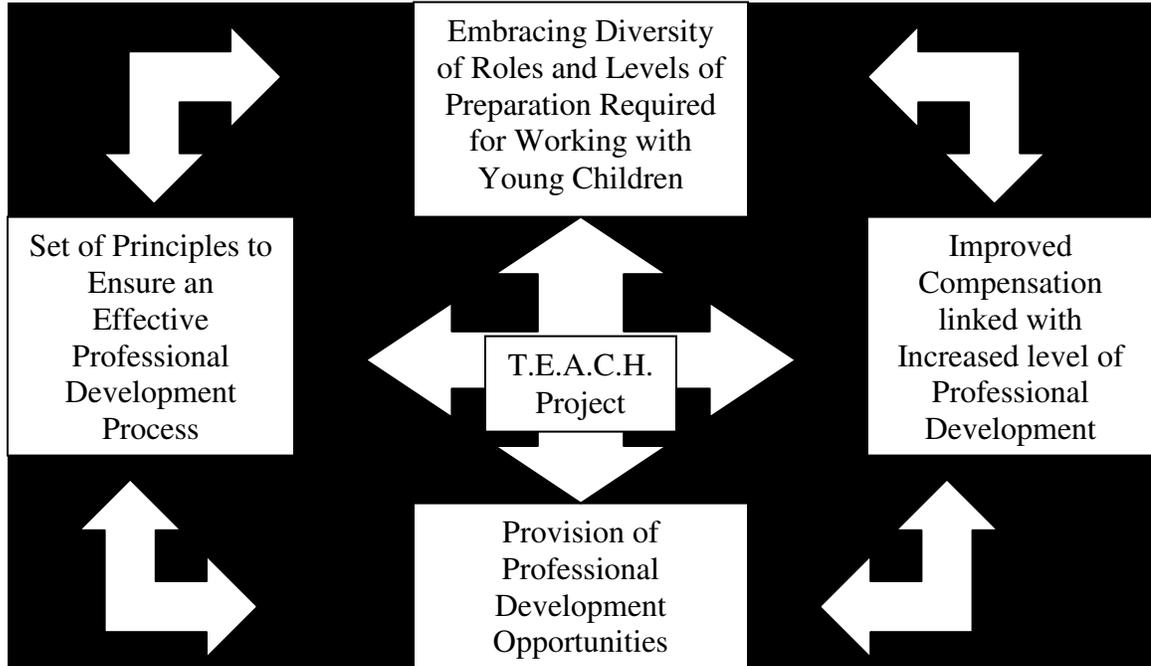
professional development opportunities predict teacher's perceived acquisition of knowledge and skills.

Conceptual Framework

The researcher used the conceptual framework for Early Childhood Professional Development (Figure 1.1) developed by the National Association for the Education of Young Children (NAEYC, 1993). There are four components of the conceptual framework, as shown in Figure 1, which continually affect one another. They are listed as follows:

- Embracing diversity of roles and levels of preparation for professionals working with young children;
- Set of principles to ensure an effective professional development process;
- Provision of professional development opportunities; and
- Improved compensation linked with increased level of professional development.

Figure 1.1



In the center of this framework is the T.E.A.C.H. Project, which is designed to financially assist child care professionals who enroll in classes toward earning credentials or degrees through scholarships, paid release time, and money for books. However, financial assistance cannot be provided by the T.E.A.C.H. project without a commitment by a center director/owner who also serves as the sponsor for scholarship recipients.

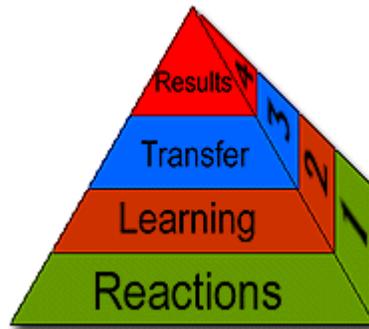
Theoretical Framework

Donald Kirkpatrick developed the four levels of evaluation as a pyramid (Figure 1.2) beginning with level one and moving sequentially through level four.

- Level 1 evaluates the reactions of the training participants. Did they enjoy the training? Could they relate the material to their work?

- Level 2 evaluates learning. Did the participant advance in skills or knowledge?
- Level 3 evaluates transfer. Is the participant using the newly acquired skills and/or knowledge in their lives?
- Level 4 evaluates results. Is the training program successful? Can positive results be determined?

Figure 1.2



(Winfrey, 1999)

As the levels increase, the measure of effectiveness is more precise, building on information provided by the lower level. For the purposes of this study, the researcher primarily focused on Level 1 based on the perceptions of the directors and learners. Kirkpatrick's theoretical framework can be used to design an evaluation of the T.E.A.C.H. scholarship program and NAEYC's conceptual framework addresses the key components of professional development.

Teacher training and education is one of the most crucial variables of quality in early childhood education (Dwyer, Chait, & McKee, 2000). The researcher chose the conceptual framework developed by NAEYC because its various components can be aligned with the project evaluation used in the study. The level of education and training corresponds with levels of preparation for professionals working with young children; the acquisition of knowledge and skills corresponds with the set of principles to ensure an effective professional development process; and the availability of learning opportunities corresponds to the provision of professional development opportunities. A more in depth study on improved compensation for an increased level of professional development could be considered for future research.

Summary

The preceding information provides a brief background for how the researcher will conduct the study: *An Analysis of the T.E.A.C.H. Early Childhood Project: Factors Related to Perceptions of Teachers' Knowledge, Skills and Confidence*. The T.E.A.C.H. Project continues to increase in participation each year and is used as a model for offering incentives for those working in the early care and education field. The major questions explored were: What learner characteristics of the T.E.A.C.H. Program predict perceived learning outcomes as assessed by directors and learners?; How does the availability of programming for learners predict perceived learning outcomes as assessed by directors and learners?; and Are the

relationship between learners' self-ratings and director ratings of perceived learning outcomes congruent? The directors and learners participating in the T.E.A.C.H. Program during 2006 were used as the population for this study.

The following review in Chapter II will analyze research on the impact of teacher training and preparation on developmentally appropriate practices (DAP) and quality within early childhood programs.

CHAPTER II

Literature Review

Overview

As federal mandates are enforced and regulations change, there has been an increased focus on early childhood programs and school readiness. Mary Ellen Freeley, President of the Association for Supervision and Curriculum Development (ASCD), states “Policy interest in early childhood education is being fueled by research that links early learning experiences with later school achievement, adult productivity, and a sound future economy—research that says the earlier you start, the bigger payoff you have” (p.4). No Child Left Behind, More at Four, and Smart Start are among the many programs designed to help young children receive quality early care and education. Major components of success with these programs are teacher education level and professional development.

In reviewing the literature, quality instruction for children of all ages is crucial to their social, emotional, and academic development. According to Kennedy (2006), qualifications of hired personnel, professional development and other workplace supports, and standard operating procedures can influence the quality of teaching in schools and school districts.

The purpose of this research is to determine factors related to perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families. Data were gathered from directors and learners of the Teacher Education and Compensation Helps (T.E.A.C.H.) Project about the perceptions of those who enroll in Early Childhood education courses. The researcher used the conceptual framework for Early Childhood Professional Development (Figure 1) developed by the National Association for the Education of Young Children (NAEYC, 1993) position statement. Although the researcher did not develop the evaluation used in this study, the theoretical framework provided by Kirkpatrick's (1975) Model for Summative Evaluation (Figure 2) can be used to redesign the evaluation tool of the T.E.A.C.H. Project.

Conceptual Framework. There are four components of the conceptual framework, as shown in Figure 1.1, which continually affect one another.

They are listed as follows:

- Embracing diversity of roles and levels of preparation for professionals working with young children;
- Set of principles to ensure an effective professional development process;
- Provision of professional development opportunities; and
- Improved compensation linked with increased level of professional development.

In the center of this framework is the T.E.A.C.H. Project, which is designed to financially assist child care professionals who enroll in classes toward earning credentials or degrees through scholarships, paid release time, and money for books. However, financial assistance cannot be provided by the T.E.A.C.H. project without a commitment by a center director/owner who also serves as the sponsor for scholarship recipients.

The researcher chose this framework because its various components can be aligned with the Project evaluation used in the study. The level of education and training corresponds with levels of preparation for professionals working with young children; the acquisition of knowledge and skills corresponds with the set of principles to ensure an effective professional development process; and the availability of learning opportunities corresponds to the provision of professional development opportunities. A more in depth study on improved compensation for an increased level of professional development could be considered for future research.

Theoretical Framework. Donald Kirkpatrick developed the four levels of evaluation as a pyramid (Figure 1.2) beginning with level one and moving sequentially through level four.

- Level 1 evaluates the reactions of the training participants. Did they enjoy the training? Could they relate the material to their work?

- Level 2 evaluates learning. Did the participant advance in skills or knowledge?
- Level 3 evaluates transfer. Is the participant using the newly acquired skills and/or knowledge in their lives?
- Level 4 evaluates results. Is the training program successful? Can positive results be determined?

As the levels increase, the measure of effectiveness is more precise, building on information provided by the lower level. For the purposes of this study, the researcher primarily focused on Level 1 based on the perceptions of the directors and learners.

While Kirkpatrick's theoretical framework can be used to design an evaluation of the T.E.A.C.H. scholarship program and NAEYC's conceptual framework addresses the key components of professional development, the following review of the research will show how quality, support, and teacher training impact developmentally appropriate practices in an early child care setting.

Teacher Training and Preparation Have Important Effects on Quality

Research findings increasingly show that high-quality early education programs have positive and tangible effects on many facets of children's later adjustment (Coplan, Wichmann, Lagace-Seguin, Rachlis, & McVey, 1999). The Trust for Early Education (2002) ascertains that high quality teachers who receive specialized training in Early Childhood provide high quality early literacy experiences, appropriate practices, and offer a higher quality learning

environment. Children attending higher quality centers are engaged in different activities and behaviors resulting in exposure to different environments than those children attending poorer quality centers (Vandell, 2004). In high-quality centers, teachers spend more time positively interacting, praising, and working one-on-one with children; conversely children in poor-quality centers spend little time in constructive learning activities and receive only disciplinary interactions to control behavior (Cartwright, 1999; Fontaine et al, 2006; Peterson & Peterson, 1986; Vandell, 2004). A caregiver who understands what is appropriate for different ages and stages of childhood can prepare appropriate activities and accept the various behaviors and abilities which exist among young children (Ponder, 2007, p. 5).

The Impact of Training and Experience upon the Quality of Caregivers

Because being “experienced” does not mean “expert,” caregivers can strive to improve their practices, learn from their experiences and assimilate new knowledge into future situations (Dunn & Shriner, 1999). According to Phillips (1994), “deciding what to do and when to do it is an act of interactive creating that is based on relationships and that takes into account who the children are, who their parents are, and what the profession has endorsed as age-appropriate practices” (p. 235). Caregiving behaviors, types of available activities in the center, and teacher/child interactions are influenced by teacher training and experience (Ackerman, 2004; Howes, 1983; McMullen, 1999). However, experience is a comprehensive construct that requires one

to decipher what the beneficial features of experience are and how they relate to competent caregiving (Dunn & Shriner, 1999; Phillips, McCartney, & Scarr, 1987). Generally, when individuals choose a profession or field of study, they already have an explicit set of beliefs to justify their practices and will have some understanding of how to perform their job (Carr & Kemmis, 1986). Findings suggest that offering early childhood educators better experiences helps to shape their set of practices and internal beliefs. (Abbott-Shim et al, 2000).

Although years of experience are important and can influence quality in early childcare programs, teachers who are seeking their associate and bachelor degrees participate in courses which offer both instructional and theoretical perspectives on children's development (Abbott-Shim, Lambert, & McCarty, 2000). In turn, these perspectives influence their practices and beliefs in the classroom (Abbott-Shim et al., 2000). Research has shown that providers with more training are more sensitive and responsive than those with little or no training (Kontos et al., 1995). Early childcare providers with a low level of formal education tend to approach the classroom in a more practical manner rather than reflecting on each day's activities (Abbott-Shim et al, 2000). They rely on what works best for the classroom and may not implement developmentally appropriate practices that incorporate young children's interests.

Teachers who know and understand all areas of the curriculum are intuitive about a child's interests (Bowman, 2001). According to Bowman, this

allows for reflective planning that will integrate each curricular area (i.e., math, science, language, and the arts) into the lessons. Teachers must understand what children do during their play and why, as well as, have the ability to use observations to guide their planning (Catapano, 2005). Teachers who have been taught about the learning needs of young children and how to teach them are more likely to conduct rich learning activities that address each child's individual needs rather than use prescribed inappropriate and unproductive activities (Barnett, 2004). The National Association for the Education of Young Children's (NAEYC) standards also conclude that an early childhood professional's decisions about whether to intervene in a dispute between two children, how to organize nap time, what materials to use for an activity, and/or what to include in a newsletter should be informed by research-based knowledge and values within a professional context (Hyson, 2003). These issues related to quality are more prevalent when the teacher has received education and training specifically related to Early Childhood Education (Ackerman, 2004).

Arnett (1989) conducted a study that compared caregiver practices to their level of training. The study consisted of 59 caregivers in 22 day care centers on the island of the Bahamas. The caregiver training was on the following levels: a) no training; b) two courses in Bermuda College training program; c) all four-courses in the Bermuda College training program; and d) a 4-year college degree in Early Childhood Education. He found that caregivers with a 4-year-university based program displayed gentler

interactions, engaged in clear communication, and were more enthusiastic when participating in learning activities than caregivers with no training beyond high school. Additionally, Arnett found significant differences between teachers with minimal training and no training. Educators with at least two or more training courses held less authoritarian attitudes toward childrearing, interacted in a more positive and less detached manner in their interactions with children than those educators with no early childhood training. Cassidy et al. (1995) conducted research with 34 teachers (19 receiving scholarships to attend courses and 15 comparison teachers) who all had high school diplomas and some in-service training. They found that with as little as 12-20 credit hours (4-6 courses) of community college coursework, teachers showed significantly more developmentally appropriate practices and beliefs than those who did not attend any college classes. The program participants were evaluated in their classrooms using the Early Childhood Environment Rating Scales (ECERS) or the Infant-Toddler Environment Rating Scales (ITERS) where they showed significant gains in quality when comparing pre and post-test scores. However, it must be noted that strong associate degree early childhood programs are not advanced versions of community training workshops, nor are they simplified or accelerated versions of four-or five-year teacher education programs (Hyson, 2003).

Educators from a four- and five-year higher education program ground their decisions through multiple perspectives and sources of knowledge

(Hyson, 2003). Through his research Barnett (2004) has found that “better-educated teachers have more positive, sensitive and responsive interactions with children, provide richer language and cognitive experiences, and are less authoritarian, punitive and detached” (p.4). The National Child Care Information Center compiled a table of center child care licensing requirements in October 2006 and found that only 12 of 50 states (California, Delaware, District of Columbia, Hawaii, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Vermont, and Wisconsin) had minimum education requirements for teachers in child care centers. Of the 12 states maintaining minimum preservice qualifications, none require teachers to have more than a two-year degree. Further research indicates that no jurisdiction in North America requires child care center staff to have more than a two-year course in early childhood education (Doherty-Derkowski, 1995, Ackerman, 2004). Even in the private early care and education settings, only 18 states require teachers to have any preservice training much less obtain a degree in early childhood. Table 2.1 provides detailed minimum preservice requirements by state.

Table 2.1
Minimum Preservice Requirements for Teachers in Private ECE Centers

<i>Requirement</i>	<i>State(s) Where Applicable</i>
No requirements	Alaska, Arizona, Arkansas, Colorado, Connecticut, Idaho, Indiana, Louisiana, Maine, Mississippi, Missouri, Montana, Nebraska, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Utah, Virginia, West Virginia, Wyoming
No preservice requirements but training required within 6 months of employment	Alabama (12 hours within 30 days), Nevada (6 hours within first 6 months of working), North Carolina (must enroll in coursework for state's EC credential within 6 months of working)
No preservice requirements but training required within first year of employment	Georgia (10 hours), Iowa (10 hours), Kentucky (6 hours), Tennessee (18 hours or one college course)
8 to 20 hours of preservice training	Texas (8 hours), Washington (20 hours)
More than 20 hours of preservice training	Florida (40 hours), Maryland (90 hours plus 1 year experience)
Child Development Associate (CDA) or certified child care professional (CCP)	District of Columbia (plus experience), Hawaii (plus 1 year experience), Illinois, Kansas (plus 1 year experience), Minnesota (plus 1,560 hours of experience), New Jersey (plus 6 credits in early childhood or related field), Vermont
College coursework in early childhood or equivalent	California (six semester units), Wisconsin (two credit or noncredit ECE courses plus 80 days experience)
Vocational child care program	Delaware (plus 6 months experience), Massachusetts (2-year course), Michigan (1-year course), New Hampshire (2-year course)
Bachelor's (BA) degree meeting standards for state early childhood certificate	Rhode Island

Source: Ackerman (2004)

A minimum of a bachelor's (BA) degree is required for kindergarten teachers in all 50 states and some require specific certifications related to the early childcare field (Ackerman, 2004). It should be noted that although kindergarten teachers are required to have more years of formal education than child care staff, their education is generalized rather than specific to the needs of children younger than six years old (Doherty-Derkowski, 1995; Maxwell, Lim, & Early, 2006). Maxwell et al. (2006) conducted a study with 1,179 Institutions of Higher Education (IHE) who offered early childhood degree programs located in all 50 states, "plus Washington DC, Puerto Rico, Micronesia, Northern Marianas, America Samoa, and Guam" (p.5). Results of the study showed that of the early childhood programs, about 70% prepared teachers to work with children from the infant/toddler years to early elementary school which addresses the breadth of the program, but may not provide adequate depth necessary to be deemed highly qualified.

Coplan et al. (1999) found that licensed teachers appear to receive a more broad-based education applicable to children of various ages while teachers completing the two-year degree receive more concentrated and specialized training relevant to the education and care of younger children. One program may not offer appropriate education while the other offers an insufficient amount of education (Doherty-Derkowski, 1995). According to Catapano (2005), the content and the way in which teachers learn will influence what and how they teach children. Although there are many

preservice requirements and regulations which vary from state to state, early care and education remains a hot topic of discussion.

Teacher Influence on Quality Childcare

Various studies have shown that caregiver training and teacher education level have a direct impact on program quality in an early childcare setting (Abbott-Shim et al., 2000; Ackerman, 2004; Arnett, 1989; Coplan et al., 1999; Cassidy et al., 1995; Epstein, 1999; Fontaine et al., 2006).

Teachers play a critical role in a young child's learning environment, serving as a facilitator in their growth and development (Conner, Son, Hindman, & Morrison, 2005; Coplan et al, 1999; McMullen, 1999). Peterson & Peterson (1986) studied the quality of centers with three groups of 3-5 year old children and their mothers. Group 1 consisted of 24 children enrolled in two high-quality centers, Group 2 was comprised of 18 children enrolled in two poor-quality centers, and Group 3 included 24 children who had never been in daycare. The study concluded that there were significant differences in teacher-child interactions and teacher-child ratios between the groups with Group 1 having the most positive interactions.

In a forward written for *Quality Matters*, David Hamburg remarks that the essential building blocks for development are grounded in high quality child care programs (Copple, 1991). Qualified educators in early childhood programs are more likely to provide warm, nurturing interactions with both the children and their families, and communicate a genuine interest in young children's characteristics and activities (Cartwright, 1999; Hyson, 2003;

Kontos, Howes, Shinn, & Galinsky, 1995; Trust for Early Education, 2002). Vandell (2004), in a discussion of quality childcare states, “caregivers tend to be more stimulating, warm, and supportive, to organize materials better, and to provide more age-appropriate experiences when they have more formal education and more child-related training” (p.391). Research has also shown that better quality programs served by highly educated and professionally trained teachers increase the likelihood that children will have the social, emotional and cognitive skills necessary for healthy development and school success (Bowman, 2001; Conner et al, 2005).

Children’s success throughout their educational years is not solely dependent on instruction, but also on the connections they make with influential adults who facilitate and support their learning growth and development (Hyson, 2003). Providers who are warm, caring, sensitive, and responsive toward the child are more likely to create a bond that encourages higher levels of cognitive competence (Kontos et al., 1995). Responsiveness in caregiving is enhanced by the teacher’s ability to empathize with young children’s natural inclinations to explore and learn about their world (Hyson, 2003).

For young children both with and without disabilities, educational objectives focusing on cognitive, language, social, and/or motor development as well as adaptive behaviors can build the foundations for later academic success (Odom, Peck, Hanson, Beckman, Kaiser, Lieber, et al., 2001). From birth, children are actively learning through auditory, visual, and social-

emotional experiences with parents and other caregivers (Ramey & Ramey, 2004). Neuroscientists believe that since the brain is not fully developed at birth vital connections are made during the first few years of life (Jones, 1999, Ramey & Ramey, 2004). Their research also indicates that for at-risk children, intensive early intervention can make a remarkable difference for later academic adjustments and success. Buysse, Wesley, Bryant, and Gardner (1999) conducted a study with 180 community-based childcare centers which enrolled children with and without disabilities. Their findings indicate that inclusive centers, those enrolling children with disabilities, scored higher on the Early Childhood Environmental Rating Scale (ECERS) than those centers which were noninclusive, which only enrolled typically developing children. Additionally, results found that other predictors of program quality included teacher education, professional experience, and teacher self-ratings.

Professional Development for Early Childhood Practitioners

Many states are beginning to coordinate efforts to implement a professional development system to serve early care and education teachers (DeBord & Boling, 2002). Because there are various pathways to entering the field (i.e., credentials, two-year, four-year degree, etc.), early childhood proponents should consider raising entry qualifications and enhancing ongoing professional development activities to improve overall quality in early childhood programs (Epstein, 1999; Kagan et al., 2006). Additionally, the lack of degreed applicants has forced many programs to provide in-service

trainings to advance the education level of their staff which can be costly (Carter, M., 2006; Fromberg, 1999). Although attending service trainings and workshops may be beneficial it does not guarantee that there will be neither a positive impact on classroom practice nor that qualification will improve (Ackerman, 2004). Consequences of unprepared teachers include, “the growth of transitional classrooms and retention of kindergarten children for a second year, increased numbers of children delaying entrance to kindergarten, and the increased use of worksheets and workbooks” (Fromberg, 1999, p. 35). Teachers need to have a foundation in best practices for young children in order to fully appreciate professional development activities since they will directly impact the experience for the teacher and the children (Catapano, 2005).

According to Campbell and Milbourne (2005), “the types of activities described as professional development vary and range from completion of a required number of training hours to intensive, long-term approaches that may use such strategies as consultation, mentoring, or technical assistance” (p.3). Their research on *First Beginnings*, a training program, indicates that a cost-effective means of producing change in quality early childcare was to offer and incorporate professional development activities for caregivers.

North Carolina has made significant gains in teacher training through the Teacher Education and Compensation Helps (T.E.A.C.H.) scholarship program (Kagan & Neuman, 2003). It has now grown into a multi-state initiative to include New York, Pennsylvania, Florida, Georgia, Illinois, Indiana,

and Colorado (The Child Care Partnership Project, n.d.). North Carolina developed T.E.A.C.H. to improve the quality of child care by increasing the educational qualifications and the compensation levels of the participants in the program (Cassidy et al., 1995). The four major components of T.E.A.C.H. are a) Scholarship, b) Education, c) Compensation, and d) Commitment (T.E.A.C.H. Early Childhood Project, 2006). This program allows early childcare teachers to attend child development classes and be reimbursed for their costs in return for agreeing to work in a designated child care facility. T.E.A.C.H. does require the support of the facility administrators as they will be assisting in payment for staff classes to guarantee a longer work contract.

Another form of professional development is consultation by a certified trainer who works with teachers in the facility to assist them in their instructional practices. Palsha and Wesley (1998), conducted research using the *Inclusion Partners* in-service model where consultation between trainers and providers emphasizes sound early childhood practices and reinforces quality that will extend to children both with and without disabilities. Their research found an increase in environmental rating scale scores, as well as high satisfaction rates among the consultants and consultees who participated in this inclusive model.

Mentor programs are another way to improve professional practice, increase retention, facilitate professional growth for teachers, and are an opportunity for teachers to enhance their skills (McCormick & Brennan, 2001; Onchwari, 2006). The Kentucky Teacher Internship Program (KTIP), a

support and assistance program for teachers which includes an internship, mentoring and a teacher portfolio was established. Additionally, legislation created a certificate in interdisciplinary early childhood education (IECE), for professionals serving birth through primary ages. This certificate includes nine performance standards divided into strands of family involvement, interdisciplinary collaboration, and diversity reflecting the common knowledge and skills necessary to work with young children including children with disabilities (McCormick & Brennan, 2001). A study of this program indicates that “KTIP may have an equally significant and long-term impact on the lives of Kentucky’s children because it improves the efficacy and satisfaction of their teachers through a carefully structured, supportive professional development system” (149).

Agency policies that support adult development enhance both program quality and children’s development in a childcare program (Epstein, 1999). Epstein conducted a study to examine the differences in in-service training, program quality, and teacher qualifications using 109 Head Start, 72 public school, and 110 private nonprofit early childhood classrooms. Her research findings indicate that although there were significant differences in the centers, they all showed high levels of quality. This in turn highlights that there are different means of achieving high quality in an early care and education setting.

Onchwari (2006) conducted a study of 44 Head Start teachers across two mid-western states who received support from a literacy mentor coach.

Findings indicate that ongoing support and guidance is important for effective professional development activities to help teachers develop their skills. The relationship developed between the mentor and mentee is important and can be a cost-effective means of enhancing teaching pedagogy.

During the High/Scope research, researchers found that a child's representational, social, and language development is associated with provider in-service training (Epstein, 1993). Researchers of the High/Scope Perry Preschool Study examined the lives of 123 African Americans who were born in poverty and identified as having a high risk of failing in school (Schweinhart, 2005). At ages 3 and 4 the children were randomly divided into two groups: one received high-quality preschool program and the other group received no preschool program. The individuals were followed throughout their lives and 95% were interviewed at age 27. Those who received high quality preschool experiences had less criminal arrests, earned higher salaries, obtained property wealth, and had a greater commitment to marriage (Schweinhart, 2005). These findings support the need for high quality childcare programs and ongoing professional development for practitioners.

Multiple Roles in Teacher Preparation

For continued quality service, in-service training should not cease upon a provider's completion of his/her education, but continue as s/he works (Albrecht & Engel, 2007; Doherty-Derkowski, 1995). It may be difficult for an associate degree program to provide in-depth knowledge and specific skill training for all areas of the curriculum (Hyson, 2003). For that reason, "well-

prepared graduates should know how to identify and use credible professional resources from multiple sources, allowing them to better serve children and families with a wide range of cultures, languages, needs, and abilities” (Hyson, 2003, p. 118).

There are various impacts on quality in early childcare and education. Parents must be comfortable with the provider, the provider must feel competent and supported by administration, and the children must be in a safe environment that nurtures and elicits growth (Klinkner, Riley & Roach, 2005). Institutions of higher education, professional organizations, and policymakers can work together to ensure that childcare improves from mediocre to high-quality in the coming years.

The Role of Institutions of Higher Education in Teacher Preparation

Barnett (2004) poses an important question: “If a college degree is considered essential for teaching 5-year-olds in kindergarten, why isn’t it required for teaching 3- and 4-year-olds?” (p. 2). NAEYC’s framework expresses two major concerns in early childhood degree programs. One important concern is that educational programs that focus on the upper end of the age range may be insufficient in preparing educators in the subject matter areas and critical content needed to foster children’s academic success (Hyson, 2003). A second, and just as important, concern is that teacher education programs may give inadequate attention to the birth-age 3 periods which are considered to be a child’s critical early years. An integrated means of educating staff who serve children ages 3-5 could be beneficial since both

child care and kindergarten provide services for children from these age groups (Doherty- Derkowski, 1995; Maxwell et al., 2006). In Barnett's (2004) research he found that many teachers in early childhood education only have a high school education and less than half have four-year degrees, while most teachers in the public schools have a bachelor's degree with additional credentials or licensure. Currently, while France requires the equivalent of a master's degree to work in early childcare, only forty-two of the fifty states require a high school diploma for teachers in child care centers (Barnett, 2004).

Policymakers and faculty in higher education institutions must recognize that early childhood education is different from elementary education because it balances a child's need to play with reasonable expectations and shifts its focus to active, developmentally appropriate, hands-on learning (Jones, 1999). While the focus of schools is cognitive learning, young children learn concepts through emotional, social, physical and aesthetic means (Fromberg, 1999). Providers working in infant-toddler care whose preparatory education courses were limited in child development may not fully support young children's learning because the teaching practices they were taught are more appropriate for older children (Hyson, 2003). Those persons associated with the early childhood field cannot underestimate the importance of child-specific training (Epstein, 1999). Coplan et al (1999) conducted a study in Canada with 179 children between the ages of 45 and 58 months, who were enrolled in 14 half-day junior

kindergarten programs at the beginning of a school year. The results indicated that teacher effectiveness is more valuable with either specialized training or formal education and can produce highly competent preschool teachers. Ultimately, early childhood education programs must prepare future teachers with knowledge of child development, best teaching practices, and the necessary skills required to teach a highly diverse population (Barnett, 2004).

According to Donohue, Fox, and Torrence (2007), today's educators have new ways to teach and learn through the growing online learning environment with educational opportunities "from noncredit professional development and certificate and credential programs to two-and four year degrees and graduate degrees" (p. 37), Fry, Smith, and Johnson (2002) find that "a specialized knowledge base for teaching and teacher education provides a sound rationale to engage in change that supports authentic, ethical, and enduring reform" (p. 1), but also note that "as institutions design and develop programs that adhere to national standards, they often struggle to remain sensitive to state and local contexts" (p. 2). These inconsistencies carry over to the providers who want to continue their education, but are misguided about the appropriate training necessary to work in the field. Students who have completed their two-year degree and want to continue on to receive their four-year degree may have difficulty transferring their earned credits, thereby discouraging them from continuing their education (Early & Winton, 2001). Oftentimes early childhood degree programs are housed in

varying departments among universities and colleges, i.e. Department of Education or Social Sciences, which add to the inconsistencies in the field (Fromberg, 1999).

Institutions of higher education must be prepared to take action for the increased demands for early childhood teacher education. North Carolina has been working for several years on developing articulation agreements between the community college system and other institutions of higher education. These agreements would encourage and assist students completing a two-year degree to transfer to a college or university and complete a four-year degree. Benefits of these agreements between two- and four year institutions of higher education include a more efficient educational process for the student, a more diverse student population, and a well-educated workforce to serve children and families (North Carolina Institute for Early Childhood Professional Development, n.d.). Making changes to one component of a system can impact other areas. DeBord & Boling (2002) state, “articulation activity impacts educational access and activity changing compensation patterns can then create movement in the education or leadership components” (p. 303). It must also be noted that not all colleges and universities in the North Carolina system have agreed to support articulation and are continuing discussions on how to ease the transition from two- to four-year colleges.

Higher institutions of learning must also take into consideration the issues and barriers associated with non-traditional learners. The average age

of the childcare workforce is 39 years old and many have not participated in formal education since high school (Ackerman, 2004). The plethora of forms, applications, and expenses involved when entering or returning to school can be intimidating for teachers (“Building Quality Child Care”, 2007). These caregivers have ongoing professional and personal obligations as well as the logistical issues with attending class on campus after working a 12-hour day. Teachers in the twenty-first century need to be proficient in technology, reading, writing, and communication in order to model these skills successfully in the early childcare environment (Landerholm et al., 2004).

The Role of Professional Organizations in Teacher Preparation

The National Association for the Education of Young Children (NAEYC) published a conceptual framework in 1994 outlining what early childcare professionals should be knowledgeable of and perform. Some items were “to demonstrate and apply in practice an understanding of child development, to plan and implement a developmentally appropriate curriculum, and to establish and maintain productive relationships with families” (Phillips, 1994, pgs. 234-5). The association contends that it has a dual purpose, which includes developing standards for institutions desiring external accreditation and forming an evidence-based consensus that models a shared vision across the various segments of the early childhood field (Hyson, 2003). Although the standards are ideal they are often replaced by the realities of the workplace where state and local regulations govern the certification of teachers and the licensing of child-care centers (Phillips,

1994). According to Phillips, the licensing guides and regulations vary greatly from state to state. The early childhood standards could be flawed if the knowledge base for the field is inaccurate and/or incomplete (Fry et al., 2002). NAEYC (2006) has recently released their position statement on the standards for programs which prepare early childhood professionals as well as an accreditation process for institutions of higher education. These standards for tomorrow's teachers include 1.) Promoting child development and learning; 2.) Building family and community relationships; 3.) Observing, documenting, and assessing; 4.) Teaching and learning; and 5.) Becoming a professional (NAEYC, 2006).

Additionally, North Carolina formed The Institute for Early Childhood Professional Development also known as the *Institute*. It evolved from a small group in 1993 to a formal working group in 2001 and is comprised of individuals interested in early childhood professional development (DeBord & Boling, 2002). The working system of the *Institute* includes five task groups: Public Awareness, Professional Development and Infrastructure Coordination, Compensation and Education, Regulations and Standards, and Leadership and Mentoring. Surrounding this system are influences which could be negatively impacted if only one portion of the system is addressed. Those influences are partnerships, public awareness, stakeholder input, resources, and other external impacts. The *Institute* continues to work toward the "fortification and centralization of an accepted professional development model coupled with the long-term commitment and consistent collaboration of

all the stakeholders” (DeBord & Boling, 2002, p. 304). The infrastructure for delivering high-quality teacher preparation for the early childhood workforce is a critical factor in the success of state and federal efforts (Early & Winton, 2001).

The Role of Policymakers in Teacher Preparation

There is no system-wide definition of early care and education, thus policymakers have no organized means of assessing quality (Kagan & Neuman, 2003; Mitchell, 2007). Because childcare centers can be established in homes, through private corporations, or in public systems, there are inconsistencies in teacher qualifications, funding, and programming. Policymakers are caught between two conceptions of the purpose of out-of-home care for young children: “An essentially work-and-welfare related service, oriented to keeping parents on the job” or “An essentially educational service, oriented to meeting the developmental and learning needs of young children” (Bellm and Whitebook, 2006, p. 6-7). One is geared toward minimum requirements and custodial care while the other supports school readiness and equality of care for all children. Even in preschools regulated by government agencies, teacher education requirements vary widely because the standards fluctuate among government agencies that sponsor public school, Head Start, and other preschool programs (Albrecht & Engel, 2007; Barnett, 2004).

There must also be follow-up on whether or not the mandates are being enforced. Research shows that only 50% of teachers nationwide in the

federally funded Head Start program have been required to upgrade their educational qualifications from credentials to an associate (AA) degree or higher (Ackerman, 2004). Kagan et al (2006) identify the American early care and education field as a failing public market characterized by “imperfect information, unlimited personnel supply, and market deregulation” yielding in a “non-system of services for young children that is low in quality, fragmented, inefficient, and seriously compromised by searing workforce inequities” (p.1). Although policymakers are beginning to bolster regulations, improve teachers’ access to professional development, and enhance training content and formal education, further research in this area is needed to show specifically how policymakers can ensure quality childcare for all young children.

Teacher Preparation is Vital to Quality Early Childcare and Education

Quality can be defined in general terms as a level of excellence or one of high degree (Kauffman, 1997). In an early childhood program, quality could be defined in terms of classroom arrangement, child-teacher ratios, and the number of learning materials present, as well as how the teacher influences the learning experiences for the children (Abbott-Shim, 2000). Quality in early education programs is characterized by low staff-to-child ratios, group size, developmentally appropriate practices, and staff who receive ongoing, effective early childhood education in child development (Copple, 1991; Hyson, 2003).

However, a recent study conducted by Early, Maxwell, Burchinal et al., (2007) found no direct links between teachers’ education and classroom

quality. Their analyses of seven major studies of early care and education indicate that preschool teacher education alone will not improve classroom quality, but rather the quality is influenced by other factors as well.

Defining Quality in Childcare Settings

Moss and Pence (1994) offer two ways to define quality in early childhood education as well as other service areas, using either an analytical or evaluative approach. In an analytical approach, one analyzes the components of the childcare service, while in an evaluative form one tries to evaluate how well the childcare service performs and whether it meets the predetermined goals or objectives (Moss & Pence, 1994). Although the two approaches to exploring quality differ, they can be balanced because before one can evaluate whether something is good or bad, one must first set a standard defining what the term *good* means (Moss & Pence, 1994).

Over the past few decades, policymakers, educators, researchers, and parents have taken an interest in early childhood care for children birth through preschool age, and the definitions of quality are ever-changing (Arnett, 1989; Campbell & Milbourne, 2005; Epstein, 1999; Moss & Pence, 1994). Epstein (1999) describes the changes in focus over three decades:

The message in the 1970s was that program quality could be improved by attending to structural factors such as group size and child-staff ratio (Ruopp, Travers, Glantz, Coelen, & Smith, 1979). The message in the 1980's was that program quality was generally quite poor and staff was undercompensated (Whitebrook, Howes, & Phillips,

1989). In the 1990's the Cost, Quality, and Child Outcomes Study Team (1995) continued to raise concerns about the quality of child care centers, noting that only one in seven child care centers (14%) received overall ratings of good quality (p. 101).

Additionally, early research studies refer to process quality which includes the interactions and experiences that children have with their peers, caregivers, and materials (Vandell, 2004). Strong correlations have been made between the quality of early care and education and cognitive growth, language development, and social competence (Palsha & Wesley, 1998). In the United States the quality of most childcare centers is poor to mediocre, with only 14% rated as high-quality early childhood programs (Jones, 1999; Palsha & Wesley, 1998). Currently, North Carolina uses the following rating scales which are a common set of measures of process quality. The Early Care Environment Rating Scale (ECERS; Harms, Clifford & Cryer, 2004) is based upon 7-point ratings of the reasoning, social, language, and physical environment in child care centers (Vandell, 2004). The Infant/Toddler Environment Rating Scale (ITERS; Harms, Cryer, & Clifford, 1990) as well as the Family Day Care Rating Scale (FDCRS; Harms & Clifford, 1989) use measures related to care for children under the age of 2 ½ and child care homes (Vandell, 2004). Although there are varying definitions, degrees, and analysis of quality in an early care and education setting, research has shown that the level of quality in a setting has lasting effects on young children (Ackerman, 2004; Fontaine et al, 2006; Schweinhart, 2005).

Need for Resources and Incentives

Among many concerns of policymakers are the working conditions and pay for child care providers (Early & Winton, 2001; Klinkner et al, 2005; Peck, 1994). According to Ackerman (2004), one could earn more money pumping gas, trimming trees, or serving food versus working in early childcare. The lack of benefits, inadequate pay, and demands of the job increase staff turnover rates and provide little incentive to increase professional development and education level. Policymakers are also becoming more and more aware of the discrepancies between what the research findings articulate about the importance of early childhood educators to young children and the existing policies and practices in place which do not adequately compensate childcare providers (Early and Winton, 2001). It is difficult to recruit and hire quality early child care educators with poor pay and no benefits (Barnett, 2004). There are well educated people who simply are not attracted to early childhood programs because of the status, wages, and working conditions (Carter, M., 2006). In order for pre-k and childcare to make positive differences in the lives of children, they must include high quality settings headed by well-qualified professionals (Doggett, 2006). Moreover, leaders in the field must not be content with what is given, but rather begin to command that more resources be allocated to ensure a higher quality of programming (DeBord & Boling, 2002).

Because there are so many children entering early childhood programs, American taxpayers should be questioning whether or not we can

afford not to pay for well-educated and highly qualified preschool teachers (Barnett, 2004). Hyson (2003) states:

Access to professional education and to professional career pathways is becoming increasingly important for the many early childhood practitioners currently working with young children. Yet those calls for greater formal education have not been matched by public investments in salaries and working conditions for early childhood staff, especially in the community child care programs that serve the vast majority of children under age 5 (p.95).

However, finding incentives to attend training opportunities or further their education could reduce the number of unqualified people and staff turnover rate both which affect classroom climate and child attachments (Bellm and Whitebook, 2006; Jones, 1999; Kagan et al., 2006; Peck, 1994). Researchers have found that early childcare providers whose salaries were on the higher end of the pay scale stayed in their position twice as long as staff earning salaries at the lower end of the pay range (Doherty-Derkowski, 1995). In addition, job satisfaction indirectly affects the adult's behavior, in turn affecting the well-being and development of the children with whom s/he works. Consistent adult care allows young children to develop bonds with the adults in their lives, therefore it is best for the same caregivers to remain with a child for as long as possible (Ponder, 2007).

Conclusion

The United States is attempting to solve some of the primary issues surrounding early childhood care and education (Reynolds, Wang, & Walberg, 2003). In order for to move forward, there must be a considerably larger commitment of public and private resources for early childhood care and education than are currently available so that childcare programs will be able to offer the kinds of high quality teaching that children need and deserve (Bowman, 2001). It is also important for parents to begin recognizing, finding, and paying for high-quality care (Kontos et al, 1995). Only when the United States begins to recognize the important role of educators, raises teacher qualification levels, and offers pay commensurate with other areas of education will it provide quality preschool education (Barnett, 2004). As policy-makers consider raising the standards in early childcare, they must also consider the challenges, supports, programs, and research that are currently being used in the early childhood education field (Early & Winton, 2001). Students should be provided with new content and practicum experiences that are challenging and current to meet the needs of today's changing population of young children.

The literature reviewed here recognizes that teacher training and preparation have important effects on quality, that there are multiple roles in teacher training and preparation, and that teacher training and preparation are vital to quality in early care and education. The researcher would like to investigate the factors related to perceptions of teacher knowledge and skills,

instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families.

The following chapter, Chapter III, will reflect the methodology used in the current study.

CHAPTER III

Research Design

Background

This study was conducted to identify factors related to perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families. The survey used in this study provided information on the perspectives of participants (program directors and the teachers they supervised) of the T.E.A.C.H. Early Childhood Project in 2006. The study focused on the perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, relationships with children and their families, and demographic information. Early Childhood professionals have interchanging job titles and throughout this study may be referred to as caregivers, providers, educators, and/or teachers.

Rationale for Quantitative Research

In order to investigate what elements of the T.E.A.C.H. Early Childhood Project foster skills and qualities which are essential to becoming an effective early childhood teacher, the researcher conducted quantitative research through secondary data analysis. The analysis was based on the

collection of quantitative data from the T.E.A.C.H. Scholarship Program Evaluation developed by Child Care Services Association (CCSA) of North Carolina.

Site Selection & Participants

Access

The researcher collected and performed a secondary data analysis from a program evaluation of scholarship directors and learners. This study was conducted by Child Care Services Association of North Carolina who is the developer of the T.E.A.C.H. Early Childhood Project. CCSA granted the researcher access to this data for the purpose of this study. The researcher did not have access to identifying information of directors or learners.

Sampling

Participants were chosen for this study because they were: a) directors who sponsored teachers working toward an increased level of education specifically related to early childhood in their licensed facility; or b) were learners taking courses specifically related to early childhood education. Each learner must have a sponsor in order to participate in the T.E.A.C.H. program. Sponsors are owners or directors of a child care facility who agree to support a recipient through paid leave, travel time, and salary bonuses upon completion of coursework and/or degree. For the purpose of this research, sponsors were referred to as directors.

Directors of the facilities in which learners were employed were asked survey questions about types of activities such as: early childhood

knowledge and skills, teaching techniques and practices, confidence in his/her teaching abilities, enthusiasm in the classroom, and relationships with children and their families.

Prior to the researcher receiving the data, each participant received a code from CCSA to eliminate the use of identifiers. The scholarship learner's and directors' names and addresses are registered in a database at CCSA. "Active" recipients are those caregivers working as a family home care provider or in a childcare facility who attended courses during Spring 2006, Summer 2006, and/or Fall 2006. For the purposes of this research, recipients were referred to as learners. Scholarship learners may have attended courses related to an associate (AA) or bachelor's (BA/BS) degree. Research staff mailed surveys in March 2007 to all active scholarship learners.

Population & Sample Sizes

For this study, a secondary data analysis of the population and a sample of 644 scholarship directors and 740 learners were used. All directors were surveyed regardless of whether their scholarship learner returned a completed survey. The researcher was also able to specifically analyze data which linked the responses of 208 directors and learners.

Data used in this secondary analysis were a subset of all scholarship program participants in North Carolina. Learners participating in the early childhood associate's degree scholarships represented the largest group with 3,769. There were 247 participants in the early childhood bachelor's degree

scholarship. A distribution of participants by ethnicity revealed that 47% were White/European-American, 46% were Black/African-American, 3% were Hispanic/Latino/Latina, 1% each were American Indian, Asian/Pacific Islander, or Other, and <1% was Multiracial. A total of 1,252 child care centers and 632 family child care homes participated in the T.E.A.C.H. Project. No information on the gender of participants or the North Carolina star rated licensing for the facilities was provided by Child Care Services Association.

The following information reports demographic data on the population (740) of this study. The average number of years of experience was 10 years and 9 months, with a range from 1 year to 44 years. Some college credits were earned by 69% of learners while 23% have earned an AA/AAS degree. The majority of learners, 72% work with one of three specific age groups: infant through two year olds; three, four, and/or pre-school five year olds; or school age children. However, 27% serve all groups, infant through school age.

Instrumentation

Background

The T.E.A.C.H. pilot project began in North Carolina in 1990 (T.E.A.C.H. Early Childhood Project, 2006). The initial project awarded 21 scholarships and a satisfaction survey was conducted upon completion of the year. This program is now offered in twenty states in addition to having

participants from all 100 counties in North Carolina. There have been approximately 14,000 participants since the project's inception.

The Survey

The program evaluation was completed by directors and learners who were familiar with the T.E.A.C.H. Early Childhood Project. The survey instrument used for both directors and learners was created based on earlier written and phone evaluations used by T.E.A.C.H. and Child Care Services. The survey contained 32 items. Closed-ended portions of the survey with answer formats using a Likert scale were used, resulting in scores ranging from 1-4 on the director survey and 1-3 on the learner survey.

Director. The directors, also referred to as sponsors, completed an evaluation of the T.E.A.C.H. Project (Appendix C). The first part of the survey, items 1-5, was used for demographic data. Survey items included references to individuals' work environment and length of service in the field. Items 6-11 were used to determine the degree to which directors were satisfied with the various aspects of the T.E.A.C.H. Project and the degree to which they found it easy to implement the project. Items 12-13 consisted of ten sub-questions which addressed the effectiveness of the college/university which participants typically attend. A second part of the survey inquired about personal reflections on professional practices of each individual participant of the project working at the facility.

Learner. The learners, also referred to as recipients, completed an evaluation of the T.E.A.C.H. Project (Appendix D). Items 1-8 were used for

demographic data. Survey items included references to individuals' work environment, length of service in the field, and educational goals. Items 9-22, 27-29 were used to determine the degree to which learners were satisfied with the various aspects of the T.E.A.C.H. Project and the degree to which they found it easy to participate in the project. Items 23-26 consisted inquired about personal reflections on professional practices by the learner. Items 30-31 consisted of ten sub-questions which addressed the effectiveness of the college/university which participants typically attend.

Item constructs. For the purpose of this study, selected items from the survey were matched to the following seven constructs. Table 3.1 includes representation of learner and director response by survey construct. Table 3.2 includes representation of director items by survey construct. Table 3.3 includes representation of learner items by survey construct.

Table 3.1**Representation of Learner and Director Survey Items by Construct**

<i>Construct</i>	<i>Items from Learner and Director Evaluation</i>
Perceptions of Adequacy of Opportunities to Learn	13a./31a. My college/university offers an adequate number of evening courses.
	13b./31b. My college/university offers an adequate number of weekend courses.
	13c./31c. My college/university offers an adequate number of courses at its main campus.
	13d./31d. My college/university offers an adequate number of courses at off-site locations.
	13e./31e. My college/university offers an adequate number of courses on the internet.
Perceptions of Quality of Campus Services	13g./31g. Early childhood advisors at my college/university are available.
	13h./31h. The registration process at my college/university is easy.
	13i./31i. My college/university communicates effectively with students.
Perceptions of Quality of Course Instructors	13f./31f. The quality of early childhood instructors at my college/university is good.

Table 3.2

Representation of Director Survey Items by Construct

<i>Construct</i>	<i>Item from Director Evaluation</i>
Perceptions of Knowledge and Skills	1.1 Since enrolling in college courses the recipient has increased her/his early childhood knowledge and skills.
Perceptions of Instructional Techniques and Practices	1.2 Since enrolling in college courses the recipient has improved the quality of her/his teaching techniques and practices.
Perceptions of Confidence	1.3 Since enrolling in college courses the recipient has increased confidence in her/his teaching abilities.
Perceptions of Relationships	1.6 Since enrolling in college courses the recipient has improved relationships with the children and their families.

Table 3.3

Representation of Learner Survey Items by Construct

<i>Construct</i>	<i>Item from Learner Evaluation</i>
Perceptions of Knowledge and Skills	26.d I have increased my knowledge of child development.
Perceptions of Instructional Techniques and Practices	26.e I have improved my teaching techniques and practice.
Perceptions of Confidence	26.f I am more confident in my teaching abilities.
Perceptions of Relationships	26.g. I have better relationships with the children and families with whom I work.

Establishing reliability and validity

Cronbach's alpha is widely used to compute how well items measure with the same underlying construct. When the correlations between the items increase, generally Cronbach's alpha will increase. A higher score indicates a high probability that the items are measuring a single one-dimensional latent construct. A reliability coefficient of .70 or higher is considered "acceptable" in the field of social sciences. There was no validity or reliability data available from CCSA about the evaluation tool used. In order to test the internal consistency of the instrument, the researcher chose to calculate a Cronbach alpha coefficient (α). The researcher also used kappa to provide a measure of agreement corrected for chance. The results from this study can be found on pg. 83.

Procedures

Child Care Services Association of North Carolina devised two questionnaires to obtain information from directors and learners. One questionnaire was mailed to teachers who received T.E.A.C.H. Early Childhood Associate or Bachelor Degree Scholarships including a cover letter and raffle opportunity for completing and returning the survey. The second was a phone questionnaire for directors of scholarship learners (Child Care Services Association, 2005).

A secondary data analysis of existing director and scholarship learner program evaluations with several open-ended questions was used. The purpose of the evaluations was to gather information about the effectiveness

of the T.E.A.C.H. scholarship program and to determine if there was a perceived change in scholarship learner knowledge and skills after attending courses specifically related to early childhood.

Analysis

The elements of the project that foster skills and qualities which are essential to becoming an effective early childhood teacher were predicted to change by participation in the T.E.A.C.H. Project. This study is a secondary data analysis of existing quantitative data collected through surveys. In Chapter IV the researcher will report on the significant statistical differences in the findings.

Independent and Dependent Variables

Level of education, years of experience, age level taught, adequacy of opportunities to learn, quality of course instructors, and quality of campus services were the independent variables chosen in this research based on statistical analysis. The dependent variables were knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families. Table 3.4 outlines the measurement and analysis plans.

Hypotheses

This research was investigated using the following research questions and hypotheses:

Research Question 1. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and

age group taught) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Research Question II. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Research Question III. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and a perceived increase in confidence in teaching abilities as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 2: The years of experience of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 3: The age group taught by learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Research Question IV. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in relationships with children and their families as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in relationships with children and their families.

Research Question V. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Research Question VI. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and the perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Research Question VII. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and a perceived increase in confidence in teaching abilities as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Research Question VIII. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in relationships with children and their families as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Research Question VIII. Are the relationship between learners' self-ratings and director ratings of learning outcomes congruent?

Hypothesis 1: The self-ratings of learners and the directors' ratings will have a positive relationship.

Table 3.4 Data Analysis

Dependent Variable (DV)	Questions Used from Director Evaluations	Questions Used from Learner Evaluations	DV Level of Measurement for Recipient and Sponsor	Independent Variable (IV)	Questions Used from Learner and Director Evaluations	IV Level of Measurement	Bivariate and Multivariate Methods of Analysis for Learner and Director
							Crosstabulations/Logistic Regression
Teacher Knowledge	#1/Individual	#26/d	Dichotomous/Dichotomous	Teacher Level of Education	#5	Ordinal	
				Years of Experience	#2	Interval Ratio	
				Age Group Taught	#3	Nominal	
				Access to Professional Development Opportunities	#31a-j #13a-j	Interval Ratio	Paired samples t-test
Teacher Techniques	#2/Individual	#26/e	Dichotomous/Dichotomous	Teacher Level of Education		Ordinal	
				Years of Experience		Interval Ratio	
				Age Group Taught		Nominal	
				Access to Professional Development Opportunities		Interval Ratio	
Teacher Confidence	#3/Individual	#26/f	Dichotomous/Dichotomous	Teacher Level of Education		Ordinal	
				Years of Experience		Interval Ratio	
				Age Group Taught		Nominal	
				Access to Professional Development Opportunities		Interval Ratio	
Teacher Relationships with Children and Families	#6/Individual	#26/g	Dichotomous/Dichotomous	Teacher Level of Education		Ordinal	
				Years of Experience		Interval Ratio	
				Age Group Taught		Nominal	
				Access to Professional Development Opportunities		Interval Ratio	

Data for this study were received as two Excel files, directors and learners, from Child Care Services Association (CCSA). They were then “cleaned” through conversion into the statistical software program Statistical Package for the Social Sciences (SPSS) with frequencies run on each question to ensure responses were within expected range.

First, the researcher completed a univariate analysis of each variable from all participants including frequencies for nominal or ordinal variables. The means, standard deviations, skewness, and kurtosis were identified for interval and/or ratio variables. A new data file was created by merging director and learner data for comparison of their responses. Univariate analyses of the merged data were performed.

Second, the researcher completed a bivariate analysis of the dependent and independent variables. All dependent variables were dichotomous (see Table 3.4). The Likert scale used in this study was not interval but rather ordinal. Directors used a Likert scale to answer the dependent variable responses (knowledge, techniques, confidence, and relationships) with the following categories: 1-Strongly Disagree; 2-Somewhat Disagree; 3-Neither Agree or Disagree; 4-Somewhat Agree; and 5-Strongly Agree. To evaluate the dependent variables, the Likert scale data were collapsed so that indicators 1 and 2 received a score of 0, and indicators 4 and 5 received a 1.0. Those indicating a 3 were removed. In addition, items with no response were also removed. The researcher collapsed the data for ease of analysis, since the responses which were combined impacted the

results of the data in the same manner. For example, “Strongly Agree” and “Somewhat Agree” were coded as “Agree”.

Likert scale items were analyzed through cross tabulations for potential associations in the perceptions of directors and learners. In order to gain a better understanding of the relationship between the variables, a Pearson’s chi-square and a Kendall’s tau-b correlation coefficient were calculated. A correlation analysis using Pearson’s chi-square determined if the relationships among the variables were independent. The cross tabular analysis using Kendall’s tau-b determined the strength of the relationship, positive or negative. An alpha level of .05 was used to determine significant statistical differences for each hypothesis.

Because of the ordered data, a logistic regression was used to predict the outcome. A regression analysis yields an equation that expresses relationships among 3 or more variables for the purpose of predicting future values. The p-value (Sig.) was compared at the .05 alpha level, the point at which the researcher was willing to accept a type 1 error. The odds ratio ($\exp(B)$) which determines the odds for the two ratios was also reported.

In order to evaluate the independent variable “years of experience,” years and months were converted to raw data. To evaluate the independent variable “age group served,” age groups were recoded so that there were four categories: infant to two year olds only; three, four and/or pre-k five year olds only; school age only; or all children served. Also the director and learner responses for the independent variables “course offerings,” “quality of course

instructors,” and “quality of campus services,” were recoded. The Likert scale in place was: 1-Always; 2-Sometimes; 3-Never and was recoded to Never-0; Sometimes-1; and Always-2. Because the director survey included a fourth category, 4-N/A, the researcher chose to remove this data from the system. Missing data, coded as a 9, were also removed to make the survey items comparable to one another. Data were collapsed for use of interval ratio.

Using the statistical software, the researcher performed a paired samples *t*-test to determine whether the difference between the learner and director responses were statistically significant. A paired samples *t*-test is used when to determine if two normally distributed interval variables differ from one another (Finally, the researcher completed a multivariate analysis to test the effects of the dependent variables on the independent variables.

Limitations

The following are limitations to this dissertation.

1. Responses from directors and learners completing the T.E.A.C.H. survey, constitute self-reports. Respondents may misinterpret the questions or attempt to answer the questions in a way in which they perceive the researchers want it answered. Additionally, participants may distort their answers since negative information could be perceived as a criticism on themselves, the center, and/or administration. In order to address this limitation, surveys were administered to both director and learners.

2. This research study may have limited generalizability beyond participants in the T.E.A.C.H. scholarship program specifically located in North Carolina.
3. The results of this research may not be representative of all participants because it is based solely on the responses of the participants in the T.E.A.C.H. Early Childhood Project who returned a completed survey.
4. The survey evaluation does not include observational data.

Summary

Data were gathered from directors and learners of the Teacher Education and Compensation Helps (T.E.A.C.H.) Project about the perceptions of those enrolled in early childhood education courses. The study investigated what factors related to perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families. In summary, the researcher performed a secondary data analysis of quantitative data. The data used in this study were obtained by Likert scale responses and dichotomous 'yes' or 'no' responses on a self-administered survey. Descriptive statistics and cross-tabulations by the availability of course offerings were used for the demographic and Likert scale items.

This chapter has described the research methods used in this study which was vital to the understanding of the questions regarding the factors related to perceptions of teacher knowledge and skills, instructional

techniques and practices, confidence in teaching abilities, and relationships with children and their families. The following chapter will analyze the data collected and present the results of this research.

CHAPTER IV

Results and Findings

Background

This chapter describes the results of the data analysis. The purpose of this study was to identify factors related to perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families. The survey used in this study provided information on the perspectives of participants (program directors and the teachers they supervised) of the T.E.A.C.H. Early Childhood Project in 2006. Using a 32-item evaluation, the study focused on the perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, relationships with children and their families, and demographic information. The study's hypotheses were:

Hypotheses

This research was investigated using the following research questions and hypotheses:

Research Question 1. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Research Question II. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Research Question III. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and a perceived increase in confidence in teaching abilities as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 2: The years of experience of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 3: The age group taught by learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Research Question IV. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in relationships with children and their families as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in relationships with children and their families.

Research Question V. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Research Question VI. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and the perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Research Question VII. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and a perceived increase in confidence in teaching abilities as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Research Question VIII. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived

improvements in relationships with children and their families as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Research Question VIII. Are the relationship between learners' self-ratings and director ratings of learning outcomes congruent?

Hypothesis 1: The self-ratings of learners and the directors' ratings will have a positive relationship.

Descriptive Statistics

Participants in this study were either learners or directors in the T.E.A.C.H. Early Childhood Project. Learners must have been actively working toward either their associates or bachelors degree and employed by a participating licensed childcare facility. "Active" learners were those caregivers working as a family home care provider or in a childcare facility who attended courses during spring 2006, summer 2006, and/or fall 2006.

Directors agreed to support a learner through evaluations, paid leave, travel time, and salary bonuses upon completion of coursework and/or degree.

Data used in this secondary analysis were a subset of all scholarship program participants in North Carolina. Learners participating in the early childhood associate’s degree scholarships represented the largest group with 3,769. There were 247 participants in the early childhood bachelor’s degree scholarship. A total of 1,252 child care centers and 632 family child care homes participated in the T.E.A.C.H. Project. No information on the gender of participants or the North Carolina star rated licensing for the facilities was provided by Child Care Services Association. Table 4.1 outlines the demographic data on all learners.

Table 4.1

Demographic Data on All Learners

	<i>Percentage</i>
American Indian	1%
Asian/ Pacific Islander	1%
Black/ African-American	46%
Hispanic/Latino/Latina	3%
Multiracial	<1%
White/ European-American	47%
Other	1%

Note: Due to rounding, percentages do not equal 100%.

Table 4.2 indicates the years of experience for all learners. The average number of years of experience was 10 years and 9 months, with a range from 1 year to 44 years.

Table 4.2

Years of Experience by All Learners

	<i>N (740)</i>	<i>Percentage</i>
1 yr.-5 yrs.	179	25%
6 yrs.-10 yrs.	253	35%
11 yrs.-15 yrs.	137	19%
16 yrs.-20 yrs.	92	13%
21 yrs.-25 yrs.	36	5%
26 yrs. -30 yrs.	19	3%
31 yrs.-35 yrs.	6	<1%
36+ yrs.	1	<1%
Missing	17	

Note: Due to rounding, percentages do not equal 100%.

Table 4.3 indicates the level of education attained by learners. Some college credits were earned by 69% of learners while 23% have earned an AA/AAS degree. Table 4.4 indicates the age of children with whom learners work.

Table 4.3*Level of Education Attained by All Learners*

	<i>N (740)</i>	<i>Percentage</i>
HS/GED	16	2%
Some College Credits	512	69%
AA/AAS Degree	171	23%
BA/BS Degree	34	5%
Masters Degree	5	<1%
Missing	2	

Note: Due to rounding, percentages do not equal 100%.

Table 4.4*Age of Children with Whom All Learners Work*

	<i>N (740)</i>	<i>Percentage</i>
Varying Ages Served (Infants-Two year olds; Three, Four, and/or Pre- school Five year olds; School Age)	535	72%
Infant through School Age Served	198	27%
Missing	7	

Note: Due to rounding, percentages do not equal 100%.

Data used in this secondary analysis were a subset of all scholarship program participants in North Carolina. The researcher was able to

specifically analyze data for 740 learners and 644 directors, linking 208 learners with their directors. This provided the option of comparing perceptions by both groups.

Table 4.5 indicates the years of experience for learners who can be linked to their director. The average number of years of experience was 10 years and 3 months, with a range from 1 year to 34 years.

Table 4.5

Years of Experience for Sample of Learners Linked with Directors

	<i>N (208)</i>	<i>Percentage</i>
1 yr.-5 yrs.	46	22%
6 yrs.-10 yrs.	71	34%
11 yrs.-15 yrs.	48	23%
16 yrs.-20 yrs.	24	12%
21 yrs.-25 yrs.	10	5%
26 yrs. -30 yrs.	4	2%
31 yrs.-35 yrs.	1	<1%
Missing	4	

Note: Due to rounding, percentages do not equal 100%.

Table 4.6 indicates the level of education attained by learners. Seventy-two percent of learners have earned some college credits while 20% have earned an AA/AAS degree. These numbers are comparable to the percentage of the population as described in Table 4.3.

Table 4.6

Level of Education Attained by Learners Linked with Directors

	<i>N (208)</i>	<i>Percentage</i>
HS/GED	7	3%
Some College Credits	149	72%
AA/AAS Degree	41	20%
BA/BS Degree	8	4%
Masters Degree	2	1%
No Response	1	

Note: Due to rounding, percentages do not equal 100%.

The majority of learners, 85%, work with one of three specific age groups: infants through two year olds, three, four, and/or pre-school five year olds, or school age children. The remaining 15% work with all age groups. The data on the 208 linked directors and learners is representative of the whole as they produce similar percentages in the areas of level of education, years of experience, and age group taught.

Statistical Analysis

Survey Data Summary

The raw data were analyzed using a statistical software package. Analyses were performed for all Likert scale items to identify differences in the perceptions of learners and directors participating in the T.E.A.C.H. program.

In order to predict discrete outcomes for how the independent variables predicted the dependent variables for both groups, the researcher used logistic regression as the multivariate analysis. The significant statistical difference and odds ratio for both groups are reported in the following sections *Findings by Research Questions*. An analysis using chi-square and logistic regression indicated no statistically significant differences were found between directors and learners in their ratings, with the following exceptions where there is a significant relationship and some similarities between the responses: relationships with children and their families and years of experience where $p = .008$; age group taught (three, four, and pre-k five year olds) and confidence in teaching abilities where $p = .045$; and learners' response to course offerings and relationships with children and their families where $p = .027$.

To assess the congruency of responses by learners and directors participating in the T.E.A.C.H. Early Childhood Project, the researcher conducted a paired t-test. T-test results showed significant statistical differences between perceptions of directors and learners in *Knowledge and Skills*, $t(197) = -2.481$, $p = .014$; *Instructional Techniques and Practices*, $t(197) = -4.255$, $p = .000$; *Confidence*, $t(195) = -6.511$, $p = .000$; *Relationships*, $t(192) = -7.206$, $p = .000$; and *Quality of Campus Services*, $t(203) = -2.062$, $p = .041$. Areas of *Course Offerings*, $t(199) = -1.833$, $p = .068$ and *Quality of Course Instructors*, $t(203) = .470$, $p = .639$ did not show

any statistically significant differences. Based on these findings, the researcher concludes that the responses of directors and learners are similar.

Reliability. Table 4.7 indicates the reliability measure for the responses to Likert questions used in the learners' survey to measure community college/university course offerings, quality of course instructors, and quality of campus services. Items 31a, 31b, 31c, 31d, and 31e measured the learners' *Perceptions of Course Offerings*. Item 31f measured the *Perception of the Quality of Course Instructors*. Items 31g, 31h, 31i, and 31j measured the *Perceptions of the Quality of Campus Services*. The alpha coefficient for all 10 items was .776.

Table 4.7

Reliability Statistics for Learners

	<i>N of Cases</i>	<i>Percentage</i>
Valid	182	87.5%
Excluded	26	12.5%
Total	208	100%

a. Listwise deletion based on all variables in the procedure.

Cronbach's Alpha	N of Items
.776	10

Table 4.8 indicates the reliability measure for the responses to Likert questions used in the directors' survey to measure community college/university course offerings, quality of course instructors, and quality of

campus services. Items 13a, 13b, 13c, 13d, and 13e measured the sponsors' *Perceptions of Course Offerings*. Item 13f measured the *Perception of the Quality of Course Instructors*. Items 13g, 13h, 13i, and 13j measured the sponsors' *Perceptions of the Quality of Campus Services*. The alpha coefficient for all 10 items was .743.

Table 4.8

Reliability Statistics for Directors

	<i>N of Cases</i>	<i>Percentage</i>
Valid	132	63.5%
Excluded	76	36.5%
Total	208	100%

a. Listwise deletion based on all variables in the procedure.

Cronbach's Alpha	N of Items
.743	10

Data Analysis

Directors used a Likert scale to answer the dependent variable responses (knowledge, techniques, confidence, and relationships) with the following categories: 1-Strongly Disagree; 2-Somewhat Disagree; 3-Neither Agree or Disagree; 4-Somewhat Agree; and 5-Strongly Agree. To evaluate the dependent variables, the Likert scale data were collapsed so that indicators 1 and 2 received a score of 0, and indicators 4 and 5 received a 1.0. Those indicating a 3 were removed.

Tables 4.9, 4.10, 4.11, and 4.12 indicate the means, standard deviations and number of learner and director responses for the independent and dependent variables used in the survey. The total number surveyed was 208. Missing responses were not included therefore some N's are less than 208. A normal distribution was determined after an initial comparison of the data while also identifying outliers in the data.

Table 4.9

Summary by Mean and Standard Deviation of Learner Independent Variables

<i>Independent Variable</i>	<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
Education Level	208	2.30	.786
Total Years of Experience in Years and Months	204	10.4645	6.33661
Infants, One, and/or Two Year Olds	204	.62	.487
Three, Four, and Pre-school Five Year Olds	204	.65	.478
School Age	204	.21	.409
Infant through School Age	208	.15	.362
Course Offerings	207	1.28	.392
Quality of Course Instructors	206	1.71	.466
Quality of Campus Services	207	1.55	.441

Table 4.10*Summary of Mean and Standard Deviation by Learner Dependent Variable*

<i>Dependent Variable</i>	<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
Knowledge and Skills	205	.97	.182
Instructional Techniques and Practices	205	.88	.322
Confidence	205	.81	.393
Relationships with Children and their Families	205	.78	.418

Table 4.11*Summary of Mean and Standard Deviation by Director Independent Variable*

<i>Independent Variable</i>	<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
Course Offerings	205	1.27	.503
Quality of Course Instructor	202	1.79	.434
Quality of Campus Services	205	1.62	.429

Table 4.12

Summary of Mean and Standard Deviation by Director Dependent Variable

<i>Dependent Variable</i>	<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
Knowledge and Skills	201	1.00	.000
Instructional Techniques and Practices	201	.99	.100
Confidence	199	.99	.071
Relationships with Children and their Families	196	.99	.071

Findings by Research Questions I, II, III, IV and Hypotheses

The following sections report the findings for each hypothesis for research questions I, II, III, and IV. Each section is organized by distribution of responses, analysis of responses, and reported findings with significant statistical differences.

Research Question I

What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Distribution of Responses for Knowledge and Skills

In order to evaluate perceived knowledge and skills of the scholarship learner, the director responded to the following statement: Since enrolling in

college courses, the recipient has increased her/his early childhood knowledge and skills. Ninety-seven percent of directors answered affirmatively to this question. The remaining 3% were recorded as no response. No directors indicated that learners had not increased their early childhood knowledge and skills (see Table 4.13).

Table 4.13

Distribution by Director Response for Knowledge and Skills

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
No	0	0
Yes	201	96.6
Missing	7	3.4
Total	208	100.0

In order to evaluate their own perception of how an increased education has helped them, learners responded to the following statement: I have increased my knowledge of child development. Three percent indicated that they had not increased their knowledge and skills as a result of an increase in education. However, 95% of learners (see Table 4.14) indicated that they had indeed increased their knowledge of child development through increased education. The remaining two percent were recorded as no response.

Table 4.14

Distribution by Learner Response for Knowledge and Skills

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
No	7	3.4
Yes	198	95.2
Missing	3	1.4
Total	208	100.0

Analysis of Responses for Knowledge and Skills

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills. A logistic regression analysis of director and learner responses to statements regarding knowledge and skills by level of education revealed that level of education was not a significant predictor of perceived improvements in early childhood core knowledge and skills (see Table 4.15). It should be noted that because all directors responded with “Neither Agree or Disagree,” “Somewhat Agree,” or “Strongly Agree” to the knowledge and skills question, no significant statistical differences could be determined as 100% were recorded as positive or no response. The significance value is greater than .05; therefore, the hypothesis is rejected.

Table 4.15

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Knowledge and Level of Education

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Knowledge/Education Level Learner	.238	2.703
Knowledge/Education Level Director	---	---

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills. A logistic regression analysis of director and learner responses to statements regarding knowledge and skills by years of experience revealed that years of experience was not a significant predictor of perceived improvements in early childhood core knowledge and skills (see Table 4.16). It should be noted that because all directors responded with “Neither Agree or Disagree,” “Somewhat Agree,” or “Strongly Agree” to the knowledge and skills question, no significant statistical difference could be determined as 100% were recorded as positive or no response. The significance value is greater than .05; therefore, the hypothesis is rejected.

Table 4.16

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Knowledge and Years of Experience

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Knowledge/Years of Experience Learner	.631	1.035
Knowledge/Years of Experience Director	----	----

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills. A logistic regression analysis of director and learner responses to statements regarding knowledge and skills by age group taught revealed that age group taught was not a significant predictor of perceived improvements in early childhood core knowledge and skills (see Table 4.17). It should be noted that because all directors responded with “Neither Agree or Disagree,” “Somewhat Agree,” or “Strongly Agree” to the knowledge and skills question, no significant statistical difference could be determined as 100% were recorded as positive responses. The significance value is greater than .05; therefore, the hypothesis is rejected.

Table 4.17

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Knowledge and Age Group Taught

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Knowledge/Infant, One, Two/Learner	.127	4.442
Knowledge/Infant, One, Two/Director	----	----
Knowledge/Three, Four, Pre-K Five/Learner	.448	2.152
Knowledge/Three, Four, Pre-K Five/Director	----	----
Knowledge/School Age/Learner	.196	.277
Knowledge/School Age/Director	----	----

Research Question II

What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Distribution of Responses for Instructional Techniques and Practices

In order to evaluate perceived improvements in the instructional techniques and practices of the scholarship learner, the director responded to the following statement: Since enrolling in college courses, the recipient has improved the quality of her/his teaching techniques and practice. Ninety-six percent of directors (see Table 4.18) answered affirmatively to this question. Of the remaining, one percent answered “No” and three percent were coded as no response.

Table 4.18

Distribution by Director Response for Instructional Techniques and Practices

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
No	2	1.0
Yes	199	95.7
Missing	7	3.4
Total	208	100.0

In order to evaluate their own perception of how an increased education has helped them, learners responded to the following statement: I have improved my teaching techniques and practices. Only eighty-seven percent of learners felt that they had improved teaching practices while twelve percent had not seen improvements. The remaining one percent had no response was recorded (see Table 4.19).

Table 4.19

Distribution by Learner Response for Instructional Techniques and Practices

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
No	24	11.5
Yes	181	87.0
Missing	3	1.4
Total	208	100.0

Analysis of Responses for Instructional Techniques and Practices

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices. A logistic regression analysis of director and learner responses to statements regarding instructional techniques and practices by level of education revealed that level of education was not a significant predictor of perceived improvements in quality in instructional techniques and

practices (see Table 4.20). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.20

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Instructional Techniques and Level of Education

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Instructional Techniques/Education Level Learner	.316	.800
Instructional Techniques/Education Level Director	.538	2.592

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices. A logistic regression analysis of director and learner responses to statements regarding instructional techniques and practices by years of experience revealed that years of experience was not a significant predictor of perceived improvements in quality in instructional techniques and practices (see Table 4.21). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.21

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Instructional Techniques and Years of Experience

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Instructional Techniques/Years of Experience Learner	.637	.984
Instructional Techniques/Years of Experience Director	.996	1.001

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices. A logistic regression analysis of director and learner responses to statements regarding instructional techniques and practices by age group taught revealed that age group taught was not a significant predictor of perceived improvements in quality in instructional techniques and practices (see Table 4.22). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.22

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Instructional Techniques and Age Group Taught

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Instructional Techniques/Infant, One, Two/Learner	.607	.740
Instructional Techniques /Infant, One, Two/Director	.996	4908833.156
Instructional Techniques /Three, Four, Pre-K Five/Learner	.720	.815
Instructional Techniques /Three, Four, Pre-K Five/Director	.996	5670548.646
Instructional Techniques /School Age/Learner	.963	.973
Instructional Techniques/School Age/Director	.996	9.862E12

Research Question III

What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and a perceived

increase in confidence in teaching abilities as assessed by directors and learners?

Distribution of Responses for Confidence in Teaching Abilities

In order to evaluate perceived improvements in the confidence of the scholarship learner, the director responded to the following statement: Since enrolling in college courses, the recipient has increased confidence in her/his teaching abilities. Ninety-five percent of sponsors believed that confidence of the participants had increased while less than one percent did not see an increase in confidence (see Table 4.23). Four percent were recorded as no response.

Table 4.23

Distribution by Director Response for Confidence in Teaching Abilities

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
No	1	.5
Yes	198	95.2
Missing	9	4.3
Total	208	100.0

Confidence was one of the lower ranked items by learners. In order to evaluate their own perception of how an increased education has helped them, learners responded to the following statement: I am more confident in my teaching abilities. Nineteen percent indicated that they had not increased

their level of confidence as a result of an increase in education. However, 80% of learners (see Table 4.24) indicated that they had indeed increased their level of confidence in the classroom through increased education. Less than one percent was recorded as no response.

Table 4.24

Distribution by Learner Response for Confidence in Teaching Abilities

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
No	39	18.8
Yes	166	79.8
Missing	3	1.4
Total	208	100.0

Analysis of Responses for Confidence in Teaching Abilities

Hypothesis 1: The level of education of learners will have a positive relationship with a perceived increase in confidence in teaching abilities. A logistic regression analysis of director and learner responses to statements regarding confidence in teaching abilities by level of education revealed that level of education was not a significant predictor of a perceived increase in confidence in teaching abilities (see Table 4.25). The significance values are greater than .05; therefore, the hypothesis is rejected

Table 4.25

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Confidence and Level of Education

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Confidence/Education Level Learner	.475	.865
Confidence/Education Level Director	.661	2.577

Hypothesis 2: The years of experience of learners will have a positive relationship with a perceived increase in confidence in teaching abilities. A logistic regression analysis of director and learner responses to statements regarding confidence in teaching abilities by years of experience revealed that years of experience was not a significant predictor of a perceived increase in confidence in teaching abilities (see Table 4.26). The significance values are greater than .05; therefore, the hypothesis is rejected

Table 4.26

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Confidence and Years of Experience

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Confidence/Years of Experience Learner	.577	.985
Confidence/Years of Experience Director	.606	.934

Hypothesis 3: The age group taught by learners will have a positive relationship with a perceived increase in confidence in teaching abilities. A logistic regression analysis of director and learner responses to statements

regarding confidence in teaching abilities by age group taught revealed that age group taught was not a significant predictor of a perceived increase in confidence for those working with either infant, one, two year olds or school age children (see Table 4.27). The significance values are greater than .05; therefore, the hypothesis is rejected. However, age group taught, specifically three, four, and pre-k five year olds, is a significant predictor of a perceived increase in confidence ($\text{Exp}(B) = 2.477$, $\rho = .045$).

Table 4.27

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Confidence and Age Group Taught

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Confidence/Infant, One, Two/Learner	.108	2.101
Confidence /Infant, One, Two/Director	1.000	.323
Confidence /Three, Four, Pre-K Five/Learner	.045**	2.477
Confidence /Three, Four, Pre-K Five/Director	.997	1.050E7
Confidence /School Age/Learner	.234	.575
Confidence /School Age/Director	.998	3489383.088

Research Question IV

What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in relationships with children and their families as assessed by directors and learners?

Distribution of Responses for Relationships with Children and their Families

In order to evaluate perceived improvements of the scholarship learner in the relationships of the children and families with whom they work, the director responded to the following statement: Since enrolling in college courses, the recipient has improved relationships with the children and their families. Ninety-four percent of directors (see Table 4.28) answered affirmatively to this question. Less than one percent had not seen improvements in relationships with children and their families. The remaining five percent were recorded as no response.

Table 4.28

Distribution by Director Response for Relationships with Children and their Families

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
No	1	.5
Yes	195	93.8
Missing	12	5.8
Total	208	100.0

In order to evaluate their own perception of how an increased education has helped them, learners responded to the following statement: I have better relationships with the children and families with whom I work. This item provided the lowest total of affirmative responses (see Table 4.29). Only seventy-six percent indicated that they had improved their relationships

with children and families as a result of an increase in education while twenty-two percent did not see improvements. The remaining two percent were recorded as no response.

Table 4.29

Distribution by Learner Response for Relationships with Children and their Families

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
No	46	22.1
Yes	159	76.4
Missing	3	1.4
Total	208	100.0

Analysis of Responses for Relationships with Children and their Families

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in relationships with children and their families. A logistic regression analysis of director and learner responses to statements regarding relationships with children and their families by level of education revealed that level of education was not a significant predictor of perceived improvements in relationships with children and their families (see Table 4.30). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.30

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Relationships and Level of Education

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Relationships/Education Level Learner	.659	.915
Relationships/Education Level Director	.659	2.577

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in relationships with children and their families. Both directors and learners responded to statements regarding relationships with children and their families by years of experience revealed that years of experience was not a significant predictor of perceived improvements in relationships with children and their families (see Table 4.31). The results from the logistic regression differed for directors and learners. For directors, the significance values are greater than .05; therefore, the hypothesis is rejected. However, for learners the response to statements regarding relationships with children and their families indicate that years of experience is a significant predictor of perceived improvements in relationships with children and their families ($\text{Exp}(B) = .933$, $\rho = .008$).

Table 4.31

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Relationships and Years of Experience

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Relationships/Years of Experience Learner	.008**	.933
Relationships/Years of Experience Director	.302	2.033

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in relationships with children and their families. A logistic regression analysis of director and learner responses to statements regarding relationships with children and families by age group taught revealed that age group taught was not a significant predictor of perceived improvements in relationships with children and their families (see Table 4.32). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.32

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Relationships and Age Group Taught

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Relationships/Infant, One, Two/Learner	.444	1.391
Relationships /Infant, One, Two/Director	.997	7035160.467
Relationships /Three, Four, Pre-K Five/Learner	.145	1.846
Relationships /Three, Four, Pre-K Five/Director	1.000	.224
Relationships /School Age/Learner	.848	1.092
Relationships /School Age/Director	.998	785091.155

Findings by Research Questions V, VI, VII, VIII, and Hypotheses

The following sections report the findings for each hypothesis for research questions V, VI, VII, and VIII. Each section is organized by analysis of responses and reported findings with significant statistical differences. The questions regarding college/universities (see Appendix C, #13 and Appendix D, #31) included 10 subparts. These 10 items were grouped into 3 categories (i.e., course offerings, quality of course instructors, and quality of campus services), and analyses were carried out on the 3 categories rather than on 10 individual questions.

Research Question V

What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of

campus services) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills. A logistic regression analysis of director and learner responses to statements regarding knowledge and skills by course offerings revealed that course offerings were not a significant predictor of perceived improvements in early childhood core knowledge and skills (see Table 4.33). It should be noted that because all directors responded with “Neither Agree or Disagree,” “Somewhat Agree,” or “Strongly Agree” to the knowledge and skills question, no significant statistical difference could be determined as 100% were recorded as positive or no response. The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.33

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Knowledge and Course Offerings

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Knowledge Learner/Course Offerings Learner	.730	.712
Knowledge Learner/Course Offerings Director	.976	.978
Knowledge Director/Course Offerings Learner	----	----
Knowledge Director/Course Offerings Director	----	----

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in early

childhood core knowledge and skills. A logistic regression analysis of director and learner responses to statements regarding knowledge and skills by quality of course instructors revealed that quality of course instructors were not a significant predictor of perceived improvements in early childhood core knowledge and skills (see Table 4.34). It should be noted that because all directors responded with “Neither Agree or Disagree,” “Somewhat Agree,” or “Strongly Agree” to the knowledge and skills question, no significant statistical difference could be determined as 100% were recorded as positive or no response. The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.34

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Knowledge and Quality of Course Instructors

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Knowledge Learner/Course Instructors Learner	.433	1.798
Knowledge Learner/Course Instructors Director	.653	1.423
Knowledge Director/Course Instructors Learner	----	----
Knowledge Director/Course Instructors Director	----	----

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills. A logistic regression analysis of director and learner responses to statements regarding knowledge and skills by quality of

course instructors revealed that quality of campus services were not a significant predictor of perceived improvements in early childhood core knowledge and skills (see Table 4.35). It should be noted that because all directors responded with “Neither Agree or Disagree,” “Somewhat Agree,” or “Strongly Agree” to the knowledge and skills question, no significant statistical difference could be determined as 100% were recorded as positive or no response. The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.35

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Knowledge and Quality of Campus Services

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Knowledge Learner/Campus Services Learner	.686	.687
Knowledge Learner/Campus Services Director	.069	4.139
Knowledge Director/Campus Services Learner	----	----
Knowledge Director/Campus Services Director	----	----

Research Question VI

What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and the perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices. A logistic regression analysis of director and learner responses to statements regarding instructional techniques and practices by course offerings revealed that course offerings were not a significant predictor of perceived improvements in instructional techniques and practices (see Table 4.36). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.36

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Instructional Techniques and Course Offerings

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Techniques Learner/Course Offerings Learner	.435	.646
Techniques Learner/Course Offerings Director	.317	.638
Techniques Director/Course Offerings Learner	.714	2.081
Techniques Director/Course Offerings Director	.613	2.065

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices. A logistic regression analysis of director and learner responses to statements regarding instructional techniques and practices by quality of course instructors revealed that quality of course instructors were not a significant predictor of perceived

improvements in instructional techniques and practices (see Table 4.37). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.37

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Instructional Techniques and Quality of Course Instructors

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Techniques Learner/Course Instructors Learner	.385	1.466
Techniques Learner/Course Instructors Director	.563	.726
Techniques Director/Course Instructors Learner	.997	.000
Techniques Director/Course Instructors Director	.399	2.878

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices. A logistic regression analysis of director and learner responses to statements regarding instructional techniques and practices by quality of campus services revealed that quality of campus services were not a significant predictor of perceived improvements in instructional techniques and practices (see Table 4.38). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.38

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Instructional Techniques and Quality of Campus Services

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Techniques Learner/Campus Services Learner	.640	1.259
Techniques Learner/Campus Services Director	.905	1.063
Techniques Director/Campus Services Learner	.866	.742
Techniques Director/Campus Services Director	.697	.440

Research Question VII

What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and a perceived increase in confidence in teaching abilities as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities. A logistic regression analysis of director and learner responses to statements regarding confidence in teaching abilities by course offerings revealed that course offerings were not a significant predictor of a perceived increase in confidence in teaching abilities (see Table 4.39). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.39

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Confidence and Course Offerings

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Confidence Learner/Course Offerings Learner	.248	.585
Confidence Learner/Course Offerings Director	.268	.664
Confidence Director/Course Offerings Learner	.200	477.504
Confidence Director/Course Offerings Director	.241	.029

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities. A logistic regression analysis of director and learner responses to statements regarding confidence in teaching abilities by quality of course instructors revealed that quality of course instructors were not a significant predictor of a perceived increase in confidence in teaching abilities (see Table 4.40). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.40

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Confidence and Quality of Course Instructors

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Confidence Learner/Course Instructors Learner	.085	1.891
Confidence Learner/Course Instructors Director	.892	1.059
Confidence Director/Course Instructors Learner	.997	.000
Confidence Director/Course Instructors Director	.998	.000

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities. A logistic regression analysis of director and learner responses to statements regarding confidence in teaching abilities by quality of campus services revealed that quality of campus services were not a significant predictor of a perceived increase in confidence in teaching abilities (see Table 4.41). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.41

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Confidence and Quality of Campus Services

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Confidence Learner/Campus Services Learner	.348	1.467
Confidence Learner/Campus Services Director	.787	.890
Confidence Director/Campus Services Learner	.771	.427
Confidence Director/Campus Services Director	.994	.000

Research Question VIII

What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in relationships with children and their families as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in relationships with children and their families. Both directors and learners responded to statements regarding relationships with children and families by course offerings revealed that course offerings were not a significant predictor of perceived improvements in relationships with children and families (see Table 4.42). The results from the logistic regression differed for directors and learners. For directors, the significance values are greater than .05; therefore, the hypothesis is rejected. However, for learners the response to statements regarding relationships with children and their families indicate that course offerings is a significant predictor of perceived improvements in relationships with children and their families ($\text{Exp}(B) = .374$, $\rho = .027$).

Table 4.42

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Relationships and Course Offerings

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Relationships Learner/Course Offerings Learner	.027**	.374
Relationships Learner/Course Offerings Director	.751	.897
Relationships Director/Course Offerings Learner	.932	.799
Relationships Director/Course Offerings Director	.939	.856

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in relationships with children and their families. A logistic regression analysis of director and

learner responses to statements regarding relationships with children and families by quality of course instructors revealed that quality of course instructors were not a significant predictor of perceived improvements in relationships with children and families (see Table 4.43). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.43

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Relationships and Quality of Course Instructors

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Relationships Learner/Course Instructors Learner	.638	1.186
Relationships Learner/Course Instructor Director	.599	.803
Relationships Director/Course Instructor Learner	.997	.000
Relationships Director/Course Instructor Director	.136	11.508

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in relationships with children and their families. Logistic regression analyses of director and learner responses to statements regarding relationships with children and families by quality of campus services revealed that quality of campus services were not a significant predictor of perceived improvements in relationships with children and families (see Table 4.44). The significance values are greater than .05; therefore, the hypothesis is rejected.

Table 4.44

Summary of Logistic Regression Analysis for Variables Predicting Perceptions of Learners and Directors by Relationships and Quality of Campus Services

<i>Variable</i>	<i>Sig.</i>	<i>Exp(B)</i>
Relationships Learner/Campus Services Learner	.475	1.322
Relationships Learner/Campus Services Director	.240	.602
Relationships Director/Campus Services Learner	.571	2.978
Relationships Director/Campus Services Director	.885	1.349

Research Question VIII

Are the relationship between learners' self-ratings and director ratings of learning outcomes congruent?

Hypothesis 1: The self-ratings of learners and the directors' ratings will have a positive relationship. The researcher conducted a T-test to assess the congruency of responses by learners and directors participating in the T.E.A.C.H. Early Childhood Project. T-test results indicate significant statistical differences (see Table 4.45) in the areas of knowledge and skills; instructional techniques and practices; confidence in teaching abilities; relationships with children and their families; and quality of campus services. No significant statistical findings were indicated for course offerings or quality of course instructor. Therefore, the researcher must retain the hypothesis and conclude that the learners and directors have congruent perceptions of knowledge and skills, instructional techniques and practices, confidence in teaching abilities, relationships with children and their families, and quality of

campus services. In the areas of course offerings and quality of course instructors the perceptions of directors and learners differ.

Table 4.45

Summary of T-test Results for Director and Learner Responses

Variables	Mean	t	df	Sig. (2-tailed)
Knowledge	-.030	-2.481	197	.014
Instructional Techniques	-.101	-4.255	197	.000
Confidence	-.179	-6.511	195	.000
Relationships	-.223	-7.206	192	.000
Course Offerings	.019	.470	203	.639
Quality of Course Instructors	-.085	-1.833	199	.068
Quality of Campus Services	-.078	-2.062	203	.041

This chapter detailed the findings from the current study which was designed to investigate the variables and perceptions of 208 directors and learners who participated in the T.E.A.C.H. Early Childhood Project during 2006. Results from the data analysis using logistic regression revealed no significant statistical findings for directors or learners were found within the data except in the following three specific cases where there is significant statistical differences and some similarities among the responses: relationships with children and their families and years of experience where

$\rho = .008$; age group taught (three, four, and pre-k five year olds) and confidence in teaching abilities where $\rho = .045$; and learners' response to course offerings and relationships with children and their families where $\rho = .027$. In all other cases, $\rho > .05$, meaning the null hypotheses were retained.

The hypotheses not supported were:

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 4: The level of education of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 5: The years of experience of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 6: The age group taught by learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 7: The level of education of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 8: The years of experience of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 9: The age group taught by learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 10: The level of education of learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 11: The age group taught by learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 12: The course offerings available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 13: The quality of course instructors available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 14: The quality of campus services available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 15: The course offerings available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 16: The quality of course instructors available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 17: The quality of campus services available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 18: The course offerings available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 19: The quality of course instructors available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 20: The quality of campus services available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 21: The course offerings available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 22: The quality of course instructors available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 23: The quality of campus services available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

T-test results showed statistically significant differences between responses for directors and learners in knowledge and skills, instructional techniques and practices, confidence in teaching abilities, relationships with children and their families, and quality of campus services. Based on these results, the following hypothesis is supported:

Hypothesis 1: The self-ratings of learners and the directors' ratings will have a positive relationship.

These results signify congruency among the responses of directors and learners to questions and statements regarding the T.E.A.C.H. Early Childhood Project.

Summary

Based on the aforementioned data findings, the researcher was unable to conclude that the independent variables had an effect on the dependent variables. Level of education of the learner and age group taught did not influence the perceptions of learners and directors in the areas of knowledge and skills, instructional techniques and practices, and relationships with children and their families. The exception in the results is that age group taught, specifically three, four, and pre-k five year olds, did influence confidence in teaching abilities. Years of experience of the learner did influence relationships with children and their families. The learners' response indicates that course offerings influenced relationship with children and their families.

The following chapter offers interpretation and discussion of the results of the secondary data analysis summarized above. The researcher will offer suggestions for future implications, practice, and a critique of the evaluation tool used in the study.

CHAPTER V

Discussion

Overview

This chapter discusses the analysis and results presented in the previous chapter. The purpose of this study was to identify factors related to perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families. In order to investigate which characteristics of the teachers participating in the Teacher Education and Compensation Helps (T.E.A.C.H.) Early Childhood Project predict perceived learning outcomes, the researcher conducted quantitative research through secondary data analysis. The analyses were based on the collection of quantitative data from the T.E.A.C.H. Scholarship Program Evaluation developed by Child Care Services Association (CCSA) of North Carolina.

The survey used in his study provided information on the perspectives of participants (program directors and the teachers they supervised) of the T.E.A.C.H. Early Childhood Project in 2006. The researcher was able to specifically analyze data for 740 learners and 644 directors, linking 208 learners with their directors. The researcher describes similarities and differences among perceptions of participants in the T.E.A.C.H. Early

Childhood Scholarship Project. The following questions and hypotheses were addressed in this study:

Hypotheses

This research was investigated using the following research questions and hypotheses:

Research Question I. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Research Question II. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Research Question III. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and a perceived increase in confidence in teaching abilities as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 2: The years of experience of learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 3: The age group taught by learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Research Question IV. What is the relationship between the characteristics of the learner (i.e., level of education, years of experience, and age group taught) and perceived improvements in relationships with children and their families as assessed by directors and learners?

Hypothesis 1: The level of education of learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 2: The years of experience of learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 3: The age group taught by learners will have a positive relationship with perceived improvements in relationships with children and their families.

Research Question V. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in early childhood core knowledge and skills.

Research Question VI. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and the perceived improvements in quality in instructional techniques and practices as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in quality in instructional techniques and practices.

Research Question VII. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and a perceived increase in confidence in teaching abilities as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with a perceived increase in confidence in teaching abilities.

Research Question VIII. What is the relationship between the availability of learning opportunities for learners (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in relationships with children and their families as assessed by directors and learners?

Hypothesis 1: The course offerings available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 2: The quality of course instructors available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Hypothesis 3: The quality of campus services available to learners will have a positive relationship with perceived improvements in relationships with children and their families.

Research Question VIII. Are the relationship between learners' self-ratings and director ratings of learning outcomes congruent?

Hypothesis 1: The self-ratings of learners and the directors' ratings will have a positive relationship.

This chapter is organized by sections. The first section will discuss descriptive results followed by a discussion of the individual research questions. The chapter will conclude with limitations of the study, implications of results, and recommendations for further research.

Discussion of Results

Descriptive Results

Prior to discussion of each individual research question, the descriptive statistic results will be reviewed. The overall demographics for participants in the program indicate that the majority of participants were white, 47%, or black, 46%. Gender was not asked of participants but prior T.E.A.C.H. data indicate that the vast majority of participants were female.

The results of data from linked participants were representative of the overall statistics of the population. Of the learners working in a childcare center, 34% had 6-10 years of experience while 22% had 1-5 years of experience. Results also indicated that 72% of learners had obtained some college credits. This is most likely attributed to the Early Childhood Credential in which the learner can earn 4 college credit hours through the local community college. This is one of the minimum requirements for employment in a child care facility in North Carolina. Twenty percent of learners have earned an AAS/AAA degree.

The majority of learners, 85%, worked with one of three specific age groups: infants through two year olds, three, four, and/or pre-school five year olds, or school age children. The remaining 15% worked with all age groups. Many childcare centers are organized in such a way to serve target populations for the area. Therefore, some centers may have more demand for infant/toddler care while other centers may have more need for before/after school care. Few centers have the staff or facilities to serve children from birth to school age.

Discussion of Findings by Dependent Variables

Data were tabulated for all independent and dependent variables. The independent variables were: level of education, years of experience, age group taught, course offerings, quality of course instructors, and quality of campus services. The dependent variables were: knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families. The discussion is organized by each dependent variable, providing a brief description of the terms as related to the literature, results, and possible explanations of findings. An alpha level of .05 was used to determine significant statistical differences.

Dependent Variable 1: Knowledge and Skills

High quality teachers who receive specialized training in Early Childhood provide high quality literacy experiences, appropriate practices, and offer a higher quality learning environment (Trust for Early Education, 2002). It is important for teachers to have an understanding of what children

do during their play and why (Catapano, 2005). Teachers are intuitive about a child's interests when they know and understand all areas of the curriculum (Bowman, 2001).

The standards put forth by the National Association for the Education of Young Children (NAEYC) conclude that an early childhood professional's decisions should be informed by research-based knowledge and values within a professional context (Hyson, 2003). NAEYC (1993) has also identified common elements which define what early childhood professionals should know and do. These include demonstrating an understanding of child development and applying this knowledge in practice; observing and assessing children's behavior in planning; and establishing and maintaining a safe and healthy environment for children. This study looked at the relationships between the characteristics of the learner, availability of programming and perceived improvements in knowledge and skills of participants in the T.E.A.C.H. Early Childhood Project.

Characteristics of the learner. It was hypothesized that there would be a positive relationship between the levels of education of the learner, years of experience, and age level of children taught and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners. Correlation and cross tabular analysis indicated no statistically significant differences. Therefore, the researcher must conclude that there is no significant relationship between learner characteristics (i.e., level of education, years of experience, and age group taught) and perceived

improvements in early childhood core knowledge and skills as assessed by directors and learners.

This was an unexpected finding as these conclusions contradict the findings of other researchers (Abbott-Shim et al., 2000; Ackerman, 2004; Arnett, 1989; Coplan et al., 1999; Fry, Smith, & Johnson, 2002) which indicated that caregiver training and teacher education level have a direct impact on program quality in an early childcare setting. These studies were also carried out in early childhood centers and used survey data. However, in the Arnett (1989) study, the subjects had varying levels of education at the time of the research. The most significant findings were that caregivers with a 4-year university based program displayed gentler interactions and engaged in clear communication than caregivers with no training beyond high school. The data provided in the current study did not offer comparisons between different levels of education. In the Abbott-Shim et al. (2000) study, although the subjects had similar levels of education, they all worked in Head Start centers. Therefore, it may be that differences in settings and education level examined contributed to the lack of significant findings in the relationship between the characteristics of the learner and perceived improvements in knowledge and skills.

Availability of learning opportunities. It was hypothesized that there would be a positive relationship between the course offerings available to learners, quality of course instructors, and quality of campus services and perceived improvements in early childhood core knowledge and skills as

assessed by directors and learners. Correlation and cross tabular analysis indicated no statistically significant differences. Therefore, the researcher must conclude that there is no significant relationship between availability of learning opportunities (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in early childhood core knowledge and skills as assessed by directors and learners.

These conclusions contradict the findings of Early and Winton (2001) who conducted a “nationally representative survey of early childhood teacher preparation programs at 2- and 4- year colleges and universities” (p. 288). The researchers gathered information from those providing services to early childhood professionals with results suggesting that program offering and coverage of key content areas were related to well-trained early educators. However, the current study did not examine the learners’ preparation programs but rather relied on the perceptions of learner and director about the availability of programming.

Summary of dependent variable 1: The findings of this study regarding the relationships between learner characteristics and availability of learning opportunities with perceived improvements in learner knowledge and skills were not statistically significant at the .05 level. These results are not congruent with the findings of other researchers as previously described and may be due to differences in settings and evaluation instruments. Possible indications from the results are that there is a flaw in the Gaussian distribution of the surveyed population, i.e. there is no randomness within the surveyed

population. As an example, for the perceptions of knowledge and skills statement, the learners (Table 3.3) and directors (Table 3.2) had identical responses therefore no statistical tests could be performed between the independent variables and the dependent variable, knowledge, for the directors. It is not likely that 201 persons out of 208 would respond in an identical manner. The remaining seven did not respond to this statement.

Dependent Variable 2: Instructional Techniques and Practices

Instructional techniques and practices related to quality in an early childhood setting are more prevalent when the teacher has received education and training specific to the field (Ackerman, 2004). Caregivers who understand what is appropriate for different ages and stages of childhood can prepare appropriate activities (Ponder, 2007). NAEYC (1983) also defined elements for teacher practices which include individualizing teaching practices and curriculum planning and implementing “developmentally appropriate curriculum that advances all areas of children’s learning and development, including social, emotional, intellectual, and physical competence” (p. 5). Teachers who have been taught about the learning needs of young children and how to teach them are more likely to conduct rich learning activities that address each child’s individual needs rather than use prescribed inappropriate and unproductive activities (Barnett, 2004). This study looked at the relationships between the characteristics of the learner, availability of programming and perceived improvements in instructional

techniques and practices of participants in the T.E.A.C.H. Early Childhood Project.

Characteristics of the learner. It was hypothesized that there would be a positive relationship between the levels of education of the learner, years of experience, and age level of children taught and perceived improvements in instructional techniques and practices as assessed by directors and learners. Correlation and cross tabular analysis indicated no statistically significant differences. Therefore, the researcher must conclude that there is no significant relationship between learner characteristics (i.e., level of education, years of experience, and age group taught) and perceived improvements in instructional techniques and practices as assessed by directors and learners.

As with the dependent variable knowledge and skills, these findings were surprising since other research (Abbott-Shim et al., 2000; Bowman, 2001; Cassidy et al., 1995; Howes, 1983; McMullen, 1999) concluded that teaching techniques and types of available activities in the center are influenced by teacher training and experience. For example, Cassidy et al. (1995) conducted research with 34 teachers who all had high school diplomas and some inservice training. They found that with as little as 12-20 credit hours (4-6 courses) of community college coursework, teachers showed significantly more developmentally appropriate practices and beliefs than those who did not attend any college classes. Participants in this study completed pre- and posttests regarding curriculum practices and beliefs.

Additionally, Abbott-Shim et al. (2000) found that education level had a direct affect on inappropriate beliefs which were associated with inappropriate instructional activities. However, participants in the Abbott-Shim et al. (2000) study responded to multiple survey instruments on teacher beliefs and were evaluated by trained observers using an assessment profile over the course of two years. Therefore, it may be that differences in research methods used contributed to the lack of significant findings in the relationship between the characteristics of the learner and perceived improvements in instructional techniques and practices.

Availability of learning opportunities. It was hypothesized that there would be a positive relationship between the course offerings available to learners, quality of course instructors, and quality of campus services and perceived improvements in instructional techniques and practices as assessed by directors and learners. Correlation and cross tabular analysis indicated no statistically significant differences. Therefore, the researcher must conclude that there is no significant relationship between availability of learning opportunities (i.e., course offerings, quality of course instructors, and quality of campus services) and perceived improvements in instructional techniques and practices as assessed by directors and learners.

These findings were similar to Maxwell et al. (2006) who conducted a study with 1,179 Institutions of Higher Education (IHE) who offered early childhood degree programs located in all 50 states, “plus Washington DC, Puerto Rico, Micronesia, Northern Marianas, America Samoa, and Guam” (p.

5). Results indicated that graduates of early childhood programs may not be well prepared to teach young children because they were prepared to work with children of all ages on a broad spectrum, not having adequate depth of instruction necessary to be deemed highly qualified. Programs lacked specific training for young children with many programs only offering one course in the education and care of infants and toddlers over the course of the degree. Although the findings could be similar, it must be noted that the current study relied on the perceptions of learner and director about the availability of programming and did not examine participants learning institutions.

Summary of dependent variable 2. The findings of this study regarding the relationships between learner characteristics and availability of learning opportunities with perceived improvements in instructional techniques and practices were not statistically significant at the .05 level. As indicated in the discussion of knowledge and skills, it is possible that the differences in this study could be attributed to the instrumentation used.

Dependent Variable 3: Confidence in Teaching Abilities

The term confidence is synonymous with self-efficacy which can be defined as the belief in one's capacity to be successful at a task or performance. Teachers must believe that their behavior has an affect on the children they serve (Enderlin-Lampe, 2002). Denham and Michael (1981) found that several factors influence the state of self-efficacy. These are past training, peers, administration, and the community characteristics. Their research also suggests that oftentimes teachers lack the belief that they are

an integral part of the learning environment in which they serve. This study looked at the relationships between the characteristics of the learner, availability of programming and confidence in teaching abilities of participants in the T.E.A.C.H. Early Childhood Project.

Characteristics of the learner. It was hypothesized that there would be a positive relationship between the level of education of the learner, years of experience, and age level of children taught and a perceived increase in confidence in teaching abilities as assessed by directors and learners. Correlation and cross tabular analysis indicated no statistically significant differences for those working with infant, one, two year olds or school age children. Therefore, the researcher must conclude that there is no significant relationship between the learner characteristics level of education and age group taught and perceived improvements in relationships with children and their families as assessed by directors and learners. However, age group taught, (specifically three, four, and pre-k five year olds) is a significant predictor of a perceived increase in confidence ($\text{Exp}(B) = 2.477$, $\rho = .045$).

The overall findings of the present study differed from other research (Berk, 1985; McMullen, 1999b; Kontos et al., 1995) which concluded that teacher confidence is related to teaching abilities. For example, McMullen (1999b) found that teachers' developmentally appropriate practice beliefs were correlated with developmentally appropriate practices. The study included a combination of survey and observation with participants from preschools and elementary schools. Also, Berk (1985) found that child-

oriented attitudes and career commitment were positively related to education. The study was conducted through detailed narrative descriptions using observation, as well as, the completion of job satisfaction and attitude questionnaires.

Availability of learning opportunities. It was hypothesized that there would be a positive relationship between the course offerings available to learners, quality of course instructors, and quality of campus services and a perceived increase in confidence in teaching abilities as assessed by directors and learners. Correlation and cross tabular analysis indicated no statistically significant differences. Therefore, the researcher must conclude that there is no significant relationship between availability of learning opportunities (i.e., course offerings, quality of course instructors, and quality of campus services) and a perceived increase in confidence in teaching abilities as assessed by directors and learners.

These conclusions contradict the findings of McMullen (1999b) who found that the education of teachers was linked to high DAP beliefs and practices. Participants in the study whose background included early childhood or child development had high beliefs and high personal teaching efficacy. However, the current study did not examine the learners' preparation programs but rather relied on the perceptions of learner and director about the availability of programming.

Summary of dependent variable 3. The findings of this study regarding the relationships between learner characteristics and availability of learning

opportunities with a perceived increase in confidence in teaching abilities were not statistically significant at the .05 level. Although statistically significant differences were noted for the specific age group taught (three, four, and pre-k five year olds) and confidence, further research might investigate the content of courses taught in early childhood programs or the focus of professional development offered to providers. The findings of this study regarding the relationships between learner characteristics and availability of learning opportunities with a perceived increase in confidence in teaching abilities were not statistically significant at the .05 level.

Dependent Variable 4: Relationships with Children and their Families

Qualified educators in early childhood programs are more likely to provide warm, nurturing interactions with both the children and their families (Cartwright, 1999; Hyson, 2003; Trust for Early Education, 2002). Providers who are warm, caring, sensitive, and responsive toward the child are more likely to create a bond that encourages higher levels of cognitive competence (Kontos et al., 1995). NAEYC (1983) also addresses relationships in its standards for professionals in the early care and education field. They include establishing supportive relationships with children; establishing and maintaining positive and productive relationships with families; recognizing that children are best understood in the context of family, culture, and society; and supporting the development and learning of individual children. This study examined the relationships between the characteristics of the learner, availability of programming and perceived improvements in relationships with

children and their families of participants in the T.E.A.C.H. Early Childhood Project.

Characteristics of the learner. It was hypothesized that there would be a positive relationship between the levels of education of the learner, years of experience, and age level of children taught and perceived improvements in relationships with children and their families as assessed by directors and learners. Correlation and cross tabular analysis indicated no statistically significant differences. Therefore, the researcher must conclude that there is no significant relationship between the learner characteristics level of education and age group taught and perceived improvements in relationships with children and their families as assessed by directors and learners. The results of the present study are unlike the findings of Arnett (1989) who conducted a study that compared caregiver practices to their level of training. He found that educators with at least two or more training courses held less authoritarian attitudes toward childrearing, interacted in a more positive and less detached manner in their interactions with children than those educators with no early childhood training. However, the learners response to statements regarding relationships with children and their families indicate that years of experience is a significant predictor of perceived improvements in relationships with children and their families ($\text{Exp}(B) = .933, p = .008$). In support of the findings regarding the relationship between years of experience and relationships with children and their families, research by Dunn and Shriner (1999) indicated that caregivers can strive to improve their practices,

learn from their experiences and assimilate new knowledge into future situations. Learning happens not only in a course program but also in trying and failing in real situations (Ackerman, 2004; Dunn & Shriner, 1999).

Experience is a comprehensive construct that requires one to decipher what the beneficial features of experience are and how they relate to competent caregiving (Dunn & Shriner, 1999; Phillips et al., 1987). Abbott-Shim et al. (2000) suggest that offering early childhood educators better experiences helps to shape their set of practices and internal beliefs.

Availability of learning opportunities. It was hypothesized that there would be a positive relationship between the course offerings available to learners, quality of course instructors, and quality of campus services and perceived improvements in relationships with children and their families as assessed by directors and learners. Correlation and cross tabular analysis indicated no statistically significant differences. Therefore, the researcher must conclude that there is no significant relationship between availability of learning opportunities (i.e., quality of course instructors and quality of campus services) and perceived improvements in relationships with children and their families as assessed by directors and learners.

However, the learners response to statements regarding relationships with children and their families indicate that course offerings is a significant predictor of perceived improvements in relationships with children and their families ($\text{Exp}(B) = .374, \rho = .027$). These findings are similar to those of Maxwell et al. (2006) and Ackerman (2004) who both examined various

components, including qualifications of instructors, accessibility of programs, and degree offerings of Institutions of Higher Education who offered early childhood programming. Maxwell et al (2006) found that the 2-year institutions were more accessible to students as compared to 4-year institutions. Descriptive data from the present study indicated that the majority of learners were enrolled in a 2-year program at the community college. However, the current study did not examine the learners' preparation programs but rather relied on the perceptions of learner and director about the availability of programming.

Summary of dependent variable 4. The findings of this study regarding the relationships between learner characteristics and availability of learning opportunities with perceived improvements in relationships with children and their families were not statistically significant at the .05 level. Although statistically significant differences were noted for learner responses to course offerings and perceived improvements in relationships, further research might investigate consistency of care and barriers for non-traditional learners. The overall findings of this study regarding the relationships between learner characteristics and availability of learning opportunities with perceived improvements in relationships with children and their families were not statistically significant at the .05 level.

Summary of Findings of All Dependent Variables

The positive results from the survey indicate that the learners who are attending courses and furthering their education are satisfied with the

T.E.A.C.H. program. A review of previous years' data shows that participation continues to increase and that other states are beginning to implement similar programs. However, results from the present study indicated that the independent variables did not have an affect on the dependent variables. Level of education of the learner and age group taught did not influence the perceptions of learners and directors in the areas of knowledge and skills, instructional techniques and practices, and relationships with children and their families. The exception in the results is that age group taught, specifically three, four, and pre-k five year olds, did influence confidence in teaching abilities. Years of experience of the learner did influence relationships with children and their families. The learners' response indicates that course offerings influenced relationship with children and their families. As with numerous fields, continuous and comprehensive professional development will provide teachers with current and relevant research and practices which are most beneficial for the children with whom they work (Carter, M., 2006; Early et al., 2007, Ramey & Ramey, 2005).

More and more studies are also looking at the importance of training for teachers from pre-k through adult education (Ackerman, 2004; Donohue et al., 2007; Early et al., 2007; Maxwell et al., 2006). An important difference in the present study and earlier studies is in the evaluation method used. Cassidy et al. (1995) conducted research after the first year of the T.E.A.C.H. Program which concluded that improving teacher educational qualifications is related to improved knowledge and higher quality. However, the participants

in the Cassidy et al. (1995) study were given pre- and posttests rather than completing a general evaluation tool of the program. The data used for the present study were gathered using the T.E.A.C.H. Early Childhood Scholarship Recipient Evaluation (Appendix D) and the T.E.A.C.H. Early Childhood Scholarship Sponsor Evaluation (Appendix C). These instruments may not have been sensitive enough to reveal relationships between the characteristics of learners and knowledge and skills. For example, learners responded to the following statement, "I have increased my knowledge of child development". The learners' response is dichotomous where they must check the box for "yes" or leave blank for "no" (Table 3.1). Some respondents may have left the question blank because they could not answer in the limited manner provided. The directors answered similar questions but used a Likert-scale response (Table 3.2). Providing learners the opportunity to answer the question on a scale may be much more effective in providing accurate responses. This allows for a range in response and not simply "yes" or "no".

Furthermore, Abbott-Shim et al. (2000) also conducted research in child care settings and used survey methods. However, the research was conducted over a period of two years and included multiple evaluation instruments including an observation component. The T.E.A.C.H. evaluation tools (see Appendices C and D) used in the present study contain many items which can measure reactions but there are inconsistencies in the presentation of the items. For example, there are differences in response choices for

participants. The Likert-scale for statements about services provided by community college or university, #13 for directors and #31 for learners (Table 3.1) is not the same. The Likert scale in place for learners was: 1-Always; 2-Sometimes; 3-Never. However, the director survey included a fourth category, 4-N/A. The researcher chose to remove these data from the system when running analyses. A more accurate analysis could be possible if both evaluations contain the same response choices for data measurement.

Limitations of the Study

This study was designed to only look at the experiences and perceptions of scholarship learners as determined by program directors and the teachers they supervise. The researcher chose to also include data reported by the scholarship learners, which may indicate bias as it was self-reporting data. The statistical data reported above could suggest that participants may have distorted their answers since negative information could be perceived as a criticism on themselves, the center, and/or administration. Both groups surveyed answered affirmatively to all questions which may or may not be a true indication of their opinion. There may have also been some concern about anonymity between learners and their directors.

The data used in this study were collected only from participants in North Carolina and not from other states using the same type of incentive program. There may not be generalizable findings considering differences in

populations served. Data from family child care homes was also eliminated from this study.

Because this was a secondary data analysis, there were no observational data recorded. The results were based only on responses given to evaluation questions and not actual conversations or classroom observations of teacher interaction with children.

Significance of the Study

The results of this study should be shared with researchers, early childhood professionals, Child Care Services Association of North Carolina, and administrators of the T.E.A.C.H. Early Childhood Scholarship Project and its participants. Through this study, the researcher sought to provide information about the perceptions of program directors and the teachers they supervised for the T.E.A.C.H Project.

Recommendations for Further Research

The model of the T.E.A.C.H. Project appropriately fits within the conceptual framework for professional development designed by NAEYC (Figure 1.1) where the provision of professional development opportunities, set of principles for effective professional development, improved compensation, and a goal to embrace diversity of roles and levels of preparation are key components behind the success of the program. Furthermore, the satisfaction rate of participants, determined from the frequency of responses, is very high as is the number of participants which is increasing every year. However, an in-depth look at the data from this study

does not clearly indicate relationships, positive or negative, between teacher characteristics, availability of programming, and perceived learning outcomes.

Because the results of the current study are contradictory of findings of other researchers on the factors related to perceptions of teacher knowledge and skills, instructional techniques and practices, confidence in teaching abilities, and relationships with children and their families (Abbott-Shim et al., 2000; Ackerman, 2004; Cassidy et al., 1995; Early & Winton, 2001) the researcher determined that there could be several flaws in the design of the evaluation instrument for learners and directors which attributes to these findings. Survey results should be used for more than just receiving a response. The answers should provide meaningful information which can also be used for improvements to a program. The design of the questions asked greatly influences the reliability and validity of the research. Validity of the instrument is reduced when participants distort their answers to how they think they should be answered versus being comfortable and willing to share honest responses.

Fowler (1995) provides criteria for effective questions and are as follows: 1) there should be consistent understanding in what the question is asking and how the researcher intended it to be answered, 2) the questionnaire should be administered or communicated to respondents in a consistent way, 3) what constitutes an adequate response should be communicated, 4) all respondents should have access to information necessary to answer the question accurately, and 5) respondents must be

willing to provide the answers. These guidelines and Kirkpatrick's Levels of Evaluation pyramid (Figure 1.2) can assist in addressing the design issues of the current evaluation tool in place.

Level one is the most basic level and focuses on reactions of the participants. The present T.E.A.C.H. evaluation tool contains many items which can measure reactions but there are inconsistencies in the presentation of the items. Both evaluations should contain the same response choices.

One way to address this concern is to remove the entire statement response for directors. The directors are not attending courses at the university or community college; therefore, they cannot accurately judge course offerings, course instructors, or campus services. Their responses could be based on their perceptions, observations, or conversations from learners who are working in the facility and attending courses.

Level two of the pyramid focuses on learning and whether or not the participant has advanced in skills or knowledge. One possible method of measurement for this level would be to complete a pre and post assessment of the learners. As noted from earlier studies (Cassidy et al., 1995), pre-and posttests can provide evidence of improvement in developmentally appropriate practices after attending courses.

Level three of Kirkpatrick's model evaluates transfer or knowledge. In order to fully realize the implications of the directors' perceptions, an observation component could be added similar to the practicum used for student teachers in education programs. This would provide concrete

examples of teacher interactions with children and the instructional techniques and practices used in the classroom. Moreover, adding an observation component can lead toward validating the instrument used and provide an opportunity to compare teacher practices and perceptions. Because the measure of effectiveness is increasing, so is the time commitment and effort needed by directors to truly evaluate the staff working with the children who are being served.

The most difficult level to attain is level four which focuses on results. The current evaluation tool cannot accurately determine whether or not the participants of the program are successful. A longitudinal study could provide more detailed information over a period of time similarly to the High Scope/Perry Preschool study.

A final component for consideration is the timing for completing the survey. Currently, the survey is completed the following year after courses are completed and is very lengthy. For example, participants answered questions regarding the 2006 T.E.A.C.H. Project beginning in March of 2007. One requirement once being accepted to or being involved in the project may be to require that the survey be completed semi-annually. An option could be provided to complete it online or by mail with a one month completion time after each course session (i.e., spring semester, summer session, and fall semester) rather than one time the following year. Completing the survey could be an added component to the contract for learners receiving the scholarship.

The researcher is of the opinion that once the evaluation tool is redesigned, then a pilot study should be performed with a select group of participants. This research will provide accurate reliability and validity results which are currently not in place. A pilot study may also garner invaluable feedback from learners and directors for researchers and the T.E.A.C.H. Project coordinators. A focus group with learners and directors may also provide information on what specific questions need to be asked in order to acquire desired information about the program. The current tool tends to focus on process data and restructuring the instrument can provide an opportunity to look more in depth into the impacts of the Project.

Conclusions

In order to investigate which characteristics of the teachers participating in the Teacher Education and Compensation Helps (T.E.A.C.H.) Early Childhood Project predict perceived learning outcomes, the researcher conducted quantitative research through secondary data analysis. The analyses were based on the collection of quantitative data from the T.E.A.C.H. Scholarship Program Evaluation developed by Child Care Services Association (CCSA) of North Carolina. The survey used in his study provided information on the perspectives of participants (program directors and the teachers they supervised) of the T.E.A.C.H. Early Childhood Project in 2006. The researcher was able to specifically analyze data for 740 learners and 644 directors, linking 208 learners with their directors.

The researcher was unable to conclude that the independent variables had an effect on the dependent variables. Level of education of the learner and age group taught did not influence the perceptions of learners and directors in the areas of knowledge and skills, instructional techniques and practices, and relationships with children and their families. The exception in the results is that age group taught, specifically three, four, and pre-k five year olds, did influence confidence in teaching abilities. Years of experience of the learner did influence relationships with children and their families. The learners' response indicates that course offerings influenced relationship with children and their families.

The researcher does not suggest that education level, years of experience, age group taught, and professional development opportunities are not related to perceived improvements in teacher knowledge and skills, instructional techniques and practice, confidence in teaching abilities, and relationships with children and their families. Each factor must be considered on an individual basis. A recent study by Early et al. (2007) which analyzed seven major studies of early care and education concurred with these results that quality cannot be determined by teacher education level alone. There are varying factors which influence child care programs and providers working in the field. Also, due to the design of the evaluation tool used for this data and the lack of an observable measure, the results provided may not yield a true representation of participant growth.

It is clear from the overwhelmingly positive responses of the learners and directors that the T.E.A.C.H. Early Childhood Scholarship Project is advantageous for participants. The scholarships and incentives appear to be beneficial for encouraging teachers in the early care and education field to further their education. However, a redesign of the evaluation instrument used for learners and directors is imperative for more accurate data and results to be determined.

APPENDICES

- APPENDIX A: Institutional Review Board Approval
- APPENDIX B: Initial Letter mailed to Sponsors
- APPENDIX C: Program Evaluation for Sponsors
- APPENDIX D: Program Evaluation for Recipients
- APPENDIX E: Confidentiality Statement

APPENDIX A: Institutional Review Board Approval

To: Tisha Duncan
School of Education
CB: 2665 Semora Rd Roxboro, NC 27574

From: Behavioral IRB

Date: 12/10/2007

RE: Determination that Research or Research-Like Activity does not require IRB Approval

Study #: 07-1987

Study Title: The Factors Related to Teacher Acquisition of Knowledge and Skills in the Early Care and Education Field: An Analysis of the T.E.A.C.H. Early Childhood Project

This submission was reviewed by the above-referenced IRB. The IRB has determined that this submission does not constitute human subjects research as defined under federal regulations [45 CFR 46.102 (d or f)] and does not require IRB approval.

Study Description:

Purpose: To determine the importance of training and education, and to identify factors related to teacher acquisition of knowledge and skills.

Participants: Sponsoring teachers working toward an increased level of education specifically related to early childhood in their licensed facility.

Procedures: Secondary analysis of quantitative data from the T.E.A.C.H. Scholarship Program Evaluation developed by Child Care Services Association (CCSA) of North Carolina.

If your study protocol changes in such a way that this determination will no longer apply, you should contact the above IRB before making the changes. Good luck with your interesting research, Tisha!

Lawrence B. Rosenfeld, Ph.D.
Co-Chair, Behavioral Institutional Review Board
University of North Carolina at Chapel Hill
aa-irb-chair@unc.edu

CC: Barbara Day, School of Education
Kesha Tysor (School of Education), Non-IRB Review Contact



APPENDIX B: Initial Letter Mailed to Sponsors

...ensuring affordable, accessible, high quality child care for all young children and families.

Dear Child Care Provider:

Child Care Services Association (CCSA) and the T.E.A.C.H. Early Childhood® Project value the hard work and commitment you have made to continuing your education and to providing high quality child care. CCSA's Research Department, with support from T.E.A.C.H., is conducting a survey of scholarship recipients to learn more about your experiences on the scholarship program and to better understand your educational needs. We understand that you received a T.E.A.C.H.® scholarship during the Spring 2006, Summer 2006 or Fall 2006 semester, and we would like to hear from you.

To help us get the important information we need, please complete the enclosed survey and return it to us in the envelope provided as soon as possible. We will use your responses to improve the quality of services offered through T.E.A.C.H. and to share some feedback with the community colleges and universities in your community.

We greatly appreciate your direct and honest responses regarding your experience with the T.E.A.C.H. Early Childhood® Project. Your identity will not be revealed to others if you participate in the survey. We will not tell anyone what you as an individual wrote on the survey. In other words, your responses will be held in confidence.

When you return your completed survey and raffle ticket, we will enter you in a drawing for educational materials for your child care program. Just complete the raffle ticket, detach it and return it with your completed survey in the postage paid envelope. Once we enter your name in the raffle, we will separate your raffle ticket from your survey to protect your confidentiality.

If you have any questions about the survey, please call the Research Department at (919) 967-3272. We will follow up soon to check on your progress. Thanks again for helping to make the T.E.A.C.H. Early Childhood® Project a success.

Sincerely,

Edith Locke
Vice President, Professional Development Initiatives
Research & Development

Mary Martin
Vice President, Systems

RAFFLE ENTRY

Name _____

Child Care Program _____

Address _____

City, State Zip _____

Mailing Address
PO Box 901
Chapel Hill, NC
27514 f.967-7683

Durham County
Office
p.919-403-6950
f. 403-6959

Wake County
Office
p.919-779-2220
f.256-3489

APPENDIX C: Program Evaluation for Sponsors

The T.E.A.C.H. Early Childhood® Project Program Evaluation for Sponsors

1. Do you have any staff in your center who are T.E.A.C.H.® scholarship recipients and who were enrolled in classes during Spring 2006, Summer 2006 or Fall 2006?

1 Yes **Go to 1a and 1b.**

1a. How many teachers and assistant teachers are currently working in your center? ___

1b. How many of your current staff are scholarship recipients who completed classes last year? ___

0 No *(Double-check our database. We're calling the sponsors of recipients who completed a survey, so they should have at least one recipient in their center.)*

2. How many teachers work at your center whose primary language is ...

English _

Spanish _

Other(please specify) _

3. How did you learn about T.E.A.C.H.? *(Ask open-ended and check boxes for all answers given.)*

Staff at my center Friend/family member Another participant

Child Care Services Association Newsletter/magazine CCSA web site

Local Partnership for Children Local college/university Presentation/training

Local Child Care Resource and Referral Agency Flyer

Other _

4. How long have you been working in child care? _____years _____months

5. What is your current level of education? *(We need to know the highest level of education completed.)*

1 High School/GED 3 AAIAAS degree 5 MA degree

2 Some college credits earned 4 BA degree

6 Other

6. I will read a list of statements about the T.E.A.C.H. Early Childhood® Project. Please complete each statement with the answer that best describes your opinion.

a. The requirement that scholarship recipients complete a minimum number of course credit hours was:

1 Very easy 2 About right 3 Somewhat difficult

b. Giving scholarship recipients paid time off during the week was:

1 Easy to do 2 Somewhat difficult to do 3 Very difficult to do

c. The center's share of tuition costs was:

1 Too little for the center to pay 2 About right 3 Too much for the center to pay

d. Was the center responsible for sharing the cost of recipients' books? ,

1 Yes *Go to dl.* 0 No *Go to e.*

d1. The center's share of the cost of books was:

1 Too little for the center to pay 2 About right 3 Too much for the center to pay

e. Awarding recipients a raise or bonus was:

1 Easy to do 2 Somewhat difficult to do 3 Very difficult to do

From your perspective as a T.E.A.C.H. sponsor, please indicate whether you agree or disagree with each of the following statements: (*Prompt for "strongly" or "somewhat" after initial "agree" or "disagree".*)

f. The T.E.A.C.H. staff was helpful.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly
5 Don't know (N/A)

g. The T.E.A.C.H. staff was courteous and respectful.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly
5 Don't know (N/A)

h. When I needed help, CCSA staff responded in a timely manner.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly
5 Don't know (N/A)

i. Information that I received from T.E.A.C.H. was easy for me to understand.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly
5 Don't know (N/A)

7. Has your center's participation in the T.E.A.C.H. Early Childhood® Project led to increasing fees to parents?

1 Yes Go to 6a. 0 No Go to 7.

7a. If Yes, please explain how. (*Follow-up if the sponsor doesn't give a clear answer.*)

8. How can T.E.A.C.H. be more helpful to you? (*Follow-up if the sponsor doesn't give a clear answer.*)

9. As an overall evaluation of the T.E.A.C.H. Early Childhood® Project, how satisfied are you?

1 Very satisfied 2 Somewhat satisfied 3 Somewhat dissatisfied 4 Very dissatisfied

10. Would you recommend T.E.A.C.H. Early Childhood® scholarships to other child care centers?

1 Yes Go to 10. 0 No Go to 9a.

10a. If No, why not? (*Follow-up if the sponsor doesn't give a clear answer.*)

Questions about Individual T.E.A.C.H. Scholarship Recipients

This is the last part of the survey. I'm going to ask you a few questions about each T.E.A.C.H. scholarship recipient in your center. Please consider each scholarship recipient individually when answering the questions.

Just to double-check, how many of the T.E.A.C.H. scholarship recipients currently working in your center completed courses during Spring 2006, Summer 2006 or Fall 2006?

_____ recipients total

Recipient #1

I will read a list of statements about this scholarship recipient. Please indicate on a scale from one to five, with one meaning that you disagree strongly to five meaning that you agree strongly, your opinion regarding this particular recipient.

(Circle the answer given.)

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
Since enrolling in college courses...					
1. the recipient has increased her/his early childhood knowledge and skills.	1	2	3	4	5
2. the recipient has improved the quality of her/his teaching techniques and practice.	1	2	3	4	5
3. the recipient has increased confidence in her/his teaching abilities.	1	2	3	4	5
4. the recipient has increased enthusiasm in the classroom.	1	2	3	4	5
5. the recipient has influenced her/his coworkers to use new teaching techniques.	1	2	3	4	5
6. the recipient has improved relationships with the children and their families.	1	2	3	4	5

APPENDIX D: Program Evaluation for Recipients

The T.E.A.C.H. Early Childhood® Project
Program Evaluation for Scholarship Recipients

.. To be eligible for the raffle drawing, please complete and return the enclosed form with your survey. You might win a collection of children's books for your child care program!

1. Did you take any courses during Spring 2006, Summer 2006 or Fall 2006?

1 Yes 0 No

1a. Would you have taken courses last year if you did not have a T.E.A.C.H. scholarship?

0 No 1 Yes, I would have taken the same number of courses.

2 Yes, but I would have taken fewer courses.

2. How long have you been working in child care? _____ years _____ months

3. What ages are the children in your care? *Check all that apply.*

Infants Ones Twos

Threes, Fours, and Preschool-age Fives Fives and Up (School-age)

4. How many children are in your care/classroom? _____

4a. Do you work with other teachers in your classroom?

1 Yes 0 No

5. What is your current level of education? *Check the highest level that you have completed.*

1 High School/GED

3 AAIAAS degree

2 Some college credits earned

4 BA degree

5 Other

6. What are your educational goals? *Check all that apply.*

To earn an AA or AAS degree

To earn an MA degree

To earn a BA degree

Other

7. How did you learn about T.E.A.C.H.? *Check all that apply.*

My director

Friend/co-worker

Another participant

Child Care Services Association

Newsletter/magazine

CCSA web site

Local Partnership for Children

Local college/university

Presentation/training

Local Child Care Resource and Referral Agency

Flyer

Other _

8. Were you working toward a college degree before you learned about T.E.A.C.H.?

1 Yes

0 No

2 Not Sure

8a. If No, why not? *Check all that apply.*

I did not have time to take courses.

I could not afford tuition, books, etc.

Courses were at inconvenient times.

I was planning to leave the child care field.

I did not believe I needed more education.

I had no interest in taking courses. Other _

Please respond to the following statements:

9. Completing the number of required course credit hours in one year was: ,

1 Very easy 2 About right 3 Somewhat difficult

10. The courses that I took were:

1 Not challenging enough 2 About right 3 Too difficult

11. The amount of release time provided by the scholarship was:

1 Too little 2 About right 3 Too much

12. Under your scholarship, are you required to pay for a percentage of your tuition and books?

1 Yes 2 No *If No, skip to Question 13.*

12a. My share of the tuition was:

1 Too little for me to pay 2 About right 3 Too much for me to pay

12b. My share of the cost of books was:

1 Too little for me to pay 2 About right 3 Too much for me to pay

13. The travel funds that I received for transportation to courses were:

1 Too little 2 About right 3 Too much

14. The T.E.A.C.H. staff was helpful.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly

15. The T.E.A.C.H. staff was courteous and respectful.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly

16. I have been able to contact CCSA staff when I need help.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly
0 I have not needed to contact CCSA staff.

16a. If you have not been able to contact CCSA staff, why not? *Please be specific.*

17. When I needed help, CCSA staff responded in a timely manner.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly

18. Information that I received from T.E.A.C.H. was easy for me to understand.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly

19. The raise/bonus that I receive because of my education is important to me.

1 Agree strongly 2 Agree somewhat 3 Disagree somewhat 4 Disagree strongly

Please attach extra sheets if needed for comments. 2

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20. How can T.E.A.C.H. be more helpful to you? *Please be specific.*

21. How can your sponsoring child care center be more helpful to you? *Please be specific.*

22. Do you plan to continue your T.E.A.C.H. scholarship in the upcoming year?

1 Yes 0 No

22a. If No, why not? *Check all that apply.*

- | | |
|--|---|
| <input type="checkbox"/> I am graduating. | <input type="checkbox"/> I do not plan to take courses. |
| <input type="checkbox"/> I will not stay in my current center. | <input type="checkbox"/> My center will not sponsor me. |
| <input type="checkbox"/> I cannot afford to continue. | <input type="checkbox"/> Other |

Please respond to the following statements:

23. I used what I have learned with the children in my care/classroom.

1 Agree 0 Disagree 2 Not Sure

24. I used what I have learned with the families of the children in my care/classroom.

1 Agree 0 Disagree 2 Not Sure

25. I shared what I have learned with other teachers at work or in the community.

1 Agree 0 Disagree 2 Not Sure

26. How has an increased education helped you? *Check all that apply.*

- I am more satisfied with my job.
- I feel more appreciated and recognized for my work.
- I am more willing to stay with my current child care program.
- I have increased my knowledge of child development.
- I have improved my teaching techniques and practice.
- I am more confident in my teaching abilities.
- I have better relationships with the children and families with whom I work.
- I see myself as an early childhood professional.
- I appreciate the education I am getting and want to get more.

- Other *Please be specific.* _____

- I have not noticed any benefits. *Please explain.* _____

27. As an overall evaluation of the T.E.A.C.H. Early Childhood® Project, how satisfied are you?

1 Very satisfied 2 Somewhat satisfied 3 Somewhat dissatisfied 4 Very dissatisfied

Please attach extra sheets if needed for comments.

28. Would you recommend T.E.A.C.H. scholarships to other people working in child care?

1 Yes 0 No

28a. If No, why not? *Please be specific.*

29. What has the scholarship meant to you personally and professionally? *Please explain.*

30. What is the name of the community college or university where you usually attend courses?

31. The following statements are about the services provided by your community college or university.

Check one box for each statement.

a. My college/university offers an adequate number of evening courses. 1 Always 2 Sometimes 3 Never

b. My college/university offers an adequate number of weekend courses. 1 Always 2 Sometimes 3 Never

c. My college/university offers an adequate number of courses at its main campus ... 1 Always 2 Sometimes 3 Never

d. My college/university offers an adequate number of courses at off-site locations.....1 Always 2 Sometimes 3 Never

e. My college/university offers an adequate number of courses on the internet1 Always 2 Sometimes 3 Never

f. The registration process at my college/university easy.....1 Always 2 Sometimes 3 Never

g. My college/university communicates effectively with students..... 1 Always 2 Sometimes 3 Never

h. My college/university effectively promotes early childhood courses in the community. 1 Always 2 Sometimes 3 Never

i. The quality of early childhood instructors at my College/university is good.....1 Always 2 Sometimes 3 Never

j. Early childhood advisors at my college/university are available..... 1 Always 2 Sometimes 3 Never

j. Early childhood advisors at my college/university are available.....1 Always 2 Sometimes 3 Never

32. How can the community college or university be more helpful to you? Please be specific.

Please attach extra sheets if needed for comments.

APPENDIX E: Confidentiality Statement



...ensuring affordable, accessible, high quality child care for all young children and families

June 6, 2007

The Office of Human Research Ethics
IRB
The University of North Carolina at Chapel Hill
CB #7097, Medical Building 52
Mason Farm Road
Chapel Hill, NC 27599-7097

Dear Board Members:

Tisha A. Duncan, Research Assistant, has been working with the collection and analysis of T.E.A.C.H. scholarship data for Child Care Services Association (CCSA). Our office collects information via survey from both the recipients and their sponsors participating in the scholarship program.

Ms. Duncan will be using the existing secondary data collected from the participating sponsors for her dissertation research. Although Ms. Duncan may have access to identifying information and/or qualifiers for the sponsors participating in the program, she has signed a confidentiality agreement with CCSA and is not working directly with this data. Her primary responsibilities include dissemination, collection, and analysis of recipient data only.

Ms. Duncan has the permission of this office to use sponsor data collected for her research. Thank you for your consideration in this matter. If you have questions, please contact us.

Sincerely,

Sue Russell, President

Mary Martin VP, Systems Research & Development

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