A Correlational Study of Early Childhood Transformational Leadership and Young English Language Learners Achievement

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Jade Fantasy Ko

Prescott Valley, Arizona
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ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Approval Page

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By

Jade Fantasy Ko

Approved by:

4/8/2015

Chair: Stephanie Wallio, Ph.D. — Date

Certified by:

Rebecca Wardlow 4/8/15

Dean of School: Rebecca Wardlow, Ed.D. — Date

Abstract

Hispanic English Learners (ELs) in America are at risk of educational failure. Hispanics are the poorest, least-educated US ethnic group, making them subject to the widening educational achievement gap. When ELs are unsuccessful in school, both students and society suffer. As their population rises, many school districts, such as the Great Falls Public Schools (GFPS) (pseudonym), need strategies to improve EL education. High-quality early childhood education increases student achievement. The literature indicates that transformational leadership (TL) is vital for school success. However, TL has been explored neither for EL achievement nor in the preschool setting. This study was needed to address the problem of EL achievement and improve TL theory prediction. This study investigated whether TL practices by preschool directors, as perceived by instructional staff, predicted EL's preschool achievement. Instructional staff (n=146; 130 teachers and 16 master teachers) at Great Falls district's 30 preschool sites completed 194 surveys describing their site leader's TL practices. Both the leadership scores and the preschool ELs' (n=1,390) literacy and mathematics achievement scores were aggregated by preschool site. Regression analyses were performed using SPSS to explore the relationships between preschool directors' TL practices and EL achievement, controlling for prior achievement scores, average student age, and leader characteristics. The results indicated that Setting Directions (R^2 =.70, F (6, 22) = 8.53, p<0.01), Developing People (R^2 =.70, F (6, 23), p<0.01), and combined TL practices (R^2 =.69, F (6, 22) = 8.11, p< .01) had a significant and positive relationship with student mathematics achievement. However, Redesigning the Organization had no significant relationship with student outcomes. In addition, no relationships between TL practices and student literacy

outcomes were significant. Future studies should include both student mathematics and literacy outcomes to investigate whether transformational practices have greater impact on mathematics than literacy achievement.

Acknowledgements

I was the first person in my family to attend college. When I completed my master's degree in 1990, I hoped to obtain a doctoral degree. My dream was delayed for 18 years. Seven years ago, I finally enrolled myself to NCU's doctoral program. Many changes happened during the seven years since I began the dissertation journey. I have to say that this is the most challenging project I have ever done in my entire life. This dissertation journey would not have been completed without the support and sacrifice of others. To my partner, Russel, thank you for your encouragement and support. To my parents, thank you for believing in me. To my two sons, Jonathan and Jason, thank you for your love and taking turns to cook dinner. To my dissertation chair, Dr. Stephanie Wallio, thank you for your patience and guidance. To my friends and my colleagues, thank you for your consistent encouragement. Finally, I thank my country, the United States of America, for allowing older adults to achieve their dreams. I dedicate this work to all early childhood professionals and researchers who have committed to improving the education of young immigrant children.

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Chapter 1: Introduction

The United States of America is called "a nation of immigrants." Many U. S. immigrants do not speak English. Their children are “English learners” (ELs) in the U.S. school system (Echevarria & Vogt, 2010; Fitts & Gross, 2011). This study addresses a particular EL population—Hispanic ELs—one of the fastest growing populations in the U. S. Hispanic immigrants and their children in the U. S. struggle with the hardship of low English proficiency, low education, and low socio-economic status (SES) (Snyder & Dillow, 2011; Thomas, 2012), making Hispanic ELs subject to the widening educational achievement gap (Camarota, 2012; Reardon, 2011). The Great Falls Public Schools (GFPS) (pseudonym) early childhood programs, with 62% ELs who speak Spanish at home, share the nation’s EL educational challenges. This study attempts to find solutions for the Hispanic EL achievement disparities.

Children’s later academic achievement is greatly impacted by what happens to them early in life. ECE studies indicate that preschool education for low-income and ethnic-minority children yields considerable short and long-term benefits, including enhancing cognitive outcomes, social skills, and school progress (Camilli, Vargas, Ryan, & Barnett, 2010; Shager et al., 2013). However, the impact of ECE programs varies, depending on the preschool’s leadership quality (Hilliard & Jackson, 2011; Ho & Chen, 2013). Improving EC leadership may help increase young EL achievement. Inadequately, ECE leadership research is scarce. Further studies are needed to investigate the link between ECE leadership and EL achievement.

The paucity of EL leadership research contrasts with the abundant literature on general school leadership. Literature indicates that TL leaders can transform

organizational culture and motivate workers to perform beyond expectation (Bass, 1985; Hallinger, 2011; Leithwood, Pattern, & Jantzi, 2010). Leithwood and collaborators investigated the leadership behaviors best supporting the needed change in schools and developed the transformational school leadership (TSL) model (Jantzi & Leithwood, 1996; Leithwood, Louis, Anderson, & Wahlstrom, 2004; Sun & Leithwood, 2012). By applying the TL theory in the educational context, the TSL model focuses on leadership behaviors that lead to school reform and student performance improvement (Leithwood, Harris, & Hopkins, 2008; Robinson, Hohepa, & Lloyd, 2009; Sun & Leithwood, 2012). TL research in the EL educational context is minimal. Kose and other researchers complained that TL has been silent in the issues of school inequities (Kose, 2011; Shield, 2004, 2010). Although Hunt (2011) found that TL sustains bilingual programs that address EL educational inequities, this case study did not statistically link TL with student outcomes.

Since TL has been found to be vital for school success in general K-12 settings (Leithwood, Harris, & Hopkins, 2008; Sun & Leithwood, 2012), preschool center director's TL leadership may be one factor in EL achievement. There is a need to find out whether TL is statistically linked with young EL achievement. This project will be the first quantitative correlational TL study conducted in preschool settings to address EL achievement disparities.

The remainder of Chapter 1 contains the background, statement of problem, purpose of the study, research questions, and hypotheses. Following these sections are nature of the study, significance, definitions of key terms, and a short summary.

Background

The growing number of young Hispanic ELs is changing the U. S. public education landscape. In 2008, one-fourth of the babies born in the U. S. had Spanish as their home language (Martin, Hamilton, Sutton, & Ventura, 2010). Along with a language barrier, many young Hispanic ELs face socioeconomic challenges (Snyder & Dillow, 2011; Thomas, 2012). According to Snyder and Dillow (2011), Hispanics are the poorest and the least educated ethnic group in the country. In 2011, 62% of Hispanic immigrants and their U. S. born children were living in or near poverty, compared to 45% of Black, 12% of Asian, and 32% of White immigrants (Camarota, 2012). Children's academic achievement and schooling attainment are found to be significantly correlated to family income (Blau, 1999; Dahl & Lochner, 2012; Duncan, Pamela, & Chris, 2011; Stinebrickner & Stinebrickner, 2003). These risk factors—low English proficiency, low family education, low SES—make Hispanic ELs at high risk for poor academic achievement and school dropout (Reardon, 2011). While almost 91% of White students graduate from high school, the dropout rate of Hispanic students is higher than 20% (U.S. Census Bureau, 2012c). ELs who live in high-poverty school districts, such as Great Falls, are more likely to suffer from cumulative negative impacts of reading poorly and living in poverty (Galino, 2010; Hernandez, 2012). The Great Falls Public Schools (GFPS) graduation rate in 2011 was only 64%, even after significant gains in the previous several years (NJ DOE, 2012).

When ELs are not successful in school, both students and society suffer (Groot & Van Den Brink, 2010; Lockner & Moretti, 2004). In 2011, 75% of US crimes were committed by high school dropouts (Child Trends, 2013). Moreover, U.S. citizens

without a high school diploma earn $10,000 less annually than high school graduates (U. S. Census Bureau, 2012b). Furthermore, Hispanics will compose about 35% of America's total youth population by 2050 (Passel & Cohn, 2008; U.S. Census, 2012e). Failure to prepare Hispanic ELs for school will damage our nation. Thus, finding ways to provide effective education for immigrant children is an urgent national issue (Calderón, Slavin & Sánchez, 2011; Fortuny, Hernandez, & Chaudry, 2010; Heckman, 2006; Li, 2012).

Due to the positive preschool effects found in ECE research, state governments have funded free preschools in districts with high populations of low-income disadvantaged children, to respond to this national issue. In the past ten years, state-funded preschools have grown in number and size (Barnett, Robin, Hustedt, & Schulman, 2003; Barnett, Carolan, Squires, & Clarke, 2013). Early childhood research found that high quality preschools promote young children's school readiness and booster student achievement, especially for low-income and ethnic-minority children (Camilli, Vargas, Ryan, & Barnett, 2010; Shager et al., 2013; Wong, Cook, Barnett & Kwanghee, 2008). However, the impact of ECE programs varies, depending on the EC center director's leadership and the program quality (Hilliard & Jackson, 2011; Ho, 2011; Ho & Chen, 2013). Unfortunately, research in EC educational leadership is limited and inadequately theorized (Aubrey, Godfrey & Harris, 2012; Heikka, Waniganayake & Hujala, 2013; Muijs et. al., 2004; Stamopoulos, 2012). Further research on EC leadership may help improve preschool effectiveness for young ELs.

Statement of the Problem

This study addressed two problems—a practical educational problem and a TL theoretical problem. Hispanic ELs in America are at high risk of educational failure, with a high school dropout rate double that of Whites (Census Bureau, 2012c). ELs in high-poverty school districts often read poorly and live in poverty (Galino, 2010; Hernandez, 2012). When ELs are unsuccessful in school, both students and society suffer (Groot & Van Den Brink, 2010). Strategies to improve EL achievement are needed. This study sought solutions for the EL achievement problem.

High-quality ECE increases student achievement and school completion (Garcia & Gonzales, 2006; Isaacs, 2008). Many states fund pre-K programs, but quality varies (Karoly, Ghosh-Dastidar, Zellman, Perlman, & Fernyhough, 2008). Only high quality preschools can close the achievement gap (Crosnoe, 2007; Herbst & Tekin, 2010a). To improve EL achievement, preschools need to increase program quality for immigrant children (Crosnoe, 2007; Karoly et al., 2008). Leadership is key to effective schools (Hilliard & Jackson, 2011; Ho, 2011). TL creates school conditions which support student learning in K-12 schools (Eyal & Roth, 2011; Nedelcu, 2013). This suggests that preschool director's TL practices could support young ELs' achievement. However, TL has been investigated neither for EL achievement (Kose, 2011; Shield, 2010) nor in the preschool setting (Stamopoulos, 2012). Furthermore, research relating TL to student achievement is inconsistent (Chin, 2007; Leithwood & Jantzi, 2000; Witziers, Bosker, & Krüger, 2003). These gaps are the problems for the TL theory.

Without improved ECE leadership, EL students will continue to suffer academic failure. The importance of preschool to future school success justifies studying whether

TL in ECE leadership relates to EL's preschool achievement. This study was needed to help solve the practical problem of EL achievement, improve TL prediction, and add knowledge to the TL theory base (Newman & Covrig, 2013).

Purpose of the Study

The purpose of this quantitative correlational study was to investigate whether TL practices by preschool center directors, as perceived by instructional staff, relate to the young EL's preschool achievement. The study took place in New Jersey GFPS district (pseudonym). The study's sample size was 30 preschool programs; this sample size was sufficient per power analysis. There were four independent variables (IVs), which were analyzed separately, to measure TL practices – scores for the preschool director's practices of three elements of TL (setting directions, developing people, and redesigning the organization) (Leithwood & Jantzi, 2006) and an overall TL score. Data for the IVs on the 30 preschool directors was gathered and aggregated from the preschool instructional staff, as they completed Leithwood and Jantzi's (2006) TL measure regarding the director's practices. All 255 preschool instructional staff members (239 classroom teachers and 16 master teachers) were invited to participate and self-selected whether to participate. This study utilized 194 completed surveys. There were two dependent variables (DVs) to measure EL's preschool achievement – EL preschool student scores in literacy and mathematics on the Teaching Strategies GOLD assessment, given by the GFPS preschool teachers to assess student learning of the Preschool Creative Curriculum, which is aligned with the National Common Core State Standards and the New Jersey State Early Learning Guidelines (Teaching Strategies, 2013). The assessment is completed four times a year and the scores from time 4 were used,

controlling for scores from Time 3, which was the earliest available prior assessment for all students, and average student age at each site. Data for the DVs was aggregated student scores at each preschool site. This study included 1,390 students' data (633 three-year-olds and 757 four-year olds), ranging from 4 to 125 students per site. Five director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge) were also explored as control variables, based on evidence from the literature that these factors are related to student achievement (Clark, Martorell, & Rockoff, 2010; Coburn, 2005; Coelli & Green, 2012; Eberts & Stone, 1988; Nelson, Stimpson, & Jordan, 2007; Piawa, Hee, Ismail, & Ying, 2013; Spillance, 2005). Director background information was collected from the district's archived data. Director background data and student GOLD data were analyzed first using SPSS. Analysis found that years of service in current position and education level variables were not significantly related to the DVs in the study. They were removed from the final analyses. After that determination, multiple regression analysis was used to explore the relationship between preschool center directors' TL practices and young EL achievement, controlling for prior achievement, average student age, and the remaining director characteristics.

Research Questions

This study examined the following research questions:

Q1. What relationship, if any, exists between a preschool site director's TL practice of setting directions, as perceived by instructional staff, and the preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average

student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q2. What relationship, if any, exists between a preschool site director's TL practice of developing people, as perceived by instructional staff, and the preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q3. What relationship, if any, exists between a preschool site director's TL practice of redesigning the organization, as perceived by instructional staff, and the preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q4. What relationship, if any, exists between a preschool site director's combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and the preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total

years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q5. What relationship, if any, exists between a preschool site director's TL practice of setting directions, as perceived by instructional staff, and the preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q6. What relationship, if any, exists between a preschool site director's TL practice of developing people, as perceived by instructional staff, and the preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q7. What relationship, if any, exists between a preschool site director's TL practice of redesigning the organization, as perceived by instructional staff, and the preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management

experience, education level, leadership knowledge, and subject matter knowledge)?

Q8. What relationship, if any, exists between a preschool site director's combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and the preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Hypotheses

By analyzing the statistical data collected: transformational school leadership practices and young Hispanic ELs literacy and math achievement data, this study will test the following:

$H1_0$. No statistically significant relationship exists between preschool site directors' TL practice of setting directions, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H1_a$. A statistically significant relationship exists between preschool site directors' TL practice of setting directions, as perceived by instructional staff, and

preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H2_0$. No statistically significant relationship exists between preschool site directors' TL practice of developing people, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H2_a$. A statistically significant relationship exists between preschool site directors' TL practice of developing people, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H3_0$. No statistically significant relationship exists between preschool site directors' TL practice of redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3),

average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H3_a$. A statistically significant relationship exists between preschool site directors' TL practice of redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H4_0$. No statistically significant relationship exists between preschool site directors' combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H4_a$. A statistically significant relationship exists between preschool site directors' combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average

student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H5_0$. No statistically significant relationship exists between preschool site directors' TL practice of setting directions, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H5_a$. A statistically significant relationship exists between preschool site directors' TL practice of setting directions, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H6_0$. No statistically significant relationship exists between preschool site directors' TL practice of developing people, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3

(M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H6_a$. A statistically significant relationship exists between preschool site directors' TL practice of developing people, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H7_0$. No statistically significant relationship exists between preschool site directors' TL practice of redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H7_a$. A statistically significant relationship exists between preschool site directors' TL practice of redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school

year (M4), controlling for mathematics achievement scores at marking period 3 (M3) and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H8_0$. No statistically significant relationship exists between preschool site directors' combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H8_a$. A statistically significant relationship exists between preschool site directors' combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

Nature of the Study

A quantitative correlational approach was used for this study. Vogt (2007) stated that a research design aims to collect evidence to answer a research question. In other

words, the research question dictates the design of a study (Vogt, 2008). This study's research questions asked whether there is a statistical relationship between leadership practices, as perceived by instructional staff, and young EL's academic achievement. Based on the research questions, a quantitative correlational approach was the optimum choice to provide answers for this study.

Quantitative research can keep the impact of a researcher's personal bias to a minimum when using mathematically based methods to test relationships between quantitative variables, because the data collected are numerical (Aliaga & Gunderson, 2000; Newman & Covrig, 2013; Muijs, 2010). There are existing quantitative measures, the TL survey and the GOLD student assessment system, making testing relationships among the variables—TL practices and preschool achievement—possible. Therefore, the quantitative correlational research method was appropriate for this study. This design supported the study's purpose and allowed the researcher to predict an outcome—young EL's achievement (dependent variable), based on an independent variable—leadership practices.

The design of this quantitative correlational study was descriptive, non-experimental, and cross-sectional. Surveys are one of the popular common forms of nonexperimental research because they are efficient and relatively inexpensive (Tabachnick & Fidell, 2012; Vogt, 2007). This study investigated from the instructional staff's point of view, since employee-reported survey data has been found more reliable than a leader-self-report survey (Schwarz, 1999; Trochim & Donnelly, 2008; Watkins, 2010). An online survey for instructional staff was used to collect leadership data that describe the characteristics of Great Falls' preschool program directors. The population

size of the preschool instructional staff within the Great Falls district is 255: 239 classroom teachers and 16 master teachers, ranging from 4 to 18 potential participants per site. The number of classrooms per site ranged from 2 to 16.

Each site's leadership surveys were aggregated into one leadership score for the site's director. This study recruited as many respondents as possible for each director. A total of 146 instructional staff (130 preschool classroom teachers and 16 master teachers) participated in this study and completed 194 surreys. The sample size was 3 to 12 participants per site. All 32 sites were invited to participate. However, two preschool special education sites were eliminated from final analyses due to the sites' data errors and differences from the other sites. This yielded 30 final participating sites.

The outcome data, evidence of young ELs' achievement in literacy and mathematics, was collected from the TS Gold, which is an observational assessment measure used by the GFPS preschool teachers to assess students' learning outcomes. The TS GOLD is completed four times a year and the score from time 4 was used. Controlling for the scores at time 3 allowed the researcher to control for beginning differences in the student's achievement. This study used only the Hispanic EL students with scores at both time 3 and time 4 in non-special-education preschools. The achievement scores were aggregated across these students at each preschool site. The total number of students reflected in the data is 1,390, 633 three-year-olds and 757 four-year olds, ranging from 4 to 125 students per site. As each site has a different ratio of 3- and 4-year-olds, which impacts the average achievement score, average student age was controlled in the analyses. The average student age by site ranged from 3.00 to 3.73 years old.

There is evidence in the literature that leader background characteristics, such as the school leader's years of service in current position, total leadership and management experience, and academic qualifications, may influence student outcomes (Clark, Martorell, & Rockoff, 2010; Coelli & Green, 2012; Eberts & Stone, 1988; Piawa, Hee, Ismail, & Ying, 2013). When investigating the relationship between TL practices and student achievement, this study controlled for the three leader background factors noted above. Leader background data (control variables) and student GOLD data (DVs) were analyzed using SPSS. The analysis found that two control variables—leader's years of service in current position and education level were statistically unrelated to the DVs in the study. They were removed from the final analyses. Multiple regression analyses were used to explore the relationship between preschool center directors' TL practices and young ELs achievement, controlling for relevant variables.

The sample size for the proposed study was 30 preschool sites. The sample size of 30 preschool sites was sufficient to detect a medium effect size; however, it was too low to detect a small or small to medium effect size. There was a risk of a Type II error given the small sample size (Vo & James, 2010).

Another limitation of this study design was the potential confounding problem—a serious methodological issue in correlational studies (Kovera, 2010). To address this limitation, this study controlled for director characteristics, as well as EL achievement scores at Time 3. Regrettably, in correlational studies, it is potentially possible that an unknown confound is producing the correlation even though the researcher has statistically controlled for all identifiable confounding variables (Kovera, 2010).

Significance of the Study

This study is significant in terms of its practical application to the EL achievement problem, adding knowledge to the TL theory, and improving TL prediction (Newman & Covrig, 2013). High quality early childhood programs increase student achievement and school completion (Garcia & Gonzales, 2006; Isaacs, 2008). Improving the quality of ECE leadership may increase preschool program quality and promote EL academic outcomes. This research found that transformational practices of Setting Directions (LP1), Developing People (LP2), and the combined transformational leadership practices (the mean score of all TL practices) in ECE positively predicted preschool Hispanic EL's mathematics achievement. The school districts can use these results to secure funding to provide preschool directors TL training to support learning outcomes for young ELs.

Among the three TL sub-scales, only Setting Directions and Developing People were found to have significant relationships with student mathematics achievement. These findings may indicate that Setting Directions and Developing People are stronger predictors than Redesigning the Organization. This knowledge could help school administrators or educators to prioritize their focus when planning leader TL professional development activities. This study is significant because the results of this study can help address one of the major problems in U. S. public education and contribute to improving young EL's academic achievement.

This study is also significant because it adds knowledge to the TL theory and understanding TL prediction. TL theory has been thoroughly researched in the field of business and government (Bhutani, Mand & Sharma, 2010; Ozaralli, 2002; Paarlberg &

Lavigna, 2010; Sadeghi & Pihie, 2012; Shamir, Zakay, Breinin & Popper, 1998; Weng, Su & Lai, 2011; Zahari & Shurbagi, 2012). In education, a great number of studies have been conducted from elementary to higher education in many different countries using TL theory (Abu-Tineh, Khasawneh & Omary, 2009; Eres & Turkey, 2011; Nguni, Sleegers & Denessen, 2006; Ross & Gray, 2006; Valentine & Prater, 2011). There is now a rich portfolio on how transformational leaders change school cultures, teacher working conditions, and the student learning environment. However, the TL theory currently has three gaps. The first gap is that the TL theory has not been explored in preschool settings (Aubrey, Godfrey, & Harris, 2012; Muijs et al., 2004; Leeson et al., 2012; Stamopoulos, 2012). The second gap is that TL has not been investigated as a strategy for EL achievement disparities (Kose, 2011; Shield, 2004, 2010). Finally, the third gap is that the research linking TL practices and student achievement is inconsistent (Witziers, Bosker, & Krüger, 2003; Chin, 2007; Leithwood & Jantzi, 2000). While some studies find that the TL practices positively link to student outcomes, others find that they have no correlation.

This study contributed to addressing these three gaps in TL research. This is the first research study confirming that early childhood transformational leadership is statistically related to Hispanic young ELs' academic achievement. It expands TL theory into early childhood education leadership and addresses the first gap in TL theory (preschool gap). Additionally, the positive findings of this study suggest using TL as a strategy for EL disparities. As a result, this study adds knowledge to considering TL theory to address EL achievement disparity and addresses the second gap in TL theory (EL gap). Finally. the findings of this study showed that Setting Directions (LP1),

Developing People (LP2), and overall Transformational Practices (LP Mean) had a statistically significant and positive relationship with student mathematics outcomes. It supports previous studies that found a link between TL practices and student achievement and addressed the last gap (consistency gap).

Definition of Key Terms

Center Director. Center director refers to the on-site staff member responsible for the daily operation and management of the preschool or the child care center (NJ State Department of Human Services, 2013). They may also be called principals or managers.

English Learners (ELs). EL is a broader term referring to any PreK-12 minority students for whom English is not a first language (Ballantyne, Sanderman & McLaughlin, 2008). They are often called Limited English Proficient (LEP) or English Language Learners (ELLs). ELs are eligible for language support in the classroom under the Bilingual Education Act of 1968 (Crawford, 2004). Some schools and researchers have called them "dual language learners" (DLLs) (Office of Head Start, 2009; Vitiello, Downer, & Williford, 2011).

Immigrant Children. Children from birth to age seventeen who have at least one foreign-born parent are called immigrant children (Tienda & Haskins, 2011). Youth who were foreign-born are designated as the first generation, and those who were born in the U. S. to immigrant parents are designated as the second generation (Perreira, Harris, & Lee, 2006). U.S.-born children whose parents also were born in the U. S. make up the third generation (Perreira, Harris, & Lee, 2006).

ECE Leadership. ECE Leadership should include both positional and distributed leadership (Heikka, Waniganayake & Hujala, 2012). However, in this study, this term refers to a more narrowed view, meaning only the preschool center director's or the preschool principal's leadership skills and practices.

Preschools. The term "preschool" in this study refers to any programs that serve young children age three to five, with a program goal to improve children's development and learning (Crosnoe, 2007). A preschool may be pre-kindergarten programs in public schools, publicly funded community-based preschool programs, Head Start, or private child care centers (Barnett, 2008; Goldstein, Warde & Peluso, 2013; Karoly, Ghosh-Dastidar, Zellman, Perlman, & Fernyhough, 2008). The term "preschools" and "child care centers" will be interchangeably used in this study.

Transformational Leadership (TL). TL leadership is a change process in which autonomous leaders inspire and empower followers to perform beyond expectation and self-interest for the good of the organization (Avolio, Walumbwa, & Weber, 2009; Bass, 1985; Burns, 1978; Menon, 2011). TL leaders exhibit behaviors that followers admire and seek to imitate (Kouzes & Posner, 2010).

Summary

This research sought solutions for Hispanic EL achievement disparities. Hispanic ELs are struggling in the U. S. school system. Finding strategies to improve Hispanic EL achievement is an important area of research. High quality preschools boost school readiness and promote minority children's academic achievement (Crosnoe, 2007; Hervst & Tekin, 2010a); and TL leadership transforms school culture and improves learning conditions (Eyal & Roth, 2011; Nedelcu, 2013). Improving preschool director's TL

leadership may be key in remedying EL achievement disparities. However, TL has never been investigated as a strategy for EL achievement nor explored in the preschool setting. Moreover, the link between TL and student achievement is inconsistent (Kose, 2011; Shield, 2004, 2010). This quantitative correlational study was needed to investigate whether there is a statistical correlation between preschool center directors' transformational school leadership practices (as perceived by instructional staff) and the young EL's preschool achievement.

Correlational research allowed the researcher to determine if a relationship exists between two or more variables. Since the research question of this study asked for the statistical relationship between independent variables (preschool director's practices) and dependent variables (EL's achievement), a quantitative correlational approach was the most optimal. In addition, the survey method was efficient and inexpensive. This study invited the GFPS' preschool instructional staff to complete an online TL survey to provide leadership data. EL's literacy and mathematics achievement scores were retrieved from the Teaching Strategies online GOLD assessment system. Both the leadership scores and the EL achievement scores were aggregated by site. The sample size for analysis was 30 preschool sites. The TL data and the GOLD data were evaluated with regression analysis using SPSS software. Each site's EL's literacy and mathematics scores were plotted against the site director's TL score to investigate whether a correlation existed between these variables. If a relationship was established, the descriptive statistics described the direction and strength of the correlations between variables (Gay, Mills, & Airasian, 2006).

In conclusion, the challenge of EL achievement disparities is an important area in the field of education and remains an area of interest in research because of its impact on the future of these children and society. This study addressed the practical problem of EL achievement, improved TL prediction, and added knowledge to the TL theory base (Newman & Covrig, 2013). This project was the first preschool quantitative correlational TL study conducted to address EL achievement disparities.

Chapter 2: Literature Review

The purpose of this non-experimental quantitative correlational study was to determine if there is a statistical relationship between GFPS preschool directors' transformational school leadership and Hispanic EL's preschool achievement. There is compelling evidence that leadership affects school conditions and student learning (Hallinger & Huber, 2012; Muijs, 2011; Robinson, Hohepa, & Lloyd, 2009; Sun & Leithwood, 2012). Transformational leadership theory shifted the concept of leadership in early childhood education. This literature review section covers: 1) English learners demography, 2) preschool effects and program quality, 3) educational leadership and early childhood education, 4) transformational leadership theory, 5) transformational school leadership model, and 6) leader background and student achievement.

Documentation

To identify relevant information for this literature review, searches for scholarly peer-reviewed publications were conducted primarily using various electronic search engines in public and university libraries. Online databases used were ProQuest, Emerald, EBSCOhost, Sage Journals Online, ERIC, Science Direct, Taylor & Francis Online, and Springer Link. Government published documents were searched in federal and state web sites. Key phrases utilized in the search were: achievement gap, English learners, student achievement, preschool effects, preschool disparity, preschool program quality, school leadership, early childhood leadership, transformational leadership, transformational school leadership, and leader background characteristics and student achievement.

English Learners (ELs) Demography

Population. In the 2010 American Community Survey, 58 million people (20.4%) reported speaking a non-English language (U.S. Census Bureau, 2011). Among them, approximately 36 million speak Spanish. Immigrant families' children are labeled as "LEP" (Limited English Proficient), "ELLs" (English Language Learners), or "ELs" (English Learners) in public schools. Recently, some schools and researchers have called them "dual language learners" (DLLs), emphasizing that these children's learning goals are not limited to learning English (Office of Head Start, 2009; Vitiello, Downer, & Williford, 2011). Hispanic preschool ELs are the nation's fastest growing population. In 2009, there were 912,000 Hispanic preschoolers in the U. S., a 76% increase in a decade, compared to the 4.4% increase of White preschoolers and the 8.6% increase of Black preschoolers (U. S. Census Bureau, 2012f). The rapid growth of the Latino population has changed the landscape of U. S. public education.

Language Background, Parents' Education Levels, and Socio-Economic Status (SES). English language proficiency, as a human capital attribute, is found to mediate children's schooling disparities (Rumbaut 1995; Thomas, 2012). Research on immigrant families indicates that parents' language background is a strong predictor for ELs' academic achievement (Hernandez, Takanishi, & Marotz, 2009; Keels & Raver, 2009). Han, Lee, and Waldfogel (2012) further investigated this issue and found that children of limited English proficiency Hispanic immigrants are at the greatest risk of low academic achievement and school dropout among all language groups, consistent with Hernandez and Cercantes' (2012) study. Hernandez and Cercantes reported that

ELs not reading proficiently in English by fourth grade are four times more likely to dropout from high school than other students.

Hispanic ELs face greater disadvantages than non-Hispanic ELs due to their parents' low English proficiency, low education, and low SES (Galino 2009; Hernandez & Cervantes, 2012). Non-Hispanic Black immigrant children excel in American schools and outperform Hispanic Black immigrant children, because of parental language differences (Leventhal, Xue, & Brooks-Gunn, 2006; Thomas, 2012). Parents who speak little English are less familiar with the school system and have limited access to school resources (Good, Masewicz, & Vogel, 2010; Han, Lee, & Waldfogel, 2012; Hernandez, Denton, Macartney, & Blanchard, 2014; Schneider, Martinez, & Ownes, 2006). Per U. S. Census statistics (2012d), Hispanics are the least educated ethnic group in the United States: less than 14% of Hispanics over age 25 have earned a bachelor's degree or higher, compared with 17% of Blacks, 30% of Whites, and 49% of Asian Americans in the same age group. Parents' educational attainments have direct and indirect impacts on students' academic achievement (Mistry, Biesanz, Chien, Howes, & Benner, 2008).

At the early childhood level, Hispanic parents participate the least in home literacy activities; approximately 90% of 3- to 5-year old White children, not yet enrolled in kindergarten, are being read to three or more times per week, verses only 68% of Hispanics (National Center for Educational Statistics, 2012). Furthermore, the home literacy participation rate was below 50% when both parents speak only Spanish (Schhneider, Martinez & Ownes, 2006). As a result, young Hispanic ELs underperform compared to their counterparts with English speaking parents in letter recognition, numeral concepts, writing names, reading stories, and other skills (Keels, 2009). For

example, the U. S. Census Bureau (2012e) summarized the results of several school readiness surveys and reported that only 41% of Hispanic children 3 to 5 years old not yet enrolled in kindergarten can count to 20 or higher, compared to 69% of White and 69% of Black non-Hispanic children. Academic achievement gaps between Hispanic ELs and non-EL peers—both native English speakers and bilingual Hispanic students—begin in early childhood (Crosnoe, 2007; Espinosa & Zepeda, 2009; Farkas, 2003; Kieffer, 2008). These gaps span all educational levels, affecting individuals and the generations to come (Rearson & Galino, 2009).

Hispanic immigrants and their children in the U. S. struggle not only with the hardship of low English proficiency and low education; they also experience low family economic wellbeing. Hispanic ELs face much higher poverty rates, particularly persistent poverty, than do other children. In 2009, more than half of the Hispanic students in U. S. public schools lived below poverty level (U. S. Census Bureau, 2012a). Hispanic immigrants have a higher rate of poverty than other immigrant groups—62% of Hispanic immigrants and their U. S. born children are living in or near poverty, comparing to 45% of Black, 11.8% of Asian, and 32% of White immigrants (Camarota, 2012). Income studies indicate that children's academic achievement and schooling attainment is significantly correlated to family income (Blau, 1999; Dahl & Lochner, 2012; Duncan, Pamela, & Chris, 2011; Stinebrickner & Stinebrickner, 2003). As a result, Hispanic ELs are at high risk for poor academic achievement and low educational attainment.

Achievement Gap. Hispanic ELs are more likely to fail academically based on a number of factors— race and ethnicity, poverty, and often EL status. The achievement

gap between Hispanic ELs and White students was substantial—33-point mathematics and 44-point reading gaps in 4th grade; and 53-point mathematics and 54-point reading gaps in 8th grade (Hemphill & Vaneman, 2011). Also, the achievement gaps between poor students and non-poor students have widened. Per state test scores, the achievement gaps between students from low-income families and more advantaged students are large and persistent (Hemphill & Vaneman, 2011; Kober et al., 2010). In 2009, the median percentage of low-income students proficient in 4th grade mathematics was only 64%, compared with 85% for students who were not from low-income families (Hemphill & Vaneman, 2011; Kober et al., 2010). The achievement gap between Hispanic ELs and Hispanic non-ELs is also persistent and widening— as wide as 34 points in 2009 for 8th grade mathematics and 39 points for 8th grade reading. Since most Hispanic ELs live near or below poverty level, as a result of their parents' low education levels and lack of English proficiency, a sizeable achievement gap exists between Hispanic ELs and their English-speaking Hispanic non-EL peers (Hemphill & Vaneman, 2011; Reardon, 2011). How to educate Hispanic ELs remains a national concern. Many researchers have joined in a concerted effort to further investigate the achievement gap in hope of finding ways to solve this problem.

Using purposeful sampling to identify participants, Good, Masewicz, and Vogel (2010) conducted a qualitative research study in a school district and interviewed a teacher focus group and a parent focus group to further examine the cause of the widening achievement gap. The study found that, in addition to a language barrier, the cultural clashes between immigrant parents and American schools caused parents to lose their sense of trust for the school. This study implies that the school culture can be a

barrier for Hispanic ELs' academic achievement in American schools. Good et al. (2010) recommended creating a district and school culture to engage Hispanic ELs and their families, and more studies to deepen understanding of Hispanic ELs academic achievement.

Children's later academic achievement is greatly impacted by their early development (Arthur et al., 2007; Bogard & Takanishi, 2005; Gormley, Phillip, & Gayer, 2008; Hughes, 2010; Johnson, 2010). Early childhood interventions (ECI) link to positive outcomes that last for twenty years. Compared to their peers in the control group, children who received ECI are found to have better reproductive health, more advance cognitive skills, higher school achievement and performance, better school completion rate and attainment, higher earning ability, lower delinquency and crime rate, and less school remediation (Arthur et al., 2007; Hernandez, 2012). Conversely, children who are unready to learn in kindergarten have more problems as adults. These children continue to underperform in elementary, middle, and high school and have lower educational attainment (Arthur et al., 2007). They potentially face higher unemployment and teen pregnancy rate, are more likely to engage in criminal activities, and easily suffer from depression later in life (Arthur et al., 2007).

The minority children today are predicted to become the majority in 2050 (Passel & Cohn, 2008; U.S. Census, 2012e). Hispanic EL academic failure in American schools will harm our nation. The federal government attempted to address these problems by releasing the No Child Left Behind Act. In response, state governments have pursued alternative strategies and provide funding to school districts in low-income disadvantaged area to create free preschool education programs.

Preschool Effects and Program Quality

Preschool Effects. Over the last several decades, public support for center-based preschool (pre-K) programs has grown dramatically. In 2001, District of Columbia and 40 states provided state-funded pre-K programs and the spending exceeded 2.4 million (Barnett, Robin, Hustedt & Schulman, 2003). In 2013, all 50 states, District of Columbia, and six U. S. Territories provided free preschool and the total spending was 5.4 billion (Barnett, Carolan, Squires & Clarke, 2013). In New Jersey, the total pre-K spending increased 100% from 2003 to 2012. The increase in number of state-funded programs and spending were due to the increasing awareness of the positive preschool effects on low-income and ethnic-minority children. Since the classic Perry Pre-School Project (Schweinhart, Barnes & Weikart, 1993) and the Abecedarian Project (Ramey & Campbell, 1984), a large body of research literature finds that high quality preschools produce long-lasting benefits to children, especially Hispanic ELs, including boosting school readiness, producing short-term developmental benefits, and generating longer-term gains for school performance and adult outcomes (Barnett, 2008; Camilli, Vargas, Ryan, & Barnett, 2010; Espinosa, 2010, 2013; Gormley, 2008; Karoly & Gonzalez, 2011).

While most researchers agree early education fosters Hispanic ELs' academic achievement in kindergarten, some research findings are contradictory. Crosnoe (2007) analyzed a nationally representative sample of kindergarteners from the Early Childhood Longitudinal Study – Kindergarten Cohort (ECLS-K) and found that preschool students' mathematics achievement was predicted by the family's SES more than whether they attended formal education before entering kindergarten— the predicted higher

mathematics achievement was realized for native White, native African-Americans, and native Hispanic children who attended preschools or center-based early care, but not for Mexican immigrant children. Crosnoe also compared the three groups of Mexican immigrant children— those in parental care, preschool, or center care— and found that the Mexican immigrant children who attended center care before entering kindergarten had a lower rate of math achievement and a higher rate of externalizing symptoms in kindergarten than the group who were in parental care. This study raised concern for the disparity of quality in early care centers for immigrant children as well as the potential insensitivity to culturally and linguistically diverse students in some preschool centers. Crosnoe suggested that low quality early care centers may put Hispanic ELs developmentally and academically at risk.

Due to the limited spaces in public schools, many state-funded preschool programs are run by private daycare providers. For example, 23 out of 32 preschool sites in Great Falls (Pseudo name) are district-contracted daycare centers. The quality of these preschool centers varies, depending on the leadership quality of the preschool directors. The state government invests a remarkable amount of time and resources into preschool education, and high quality preschool centers can bring about a change in young ELs' academic achievement to significantly reduce the achievement gap (Issacs, 2008). Some researchers urge educational leaders to reform our schools to support ELs, improve the preschool program quality, and close the achievement gap (Gustavo, 2011; Siraj-Blatchford & Manni, 2007; Takanishi, 2010).

Preschool Program Quality Disparity. The disparity in the program quality of public-funded preschools is well documented. Early and her colleagues (2005)

investigated public-funded preschool programs in 11 states and found that 12% of the classrooms had inadequate classroom environments, 80% had minimal quality, 8% good, and none excellent. These results demonstrated that the majority of the state-funded pre-K programs meet the minimal structural quality requirements, such as space and furnishings, routines, classroom materials, activities, supervision and interaction, schedule, and group time. However, when Early et al. looked at the classroom instructional climate (concept development and quality of feedback), 57% of the classrooms scored between 1.0 and 1.9 (inadequate); and no classroom scored higher than 5.00 (good). Only high-quality preschools are able to close the achievement gap (Burchinal, Vandergrift, Pianta & Mashburn, 2010). Early et al. concluded that pre-K programs need to improve the process quality and instruction in order to attain high levels of program quality.

A 2008 California preschool study, which included public funded pre-K, Head Start, and private preschools, found that pre-K classroom quality ranged from good (22%) to inadequate (16%) (Karoly, Ghosh-Dastidar, Zellman, Perlman, & Fernyhough, 2008). When quality measures were compared by the characteristics of the child and the child's family, low-income family and minority children were found less likely to attend high-quality preschool programs (Karoly et al., 2008). Children having intensified exposure to low-quality care can have negative outcomes (Ahnert & Lamb, 2003; Herbst & Tekin, 2010a; Herbst & Tekin, 2009; Herbst & Tekin, 2010b; Peisner-Feinberg et al., 1999; Sammons et al., 2003). Child care centers have a universal need to raise program quality in order to narrow gaps in school readiness and achievement (Karoly et al., 2008).

Defining Preschool Program Quality for English Learners. Despite the fact both EC researchers and EC processionals agree that quality matters and high quality pre-K programs have direct and positive effects on student achievement, the EC field lacks a universally accepted definition of program quality. Preschool quality is usually measured in two categories: structural quality and process quality (Mead, 2012). Structural quality is related to regulations, such as classroom size, playground location and space, teacher-child ratios, schedule, furniture, materials, and teacher qualifications. Process quality is related to what happens in the classrooms, such as teachers' responses to children's interests, desires, and needs, planning and delivery of classroom instructions, balance of both direct and indirect teaching strategies. Improvement of the structural and process quality of preschool programs benefits all children. Yet, Lim, Maxwell, Able-Boone, and Zimmer (2009) argued that in order to specifically improve EC program quality for ELs, preschools should be equipped with staff and leaders who are culturally sensitive and supportive to ELs because EC programs are becoming increasing culturally and linguistically diverse. Lim et al. claimed that the EC work force is not prepared to address the needs of ELs and their families, consistent with Good, Masewicz, and Vogel's (2010) conclusion that school culture may be a barrier for Hispanic ELs' academic achievement in American schools.

Understanding a child's home culture plays an important role in teaching (Verdugo & Flores, 2007). Knowledge of second language acquisition enables teachers to analyze and address ELs' educational needs (Suttmiller & González, 2006). Other researchers expressed similar concern and advocate that the structural, content instruction accessibility, and attitudinal inequities in EC programs need to be addressed in order to

improve program quality for ELs (Bruner, Ray, Wright, & Copeman, 2009; Peisner-Feinberg & Yazejian, 2010; Wright, 2011). Peisner-Feinberg and Yazejian (2010) investigated the issue of EC program quality disparities and found that many preschools have not incorporated the changing social and cultural values in the programs to reflect the changing concept of high preschool program quality. Many preschool programs have not improved to meet the new challenges posed by EL population (Wesley & Buysse, 2010). When defining the quality of EC programs for ELs, Castro, Espinosa, and Páez (2011) found that the commonly used assessments do not measure the instructional and supports critical to the language development and academic achievement of ELs. Researchers recommend expanding the definition of high quality education to include practices that address the needs of ELs and children from diverse cultures (Bruner et al., 2009; Castro, 2011; Castro, Espinosa, & Páez, 2011).

The child care programs in the U. S. are rapidly becoming linguistically and culturally diverse. The 21st Century is a significant time for ECE leadership (Thornton, 2010). The preschool center director is responsible for creating the culture and school conditions for quality education and is accountable to the community and the funding agencies. The quality of EC leadership is critical for improving program quality (Hilliard & Jackson, 2011; Ho, 2011; Ho & Chen, 2013; Mathers, Singler, & Karemaker, 2012; Stipek & T, 2000). Improvement of the structural and process quality of preschool programs benefits all children. Given the established link between quality ECE and an improvement in child outcomes, highly effective leadership is assumed to be central to ensuring good quality provision. Improving child care center directors' leadership

practices may help improve program quality to meet the needs of young ELs and their families.

Educational Leadership and Early Childhood Education (ECE)

Impacts of School Leadership. A substantial body of leadership literature revealed that school quality and learning conditions are impacted by the quality of school leadership (Hallinger, 2011; Hallinger & Huber, 2012; Gordon & Louis, 2009; Heck, Larson, & Marcoulides, 1990; Muijs, 2011; Robinson, Hohepa, & Lloyd, 2009; Sun & Leithwood, 2012; Yukl, 2012). However, research findings on the relationship between school leadership and student achievement have not been consistent. Some scholars argue that the impacts of school leadership on student outcomes are indirect, through factors associated with the general school environment, such as school culture and classroom conditions (Bell, Bolam & Cubillo, 2003; Hallinger and Heck, 1996, 1998; Ross & Gray, 2006; Witziers, Bosker, & Krüger, 2003). Other scholars claim that leadership can also directly link with student outcomes, through factors closely associated with learning, such as curriculum and instruction (Chin, 2007; Day et al., 2009; Heck & Moriyama, 2010; Marzano, Waters, & McNulty, 2005; Nettles & Herrington, 2007; Robinson et al., 2008; Sun & Leithwood, 2012; Waters, Marzano, & McNulty, 2003). Typically, qualitative researchers provided rich evidence about aspects of leadership impacts on student outcomes and quantitative researchers concluded that school leaders have small and indirect effects on student outcomes.

Despite the difficulties for quantitative researchers to capture the relationship between leadership and factors closest to student achievement, both Marzano, Waters, and McNulty's (2005) meta-analysis and Chin's (2007) synthesis of 28 independent

leadership studies in the U. S. and Taiwan reported that the quality of school leadership had significant positive direct impacts on student achievement. In 2006, Nettles and Petscher's Reading First Study fueled the debate on this topic when they investigated the direct effects of school leadership on students' reading achievement in Florida schools. Using the Principal Implementation Questionnaire (PIQ), this study examined 388 principal responses and found that the first grade students' reading achievement was significantly correlated to the principal's leadership role during the implementation process. The Reading First Study concluded that school leaders' implementation and assessment practices were responsible for the students accelerated rate in acquiring fluency. These studies stimulated more interest in searching for evidence of direct links between school leadership and student outcomes.

In 2010, Heck and Moriyama focused on direct and indirect relationships between leadership practices and students' math and reading outcomes. The results suggested that improvement-focused school leadership directly affected students' learning outcomes. More recently, Tubin (2011) used a qualitative explanatory narrative method to investigate in 5 Israeli schools the causal relations between school leaders' actions and student outcomes. The explanatory narrative method is frequently used for detecting the processes of change in organizational studies (Poole, Van de Ven, Dooley, & Holmes, 2000; Tubin, 2011) and for revealing the actions leading to an historical event in history (Mink, 1978; Tubin, 2011). At stage 1, all five school leaders set high achievement as a main goal in all five schools. Despite these leaders' different personal styles, the narrative explanation clarified the process in all schools, the principals' first action at stage 1 caused two parallel chains of events— the principals actively searched for data on

students' performance and the teachers actively mapped students' achievements by tests and exams. These two parallel chains of events at stage 2 continued until they reached stage 5, the two chains merged into one outcome— the students' high achievements were maintained. Tubin explained that the teachers' chain of events would not have happened without the leaders' parallel chain of events, and that each event by itself could not occur in a different chronological order (Abell, 2004). Tubin concluded that the principals' chain of events—setting directions, developing people, and redesigning the organization (Leithwood & Riehl, 2003)—were the cause of the teachers' paralleled chain of events and the final result—student high academic achievements. Thus, Tubin claimed that school leadership can directly impact student outcomes.

Ross, Scott, and Sibbald's (2012) Canadian Case Study results added powerful evidence to the claim of direct links between school leadership and student outcomes. Using a quasiexperimental design, the Canadian Case Study examined the student achievement effects of a Comprehensive School Reform (CSR) program. The design of the CSR approach is based on the transformational leadership (TL) theory and the TL theory is a theory of change. The CSR program targeted struggling schools to improve student performance by transforming school leaders to change leaders into those who build staff and parents' capacity, promote partnership and collaboration, and hold everyone accountable by setting school targets and measuring performance (Fullan & Campbell, 2007; Ross, Scott & Sibbald, 2012). This study, drawing on 3 years of standardized 3rd Grade reading achievement data, found a statistically significant positive achievement effect in low-performing schools that implemented the CSR program. Enduring achievement effects were present two years after children exited from the

program. Ross et al. concluded that the strategies of the CSR approach—capacity building, alliance, and accountability—enhanced student learning and demonstrated the impact of transformational school leadership on student outcomes.

Empirical results across a large number of studies have shown that school leaders who are transformational, attentive to instructional matters, and collaborative exert a powerful influence on teaching quality, student growth, and particularly learning outcomes (Hallinger, 2011; Leithwood, Patten, & Jantzi, 2010; Mokhtari, Thoma, & Edwards, 2009; Mora-Whitehurst, 2013; Robinson, Lloyd, & Rowe, 2008). The impacts of leadership are typically found to be stronger in high-poverty schools serving low SES students and English learners who are at greater risk for academic failure than low-poverty schools serving higher income families and students with higher start point of achievement (Day et al. 2009; Nettles & Petscher, 2006; Scheerens and Bosker, 1997). Many scholars concluded that educational leadership is considered key to improve school conditions and close achievement gap (Fullan, 2012; Hallinger, 2011; Leithwood, Louis, Anderson, & Wahlstrom, 2004; Leithwood et al. 2010).

ECE Leadership Quality. Contrasting to the rich literature on general school leadership, leadership research in preschool settings is greatly under-represented (Thornton, Wansbrough, Clarkin-Phillips, Aitken & Tamati, 2009). Many of the existing ECE leadership studies investigated through self-report, such as Ang's (2012) National College for School Leadership (NCSL) program study, Leadership to Integrate the Learning Continuum's (LINC) (2009) leadership role study, and Brownlee, Nailon, and Tickle's (2010) leadership identity study. Self-report or self-evaluation studies usually have both reliability and validity problems due to the fact that the results are relying on

the participants' honesty and ability to self-reflect (Schwarz, 1999; Trochim & Donnelly, 2008; Watkins, 2010). People's personal values and perceptions are generally subject to various biases and errors (Watkins, 2010) and people generally want to look good in the eyes of others. Participants may edit their private judgment, exaggerating the effects or under-reporting, before they report it to the researcher (Schwarz, 1999).

Few EC leadership studies are theoretically based (Aubrey, Godfrey, & Harris, 2012; Stamopoulos, 2012). Theory and practice are intimately connected. Theory can provide clear explanations for the practical world, build internally consistent relationships, and make specific predictions (Wacker, 1998). It also provides a framework for research analysis, facilitates the efficient development of academic field, and is applied to the real world to solve practical problems (Wacker, 1998). Non-theory based EC leadership studies are not well informed by theory and studies in the broader field of leadership research (Muijs, Aubrey, Harris, & Briggs, 2004). Thus, the results from the non-theory based studies are unlikely to build on each other and create cumulative strengths.

Literature about the impacts of ECE leadership on young ELs' academic achievement appears non-existent. Educational leadership is considered key to school reform. In order to improve the EC educational leadership for young ELs, it is important to add theory-based studies to examine and identify effective leadership practices within the specific field of EC and English learners. This is a critical time in the EC field to understand the different aspects of EC educational leadership, predict outcomes, and redefine meaning of EC leadership to affect the needed change in the field.

Among the limited ECE leadership literature, a few consensuses are forming: 1) there is a significant correlation between the quality of preschool centers and the leadership of child care centers (Muijs, Aubrey, Harris, & Briggs, 2004; Rodd, 2013; Robins & Callan, 2009); 2) many child care center directors and managers lack leadership training and are under-prepared for their role (Leeson, Campbell-Barr, & Ho, 2012; Thornton, Wansbrough, Clarkin-Phillips, Aitken, & Tamati, 2009); and 3) there is a clear need to identify theory-based effective leadership models in ECE (Muijs et al., 2004; Leeson et al., 2012; Stamopoulos, 2012).

A New ECE Leadership Paradigm: A Transformational Approach. In order to change our schools for Hispanic ELs achievement and close the achievement gap, we first need to change our leaders. Alanis & Rodriguez (2008) explored the critical factors to the success of programs that serve English Language Learners. This case study found that knowledgeable leadership is one of the key factors that contribute to a program's success for ELs (Alanis & Rodriguez, 2008). In the early childhood context, literature suggested that competent ECE leadership is vital for effective performance management, improved program service quality, workers' shared vision and strong commitment to greater social equality, and higher academic outcomes for vulnerable children (Martin, Lord, White, & Atkinson, 2009; Pugh, 2012; Sharp et al., 2012). The findings of EC studies, such as the effective provision of pre-school education study, have stimulated debate on the need to improve the EC workforce's professional quality (Pugh, 2012; Springate, Atkinson, Straw, Lamont, & Grayson, 2008; Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2004).

In many countries, such as the UK, USA, Canada, Australia, China (Hong Kong), and New Zealand, there has been an international search for effective ECE leadership models that promote organizational learning and improve preschool services quality (Deakins, 2007; Leeson, Campbell-Barr & Ho, 2012; Martin, Lord, White, & Atkinson, 2009; Nupponen, 2006; Sharp et al., 2012). Transformational leadership, a leadership style that improves school quality by changing the learning culture, developing people, inspiring a shared vision, and building relationships, has received growing attention (Leeson, Campbell-Barr & Ho, 2012; Martin et al., 2009; Sharp et al., 2012). Based on the results of Hall's (1996) study on women educational managers Rodd (2013) argued that a relationship-dominated leadership model fits ECE the best since most preschool center directors are female. Transformational ECE leaders motivate practitioners to engage in quality practices by building relationships, supporting staff's autonomy and individual growth, and promoting a collaborative learning culture.

These new concepts of ECE leadership are supported by Biddle (2012). Using the transformational leadership theory, Biddle redefines the concept of ECE leaderships as the relationship leaders for children, teachers, families, and the community. Although the claims of ECE leadership as relationship–oriented and feminine are not new, the concepts of center directors as relationship leaders and cultural change leaders are relatively new. Based on the TL conceptual framework, a new understanding of EC educational leadership has emerged, especially in the context of ELs.

Leadership research in the EL educational context is inadequate. TL has not been explored as a strategy for EL achievement disparities (Kose, 2011; Shield, 2004, 2010). Although the limited EL educational leadership research supports the application of TL in

programs that serve bilingual children (Hunt, 2011), the link between TL and EL achievement has not been established. Hunt (2011) investigated the role of the school leaders in promoting and sustaining ELs' bilingual-biliteracy education through a comparative case study in three established dual language programs in New York City. In all three schools, the leaders shared similar transformational practices that sustained the success of their schools: a strong mission, collaboration and shared leadership, trust, and flexibility among administration and teachers (Hunt, 2011). Hunt's findings support the application of transformational leadership model in programs that serve ELs. Due to the limitations of qualitative studies, Hunt failed to statistically link TL to EL academic achievement. There is a need to further study the link of TL to EL achievement with quantitative studies and explore their statistical relationship.

Meeting the academic needs of linguistically and culturally diverse students entails school leaders acquiring new perspectives on behalf of these children. Alanís and Rodríguez (2008) investigated the work of a transformational leader in a dual-language school. This case study determined the critical components of effective educational leadership for schools that serve ELs: advocacy, socially cognizant behavior, and curriculum expertise. Again, Alanís and Rodríguez failed to establish statistical relationships between the leader style and student outcomes.

According to Hunt (2011) and Alanis and Rodriguez (2008), programs that serve high poverty and high language-minority populations require the school leader to promote the acceptance and integration of all cultural and linguistic groups. This means that preschool directors must transform the school culture and make it more supportive to ELs and their families (Espinosa, 2010, 2013; Good, Masewicz, & Vogel, 2010; Peisner-

Feinberg & Yazejian, 2010). This particular quality is found in transformational leaders. Furthermore, the state-funded preschool program aims to promote EL success and close the achievement gap, not simply take care of children while parents are not available. This program mission is transformational in nature and aligned with the TL theory. Applying TL in ECE programs may expand the preschool directors' and staff's capacity, change the preschool organization culture, and further support EL's academic learning.

Transformational Leadership (TL)

Origin of Transformational Leadership Theory. The concept of transformational leadership (TL) was first identified by a sociologist, James Victor Downton (1973) and fully introduced by James MacGregor Burns in 1978 in his classic book *Leadership*. Burns (1978) employed the concept of "leadership as transformation" (p.252) to contrast it with traditional transactional leadership. Transactional leaders use tangible rewards and cohesive power to improve subordinates' performance, while reform leaders transform followers to perform at a higher level, using intrinsic motivation and morality (Burns, 1978). Bass (1985) expanded Burn's theory, calling it transformational leadership and modeling the construct empirically. Both Burns and Bass considered transformational leadership as a change process. According to Bass, the driving forces of transformational leaders are charisma, intrinsic motivation, and empowerment (Avolio & Bass, 2004; Ismail, Mohamed, Sulaiman, Mohamad, & Yusuf, 2011; Menon, 2011). The forces in Figure 1 illustrate the relationship between a transformational leader and the followers in an organization. In this new paradigm, there are multiple leadership relationships and the same people do not always take the lead (Gill, Levine, & Pitt, 1998; Kouzes & Posner, 2012; Rost, 1993).

Figure 1. Transformational Leadership Theory

The concepts of intrinsic motivation and empowerment can be traced back to French and Raven's (1959) influence theory and Maslow's (1943, 1954) intrinsic motivation. American psychologist Abraham Maslow listed human needs in a hierarchy: biological and psychological, safety, social needs, esteem, and self-actualization. According to Maslow, each person desires to move toward a higher level, obtain achievement and independency and seek personal growth.

Drawing from influence theory and intrinsic theory, Bass (1985) created the four components of transformational leadership: (a) idealized influence, (b) intellectual stimulation, (c) inspirational motivation, and (d) individualized consideration.

Idealized influence. As stated by Bass (1985), TL leaders are charismatic and influential. They are admired and trusted by their followers. These leaders are willing to take risks, have high moral and ethical standards, and are role models for others.

Intellectual stimulation. Bass (1985) explained that TL leaders create a climate of high expectations in the organization and a safe environment for creativity and

innovative thinking. They challenge followers to take risks, try bold ideas, and excel beyond expectations.

Inspirational motivation. TL leaders, as described by Bass (1984), are those who motivate and help followers to understand the meaning of their work. They also motivate them by providing challenges and meet followers' higher order psychological needs.

Individualized consideration. Bass (1985) associated TL leaders with mentors and coaches. TL leaders are good listeners, provide useful feedback, and care about their followers. They personalize their support to help their followers work towards higher achievement.

In brief, a transformational leader uses a shared vision to inspire followers to perform beyond expectations, promotes organizational change by persuading followers to surpass self-interest for the organizational goals, and meets followers' higher levels of psychological needs by stimulating new learning and intellectual creativity (Bass, Avolio, Jung, & Berson, 2003; Kouzes & Posner, 2012; Kurland, Perez, & Hertz-Lazarowitz, 2010). Transformational leaders provide meaning and challenge to empower subordinates and to increase team effectiveness (Ozaralli, 2002; Wei, Yuan, & Di, 2010).

Transformational and Transactional Leadership. Transactional leadership is an exchange process between leaders and their followers (Avolio, Walumbwa, & Weber, 2009; Menon, 2011). Transactional leaders help followers fulfill their own self-interests in exchange for their commitment (Bass, 1999; Sadeghi & Pihie, 2012). They are different from TL in their operational methods, leaders' roles, and the concepts of shared vision and change.

Operational methods. Transactional leadership theory stresses the leader's ability to manage workers. The leader pays attention to the followers' behaviors and rewards those who comply with the leader and offer commitment to the organization. Punishment is used to correct the followers' errors and stimulate their improvement (Bass, 1985; Kohtamäki, 2013). The process is simple and the influence is vertical, directly top-down from the leader to the followers (Figure 2).

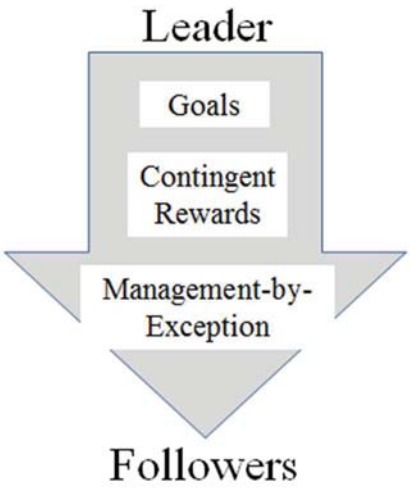

Figure 2. Transactional Leadership: Top-Down Management Style

The transactional model is easy to implement— leaders set goals and provide contingent rewards to encourage subordination and to ensure employees meet these goals. Transactional leaders either actively look for followers' mistakes or passively intervene with the followers when problems arise— a practice that Bass and Avolio (1999) labeled as management-by-exception. Corrective actions, such as corrective criticism, negative feedback, and punishment, are used to improve followers' performance.

Instead of using authority, contingent rewards, and coercive power, TL leaders focus on using charisma, intrinsic motivation, and empowerment. According to Bass (1985), transformational leaders motivate their followers by making them more aware of

the importance and the value of the shared goals. Transformational leadership empowers subordinates and increases team effectiveness (Ozaralli, 2002, Wei, Yuan, & Di, 2010). It is positively linked with employees' cooperative behaviors and trust in their leaders, which in turn produce higher commitment, improve organizational performance, and increase employees' satisfaction (Bass and Avolio, 1993; Nisar, Rehman, Shah & Rehman, 2013; Wei, Yuan, & Di, 2010).

Studies of the impact of transactional leadership have suggested it is a powerful leadership style and may be related to employee perceptions of leader effectiveness. However, the style is not positively related to employees fulfilling basic needs such as autonomy and thus may turn away employees (Hetland, Hetland, Andreassen, Pallesen & Notelaer, 2011; Howell & Avolio, 1993; Lowe, Kroeck & Sivasubramaniam, 1996; Vecchio, Justin, and Pearce, 2008; Weng, Su, & Lai, 2011).

Sadeghi and Pihie (2012) attempted to determine the leadership styles of three Malaysian Research Universities' academic department heads and their relationships with leadership effectiveness. Sadeghi and Pihie used the Multifactor Leadership Questionnaire 5x (MLQ) to survey 298 lecturers on their perceptions of transformational and transactional leadership styles effectiveness. The result of regression analysis suggested that contingent rewards have important effects on leadership, as perceived by the employees.

Hetland, Hetland, Andreassen, Pallesen, and Notelaer (2011) using an internet-based Multifactor Leadership Questionnaire (MLQ – form 5X) to explore the relationship between leadership styles and the fulfillment of three basic needs of humans—autonomy, competence, and relatedness. Participants included a total of 661 Norwegian cross-

occupational employees and 127 leaders of a major national pharmaceutical company. Hetland et al. (2011) found that controlled motivation and management-by-exception are also perceived as powerful leadership practices by employees. Yet, the associations between the transactional leadership components and three basic needs were consistently weaker than for transformational leadership, and the practice of management-by-exception was significantly negatively related to all the needs. Hetland et al. concluded that the transactional leadership approach threatens the process of human basic needs fulfillment and will fail to attract the best employees. Overall, transactional leadership is found less effective and yields lower performance than transformational leadership (Bass et al., 2003; Dvir et al., 2002; Hetland et al., 2011; Sadeghi & Pihie, 2012).

In theory, TL and transactional are two divergent leadership approaches. In reality, many leaders often exercise both leadership practices (Mahdinezhad, Suandi, Silong & Omar, 2013). In Sadeghi and Pihie's (2012) study, the results revealed that the university lecturers perceived their department heads fairly often exhibit transformational and sometimes display transactional leadership behavior. Bass (1985) asserts that most leaders are not purely transformational or transactional in natural settings. With training and education, transactional leaders can become more transformational.

Kouzes and Posner (1987) expanded Burn's and Bass's ideas of charismatic transformational leadership and described the approaches of transformational leading as modeling behaviors followers admire and seek to imitate, encouraging followers by building trustful relationships, inspiring followers by developing a shared vision, challenging intellectual creativity to enable followers to grow, and enabling followers through collaboration and teamwork. TL leaders believe that autonomous workers are

more effective than obedient workers, different from the perspectives of transactional leaders. TL leaders also believe that empowering workers to grow will increase the organization's capacity.

Leader's role. In the transactional model, the leader is poetically described as a bureaucratic controlling prince, a Hero, and a superman (Eyal & Roth, 2011; Jennings, 1960; Hetland, Hetland, Andreassen, Pallesen & Notelaer, 2011; Moxnes, 2013). The transactional leader is solely accountable for the success and failure of the organization. The leader's role is setting goals and providing workers directions how to achieve these goals. Transactional leaders are managers who keep the organization in order. In the transactional framework, leaders see followers as means to ends (Hetland et al. 2011).

Although both transformational and transactional theories stress the leaders' individual skills and see the leader-follower relationship as hierarchical, TL theory focuses on leaders' skills in activating workers' higher values, motivating them, and inspiring them. The transformational leader is influential, charismatic, inspirational, stimulating, and considerate. Unlike transactional leaders who are always directive and authoritarian.

Newer transformational theorists, such as Kouzes and Posner, Fullan, and Leithwood, also value teamwork, collaboration, and shared leadership. The shared leadership comes from a group of stakeholders who share a common vision. They pool all available expertise and depend on formal and informal leaders' interactions to improve organizational effectiveness. Leaders collaborate with each other to solve problems (Menon, 2011). Similarly, TL theory expects leaders to collaborate and foster team spirit and organizational commitment. The TL leaders nurture people to question

their own values and beliefs and those of the organization (Bass & Avolio, 1985; Bass 2008). The leaders share the direction of the group and collaborate with their key representatives. When it is successful, the leaders and followers have shared values and common interests (Bush, 2011). The TL theories suggest an authentic relationship and a harmonious coalition leading to agreements and collaborative activities. The shared beliefs and values in the organization will lead the collaboration and contribute to organizational performance.

Shared vision and change. Transactional leaders want to make sure their workers are doing their jobs. They also want to improve workers' performance. But improving the organizational effectiveness is not their focus. In contrast, TL leaders emphasize shared vision and positive changes in the organization, seeking to stimulate growth at both the individual and the organizational level: expanding workers' capacity as well as changing the organizational culture to meet new challenges. The TL model seeks to empower employees and promote organizational learning by motivating followers with inspiration, trust, and individualized consideration (Burns, 1978; Bass, 2008; Menon 2011).

Liu, Liu, and Xianju (2011) claim that a transactional leader functions within an existing system or culture and seeks to maintain the current status quo. Menon (2011) also states that in a transactional context neither the leader nor the followers are interested in growth, vision, or organizational changes. Bass (1990) urged that transactional leaders should learn to share their vision with their employees and grow from transactional to transformational. The leader's ability to change a company's stagnant culture and to stimulate employees to share the vision of the company's future is found to be a critical

factor that determines a company's success and failure (Bass, 1990; Young, Morris, & Scherwin, 2013).

Transformational Leadership Research in Business. Transformational leadership theory has been extensively researched in the business field. TL has been found to be positively linked with employees' cooperative behaviors and trust in their leaders, which in turn produces higher commitment, improves organizational performance, and increases employees' satisfaction (Bass and Avolio, 1993; Nisar, Rehman, Shah & Rehman, 2013). The claims of TL theory regarding the effects of TL leaders' ethical values, the outcomes of cultural change, the significance of shared vision, and the results of relationship building and empowerment are validated by leadership literature.

Leaders' ethical values. Transformational theory claims that one cannot be an effective leader without behaving in a morally purposeful way (Bass, 1985; Kouzer & Posner, 2012). Per TL theory, effective leaders are individuals who appeal to higher ideals and moral values, such as justice and equality, and can be found at various levels of an organization (Burns, 1978). Groves and LaRocca (2013) investigated the impact of leaders' ethical values on followers with 122 organizational leaders and their 458 followers. This study found transformational leaders' ethical values to be linked to ethical, socially responsible follower attitudes and behavior, which are critical to organizational effectiveness (Groves & LaRocca, 2013). Groves and LaRocca (2013) argued that a leader's strong morals and ethics form the foundation for the transformational leader's abilities.

Cultural change. TL theory claims that TL leaders' behaviors can transform the organizational culture. Research studies have found the TL leadership style is positively related to employee job satisfaction and organizational culture (Zahari & Shurbagi, 2012), and positive organizational culture and climate are significantly related to an agency's effectiveness (Shim, 2010). Per TL theory, if the leaders reculture the organization's competitive environment and promote team communication and collaboration, the organization will become more change adept and effective. Yang, Wu, Wang, & Chin (2012) investigated the relationship between project manager's style and team interaction. The analyses revealed that projects' performance is positively related to the levels of team communication and collaboration. Since TL leadership is linked with team communication and collaboration, Yang et al. claim that the culture of team communication and collaboration that TL leadership fosters is likely to enhance organizational performance. Hence, if leaders find the right incentives, the organizational culture can be transformed into a collaborative and trustful culture, and this supportive culture will enhance organizational performance.

Shared vision. Transformational leaders envision the future, creating an image of what the organization can become. They provide inspirational motivation (Bass, 1984). TL theory claims that an organization's vision positively influences workers' motivation, thus improving their performance. A shared vision can guide followers to focus on their work, feel their work is significant, and perform beyond base expectations (Avolio 1999, Bass 1985). Khatri, Templer, and Budhwar (2011) examined the influence of TL leaders' charisma and vision on followers and found that charisma and vision positively influence workers' motivation, satisfaction, cooperation/teamwork and performance.

Relationship and empowerment. Bass (1985) identified transformational leaders as being interested in others' well-being. They empower workers by offering staff individual supports and building relationships. TL theory claims that relationship building and followers' empowerment lead to the enhancement of followers' commitment and organizational performance. The leadership research literature supports this claim. Ismail, Mohamed, Sulaiman, Mohamad, and Yusuf (2011) studied the relationships among TL, empowerment, and organizational commitment. They found the majority of the employees perceived that their TL leaders empowered them in implementing organizational functions. Nisar, Rehman, Shah, and Rehman's (2013) study attributed the effectiveness of TL leaders to their ability to create a trustful and supportive relationship with their employees. When TL leaders earn their employees' trust, it results in greater work motivation, to the benefit of the organization.

TL researchers argue that, although transactional leaders are also effective in leading followers to do their work, contingent rewards lead only to standard performance and that management by exception has a negative impact on followers' psychological well-being (Hetland, Hetland, Andreassen, Pallesen & Notelaer, 2011; Paarlberg & Lavigna, 2010; Rowold, 2009; Wei, Yuan, & Di, 2010). This argument is supported by research studies in different contexts and countries. In Germany, Rowold used the MLQ to collect survey data from 244 respondents in a large government agency and investigated the relationship between supervisors' leadership styles and workers' experience of chronic stress. The authors found that the transactional leadership style of management-by-exception was positively related to employees' dissatisfaction and chronic stress. In contrast, the transformational leadership style was found to be

negatively related to employees' dissatisfaction and chronic stress. Rowold advised leaders to avoid utilizing the transactional leadership style of management-by-exception.

In China, Wei, Yuan, and Di (2010) surveyed 101 team leaders and 497 team members in a large business firm and found both transactional and TL to be effective leadership styles, but that transactional leadership had a negative influence on followers' creative performance. Wei et al. called it the "destruction of transactional leadership" (p. 41). On the other hand, the team empowerment climate created by TL leaders provided instruction, recognition, motivation, and inspiration (Wei et al., 2011). As a result of building relationship and empowerment, TL leaders improved workers' creative performance. The study of transformational leadership has continued for 35 years. It provided new directions for organizational theory and added to the understanding of educational leadership.

Transformational Leadership Theory Applied to Education. The development of TL not only provides new directions for organizational theory, it also adds to our understanding of educational leadership. A theory predicts and helps us to see the world in new ways (Patton, 2002). TL theory provides helpful insights about what type of leadership behaviors best affect the needed change in schools. It guides us to look at educational leadership, focusing on the leaders' ethical values, school culture, vision, and leader-teacher relationships**.**

Building on the basic concepts proposed by Burns (1978) and Bass (1985), many leadership researchers have proposed different models for how to apply transformational leadership theory into practical fields. Some examples are Kouzes and Posner's (1987, 2012) Leadership Challenge Model (KPLCM), Fullan's (1985, 2012) Leading Change

Model, John Kotter's (1990, 2012) Eight-Step Change Model, and Leithwood's (1994) Transformational School Leadership Model (Leithwood, Jantzi & Steinbach, 1999; Leithwood & Jantzi, 2000; Leithwood & Sun, 2012). The concept of TL leadership which was originally developed in the business literature as a means for transforming organizations has been transferred to the school context as a strategy to guide and support reform (Urick & Bower, 2013).

The KPLCM is the result of three decades of extensive research on TL practices. Using data from their in-depth interviews and case studies of personal-best leadership experiences, Kouzes and Posner (2012) declare that leadership is everyone's business and leaders in the 21st century need to become transformational leaders who change organizational cultures and get "extraordinary things done in organizations" (Kouzes & Posner, 2012, p.14). According to Kouzes and Posner (2012), the five transformational leadership practices that affect the success of an organization are "model the way", "inspire a shared vision", "challenge the process", "enable others to act", and "encourage the heart" (p.14).

Based on the KPLCM and through triangulation of qualitative and quantitative research studies, Kouzes and Posner (2003) generated the Leadership Practice Inventory (LPI) to measure the leaders' TL practices. The LPI has been used in many aspects of TL studies, such as leadership and school improvement (McFarlane, 2010), leadership and organizational culture (Alabi, 2012), leadership and professional learning community (Niazi, 2012), leadership and staff job stress (Safaria, 2011), and principals' transformational leadership perceived by teachers (Abu-Tineh, Khasawneh & Omary,

2009). The KPLCM provides substantial evidence that TL practices can change school organizational cultures, prevent teacher burnout, and improve staff motivation.

The KPLCM and its LPI have been well researched in both the business and the education field. Studies using KPLCM have measured leaders' behaviors, but as yet there has been no measurement of the results of these changes and their impacts on student outcomes. A common use of the KPLCM is using its LPI to improve leaders' TL practices through measurements. The LPI-Self is used for leaders to self-report their TL practices and the LPI-Observer is used for followers to report their leaders' TL practices. Through these measurements, leaders will reflect on their behaviors, make changes, and improve their leadership strategies. However, the KPLCM has not been applied in education to investigate the direct link between TL and student outcomes.

Fullan (1985, 2012) applied the TL theory to the field of education and created his Leading Change model to guide school reform and to improve student achievement. The Leading Change model is composed of five components: "moral purpose", "understanding change", "relationship building", "knowledge creation and sharing", and "coherence making" (p. 4). Fullan (2012) claimed that TL leaders transform schools and improve student outcomes by engaging teachers with a strong moral purpose of making a positive difference in the lives of students, creating a culture of change to make schools more flexible and adaptive, building relationships through joint efforts in collaborative projects and face-to face interactions, knowledge creation and sharing through professional learning communities, and creating a coherent environment to promote team communication.

Research confirms that TL leadership practices contribute to staff capacity building and to teachers' commitment, motivation, and job satisfaction (Eyal & Roth, 2011; Muijs, 2011). There is evidence in the literature that TL positively impacts school conditions (Bird & Wang, 2011; Moolenaar, Daly, & Sleegers, 2010; Muijs, 2011; Sagnak, 2012). Application of Fullan's model to school reform shifts the focus of educational leadership to a greater emphasis on organizational change, guiding school leaders to manage change, cope with uncertainty, and reculture schools for reform success. However, the Leading Change Model has measured neither leadership behaviors nor student outcomes. It does not provide empirical evidence for predicting student outcomes with TL practices.

John Kotter's (1990, 2012) Change Model is mainly used in business field. . There are eight stages of John Kotter's action plan for change: 1) Establishing a sense of urgency, 2) creating a guiding coalition, 3) developing a vision and strategy, 4) Communicating the change vision, 5) empowering the broad-based action, 6) generating short-term wins, 7) consolidating gains and producing more change, and 8) anchoring new approaches in the corporate culture. The author advises business leaders to follow these eight steps to plan organizational change. Based on this model, leaders should examine the school, then identify and discuss crises to establish a sense of urgency for change. Second, leaders should bring together a group of powerful constituents to create a guiding coalition and to lead the change. Third, leaders should develop a vision and strategy to direct and motivate people. Fourth, leaders should communicate the change vision and get the message out by using every possible vehicle. Fifth, leaders should empower the broad-based action by eliminating obstacles and encourage risk-taking and

innovative thinking. Sixth, leaders should generate short-term wins by recognizing and rewarding people for every success. Seventh, leaders should restructure the organizational units and regulations to fit the transformation vision, and to strengthen the process with new change agents to generate new success. Finally, leader should alter promotion to reflect the new vision and anchor new attitudes in the corporate culture. The Eight-Step Change Model is similar to Fullan's Change Model. It provides school leaders concrete strategies and steps on how to reculture schools and lead reform success. However, it also suffers from lack of empirical evidence in predicting student outcomes with TL practices.

Among all models that have been applied to the education field, the TL model is the only one that investigates the direct links between TL practices and student achievement. It is appropriate to use the TL model for this study to examine whether a relationship exists between a preschool center director's leadership practices and the young EL's achievement. It is possible that integrating instructional leadership and transformational leadership will yield more successful results in school reforms and improving student performance (Leithwood & Jantzi, 2006; Leithwood, Harris, & Hopkins, 2008; Robinson, Hohepa, & Lloyd, 2009).

Controversy and Unanswered Questions in Transformational Leadership Theory. While the concepts of empowerment and change in TL leadership theory add new understanding to educational leadership and promise to guide school reforms, this theory has also aroused some controversies.

The impact of transformational leadership on organizational performance. There are contradictory research outcomes on the impact of TL leadership on

organizational performance. A number of studies have found TL leadership impacts performance outcomes positively and transactional impacts performance outcomes negatively (Huang & Hsieh, 2011; Schaubroeck, Lam & Cha, 2007). Other studies found both transformational and transactional leadership to have significantly positive effects on performance (Bass, Avolio, Jung & Berson, 2003; Weng, Su, & Lai, 2011). Still, some other studies concluded that leader's charisma was unrelated to organizational performance (Eres & Turkey, 2011; Tosi, Misangyi, Fanelli, Waldman, & Yammarino, 2004), and some studies even found that transactional leadership was a stronger predictor than TL of performance and satisfaction (Vecchio, Justin, and Pearce, 2008). The contradicting evidence and inconsistent research results have aroused a great deal of controversy and raised many unanswered questions in transformational leadership theory. Perhaps, there are other influential factors in the transformational process in the education setting. Schools are organizations for instruction and student achievement, which is different from other contexts that produce business products. In addition, schools provide services for children, not adults. Children's achievement is influenced by many other factors, such as home language, poverty, and the child's motivation. These additional factors may affect the impact of TL on student achievement. Transformational leaders have to pay attention to classroom instruction and family services, in addition to TL advocated behaviors, in order to provide effective educational leadership (Leithwood & Jantzi, 2006; Leithwood, Harris, & Hopkins, 2008; Robinson, Hohepa, & Loyod, 2009; Robinson, Lloyd, & Rowe, 2008).

The relationship between TL and transactional leadership. Another major argument is about the relationship between TL and transactional leadership. Research

evidence in this area is varied. According to Avolio and Bass (2004), TL leadership augments the impacts of transactional leadership—which means that if a transactional leader who uses contingent rewards, its effect on follower's performance will be enhanced if this leader also employs some TL practices. Many studies have confirmed Bass' augmentation hypothesis (Avolio & Bass, 2004; Bass, 1985; Bycio, Hackett, & Allen, 1995; Erkutlu, 2008; Hamilton, 2010; Jung, Yammarino & Lee, 2009; Onorato, 2013; Sadeghi & Pihie, 2012). Using the MLQ, Rowold and Heinit (2007) evaluated these two diverging leadership styles. The results indicated that transformational leadership had an impact on profit, over and above transactional leadership. On the other hand, transformational leadership was found to boost the impact of transactional leadership on subjective performance. Rowold and Heinit concluded that TL and transactional leadership are highly correlated, and the relationship between TL and transactional leadership is augmentative. As a conclusion, these authors suggested that developing business managers' TL abilities can help organizations to accomplish organizational goals, even if these managers are transactional in nature (Avolio, 1999; Rowold and Heinit, 2007).

However, other researchers found that TL and transactional leadership interact negatively (House, 1996; Vecchio, Justin, & Pearce, 2008). Vecchio et al. found that when a leader uses contingent rewards, it weakens the effects of the leader's transformational effort on improving the workers' performance; and when a leader's use of contingent rewards was low, the TL was more positively correlated with employee's performance. Vecchio et al. concluded that transactional and transformational leadership have a negative interactive relationship.

Today, gaps and limitations still exist in the leadership literature regarding whether the effect between transformational and transactional leadership is augmentative or interactive, whether effective educational leaders can be both transactional and transformational, or why studies do not show a consistent relationship between transformational and transactional leadership.

Transformational School Leadership (TSL) Model

Rooted in TL leadership theory, Leithwood and his colleagues developed the Transformational School Leadership (TSL) Model to apply the TL theory into school settings and examine the effects of specific school practices. According to the TSL model, effective transformational school leaders share common practices: setting goals and direction, developing people, and redesigning the organization (Leithwood, Jantzi, Earl, Fullan, & Levin, 2004). These transformational leaders reform schools by focusing on the most important matter in the heart of educational business—student learning. The three categories in the TSL model powerfully echo TL theory's concepts and strategies into school settings. Application of the TSL Model shifts the focus of educational leadership to a greater emphasis on using organizational change and instructional leadership to improve student achievement.

Setting Goals and Directions. In this category, Leithwood identified three effective goal setting strategies to improve student learning: help teachers to clarify the reasons for the new implementation, provide useful assistance to set short-term goals for teaching and learning, and demonstrate high expectations for teachers' work (Leithwood & Jantzi, 2006). These practices closely reflect Bass's (1997) concepts of the transformational approach to leadership. Bass (2008) believes that leaders are role

models for followers. TL theory claims that one cannot be an effective leader without behaving in a morally purposeful way (Bass, 2008; Bass & Steidlmeier, 1999). The ethical aspect of transformational leadership is fundamental to Burn (1978) and Bass (1985). Bass and Steidlmeier (1999) described that authentic transformational leaders build their ethics on three pillars: the leader's moral character, the ethical values in the leader's vision, and the morality in the processes of leaders and followers pursuing their goals. The major purpose of school reforms is to improve student learning and close the achievement gap for disadvantaged children. Transformational leaders provide a vision driven by moral reasons to motivate followers to perform beyond basic expectations (Avolio & Bass, 2004). Given the centrality of moral and ethical consideration to TL, Leithwood's first step is closely aligned with the TL theory.

Transformational leaders passionately believe that they can make a difference. They envision the future, creating an image of what the organization can become. They provide inspirational motivation (Bass, 1984). They set goals and make plans on how to achieve the vision. TL theory claims that school vision positively influences teachers' motivation, thus improving their performance. According to TL theory, a shared school vision can transform teachers' focus on their self-interest to a focus on the higher moral ground of improving students' achievement. It can guide teachers to focus on their work, feel their work is significant, and perform beyond base expectations (Avolio & Bass, 1999; Bass 1985). Khatri, Templer, and Budhwar (2012) examined the influence of TL leaders' charisma and vision on followers and found that charisma and vision positively influence workers' motivation, satisfaction, cooperation/teamwork and performance. In the education field, research supports this application and finds that

ethical school principals with a clear vision and passionate purpose are more likely to have trusting and engaged faculties (Bird & Wang, 2011). Leithwood et al. (2004) emphasized that helping the staff to develop shared understandings and goals about the organization and its activities is the most critical first step of TSL model.

Developing People. The second category of the TSL model is developing people. In this category, Leithwood included three effective strategies to develop teachers: provide teachers individual support to help them implement the new changes, encourage them to consider new ideas, and model a high level of professional practices and values (Leithwood & Jantzi, 2006). Having a group of motivated staff with clear vision and goals is not sufficient to improve teaching and learning. In order to productively move towards the shared goals, Leithwood and his colleague (2004) stressed that school leaders must be knowledgeable of the technical aspects of schooling, become instructional leaders who expand teachers' capacity, provide professional development, empower teachers to develop new ideas, and engage the staff in solving complex problems innovatively. Transformational school leaders develop teachers by addressing both their intellectual and psychological capacities. Leithwood and Jantzi (2004) explained that TL is sensitive to team-building and collaboration with employees at different levels. The leaders provide personal attention to the teachers' growth and development; therefore, it increases the staff's motivation, efficacy, and commitment to improve instructional practices and promote student learning (Leithwood and Jantzi, 2006).

The three practices of developing people in the TSL model reflect Bass's (1984) concept of transformational leadership. Transformational leaders transform their followers by providing them intellectual stimulation, encouraging them to take risks, and

nurturing people to grow (Bass, 2008). TL theory claimed that leaders who challenge workers' intellectual creativity will enable followers to grow and empowering workers to grow will increase the organization's capacity. Research that has examined the relationships among transformational leadership, employee motivation, and employee desire for empowerment has supported this claim (Bhutani, Mand, & Sharma, 2010; Conger & Rabindra, 1988; Ilies, Judge, & Wagner, 2006; Locke, 1997; Paarlberg & Lavigna, 2010). Empowered employees are more willing to take risk and more innovative in ideas and solutions (Johnson, 1994). Giving and seeking feedback have been found to moderate the effectiveness of goal-setting (Locke, 1997). Empowered employees demonstrate improved self-efficacy—efficiency, effectiveness, and usefulness (Ilies et al., 2006). During the process of developing others, the leader has strengthened the organization.

In education, training and employee empowerment are also found to increase employees' levels of performance (Hollingworth, 2012; Munjuri, 2011). In a case study, Hollingworth (2012) analyzed the process of teachers creating a comprehensive formative assessment program in a small, Midwestern high school in the USA. The focus of the study was to understand the role of leadership in this creative change process. Hollingworth found that the school leader served as a catalyst for building teacher knowledge and enabling the implementation of formative assessment practices. The success of this change initiative improved the classroom instructional practices and the service of student learning. Hollingworth credited the staff's innovation and change to the school leaders' empowerment and capacity building.

Redesigning the Organization. Emerging from the evidence about learning organizations and professional learning communities, Leithwood and Jantzi (2004) explained that TL is sensitive to team-building and collaboration with employees at different levels, to accomplish change and transform school culture to meet the needs of school restructuring. In this category, the TSL model emphasizes three organizational redesign strategies that will reculture schools and improve student outcomes—build trustful relationship and encourage collective learning among staff, create structural conditions to foster shared leadership, and develop relationships with parents to gain their support for the new implementation.

Per TL theory, transformational school leaders who change schools into a collaborative, trustful, and supportive culture will enhance school organizational performance and improve student learning. Educational research supports this claim of TL theory and the application of building trustful relationships as a transformation strategy. Sagnak (2012) investigated the relationship among TL leaders' empowerment, teachers' innovative behavior, and innovative climate in elementary schools. The study found that principals' leadership empowerment behavior of creating an innovative climate, directly and indirectly, affected teachers' innovative behavior. Sagnak concluded that empowerment behaviors, such as enhancing trust, allowing participation in decision making, supporting teachers, and facilitating teachers' work will increase the innovative behavior of teachers. As a result, the school organization becomes more effective in teaching and learning.

The transformational leadership theory provides a theoretical framework for research analysis (Avolio & Bass; 2004; Burns, 1979; Leithwood & Jantzi, 2006) and the

TSL model links school leadership practices with the most critical indicator of school improvement— student achievement (Leithwood & Jantzi, 2005, Leithwood & Jantzi, 2006). The TSL provides a particularly appropriate application to the ECE leadership and preschool improvement for English Learners. It is appropriate for this study to use the TSL model to investigate the relationship between a preschool center director's leadership practices and the young EL's achievement.

Leader Background and Student Achievement

Preschool center directors can affect young children's academic achievement in a variety ways. Although leadership literature finds that school process variables are much stronger predictors of teacher job satisfaction and student learning than leader background variables (Shen, Leslie, & Spybrook, 2012), it is possible that leader background characteristics can influence student outcomes (Clark, Martorell, & Rockoff, 2010; Coelli & Green, 2012; Eberts & Stone, 1988; Piawa, Hee, Ismail, & Ying, 2013). Since empirical work in early childhood educational leadership is scarce, this review looks to leadership research in elementary and high schools to provide evidence for the relationship between leader background characteristics and student outcomes.

Research literature suggests that the leader background characteristics that may impact student achievement are the school leader's years of service in current position, total leadership and management experience, and academic qualifications (Clark, Martorell, & Rockoff, 2010; Coelli & Green, 2012; Eberts & Stone, 1988; Piawa, Hee, Ismail, & Ying, 2013).

Years of Service in Current Position. School leaders take time to realize their full effect at a school. Each organization has its own culture and socialization process.

Van Maanen and Schein's (1979) organizational socialization theory states that this unique culture and socialization process requires an individual to learn the knowledge, skills, and values needed to perform a social role in an organization. Per organizational socialization theory, a new preschool director entering a preschool organization is going through two influencing processes at the same time: the newcomer is influencing the preschool, and the preschool is influencing the newcomer (Van Maanen & Schein, 1979; Bengtson, Zepeda & Parylo, 2013). For new preschool directors to affect the quality of instruction, learning conditions, and student performance at their sites, they need to deal with the organization's culture and socialization process and learn how the system works (Bengtson, Zepeda & Parylo, 2013). This process is time consuming and affects the effectiveness of new leaders (Clayton & Johnson, 2011). For this reason, school leader turnover hurts student achievement (Béteille, Kalogrides & Loeb, 2012; Miller, 2013). It is reasonable to assume that the number of years a school leader is in the current position is positively correlated with student achievement. However, the evidence from literature is mixed.

Coelli & Green (2012) analyzed data on youth enrolled in the public-funded British Columbia (BC) high schools in Canada before October 2005 to identify the effect of individual high school principals on student graduation rates and English exam scores. BC rotates principals across schools by districts to permit isolation of the effect of principals from the effect of schools. Coelli and Green estimated the variance of the individual effect of principals on student outcomes using a semi-parametric technique assuming the effect was time invariant. They also considered the time effect on the possibility that principals need time to bring out their full effect at a school. The graduate

students' English final exam scores were analyzed. Student individual characteristics, such as peer and neighborhood characteristics and aggregated time effects from the outcome measures, were controlled. This study concluded that the length of time a principal at a school is positively correlated to student graduation rate and the 12th grade English examination achievement scores.

Using twelve years of North Carolina public schools administrative data, Miller (2013) investigated the relationship between principal turnover and student achievement. The North Carolina public schools' student achievement data and annual principal employment data were obtained from the North Carolina (NC) Education Research Data Center (NCED) and the National Center for Education Statistics' Common Core of Data (CCD). The NCED data spanned twelve academic years, from the 1994– 2006. The number of NC public schools in the CCD increased from 1968 to 2348 during this period. The sample is restricted to schools that were open, with students enrolled and teachers employed, for all twelve years and only schools in which the data on the principal transition time was reliable.

Miller (2013) concluded that principal turnover hurts student achievement. A downturn in student performance follows the principal departures and the arrival of new school leaders. Student achievement scores continue to fall in the first two years after a new principal's installation and then rise over the next three years. Average academic performance five years after a new school leader arrived is the same as it was five years before the new leader took over. Miller suggested that the student achievement increases following a principal transition may not be a positive effect of principal turnover but a signal of mean reversion. In other words, the number of years of a principal's service in

his or her current position may not be positively correlated to the student achievement in the first five years of employment.

Miller's (2013) finding is consistent with the results of an earlier study that investigated the impacts of a school leader's background characteristics on student performance. Clark, Martorell, and Rockoff (2010) stated that the school performance often drops when a new leader is hired and the performance trends tend to be reversed three years later. Clark et al. raised a question of whether this phenomenon is a result of the leadership transition or the lack of experience of a new leader.

Most studies on this topic suggest that school leader turnover hurts student achievement (Béteille, Kalogrides & Loeb, 2012; Miller, 2013), with an exception of Corcoran, Schwartz, and Weinstein's (2009) NYC aspiring principals study. Corcoran et al. found that the positive impact of new principals is quick and the student performance at schools run by new principals improved within one year after the aspiring principals arrived. While research results are not in agreement on the impacts of new school leaders on student performance, it still suggests that the number of years of a leader in the current position may be an influential factor.

Total Leadership and Management Experience. Clark, Martorell, & Rockoff, (2010) suggested that the years of experience in the current school and the overall experience as a school leader are not the same for many people. Therefore, Clark et al. further differentiated school leaders by their total years of leadership experience and found that leaders' experience positively correlates more to math scores than to reading scores, after controlling for principal and school effects.

The study results of Clark, Martorell, & Rockoff (2010) were later supported by Piaw, Hee, Ismail, & Ying's (2014) Malaysian school principal study. Using 152 secondary school principals in five states in Malaysia, Piaw et al. conducted a logistic regression analysis to explore the relationships between principal demographic variables and leadership skills. The results of the analysis showed that a school principal's total years of leadership and management experience is one of the significant predictors of leadership skill.

In the Texas Schools Project, Branch, Hanushek, and Rivkin (2013) also investigated leadership impacts on student achievement by comparing principals' years of experiences. Controlling for student background variables, such as gender, race or ethnicity, and eligibility for subsidized lunch, as well as students' test scores from the previous year, the project compared Texas student math test scores between schools with first-year new principals and schools with principals who had six or more years of experience. Branch et al. found that principals' years of leadership experience were positively associated with the math test scores at their schools.

On the other hand, contradicting evidence on the relationship between leadership experience and student achievement was found in literature. Some studies concluded that leaders' experience does not exert a significant influence on student achievement (Chingos & Peterson, 2011; Dhuey & Smith, 2014). In Dhuey and Smith's (2014) study, student performance scores decreased by 0.046 standard deviations both in math and reading with the most experienced principals comparing to the least experienced principals. However, the increasing experience effect disappeared when school characteristics were controlled for. Dhuey and Smith suggested that gambling on a leader

to improve school performance by gaining experience is not as effective as to identify high-ability leaders and allocate them to schools.

Academic Qualifications. The leader's academic qualifications discussed in this review are leader education level and leader content knowledge—leadership knowledge and subject matter knowledge. Similar to other leader background characteristics, the literature on the impact of leader education level and leadership knowledge on student achievement is mixed. On the other hand, the leader's subject matter knowledge is found to positively influence student learning.

Education level. Many studies have investigated the role of school leader education level on student performance. Some studies found a negative correlation between leader education level and school performance (Ballou & Podgursky, 1993; Eberts & Stone, 1988). Recently, Piaw, Hee, Ismail, and Ying (2014) examined the factors affecting the leadership skills of 152 secondary school principals. Piaw et al. found that leader education level was one of the major factors, contributing 24.9% of the school leadership skill variance. However, Clark, Martorell, and Rockoff (2009) analyzed evidence on principal characteristics and school performance and found no relationship between leader education level and school performance.

Content Knowledge. Most literature interprets this term as knowledge of leadership (Behbahani, 2011; Dunlop, 2008). However, other scholars refer to this term as subject matter knowledge—subject areas, curriculum domains, or grade levels (Spillance, 2005; Stein & Nelson, 2003). Spillance (2005) suggested that school leadership is subject matter sensitive and looks different depending on the subject areas (such as primary, middle school, or high school) and curricular domain. Stein and

Nelson (2003) also claimed that leadership knowledge and subject matter knowledge are intertwined. Subject-specific leadership knowledge is critical for enabling school leaders as instructional leaders (Printy, 2008; Stein & Nelson, 2003). Therefore, the literature review on this topic included both areas: leadership knowledge (LK) and subject matter knowledge (SMK).

Leadership knowledge (LK). Behbahani (2011) examined the role of leadership education on the efficiency of school leaders and found that school leaders with training in educational leadership and management perform higher and are more efficient than those who did not have training in the discipline. The results of Corcoran, Schwartz, and Weinstein's (2012) New York City Aspiring Principals Program study echoed Behbahani's findings. The NYC Aspiring Principals Program showed that formally-trained principals, with deeper knowledge of the leadership discipline, had positive effects on school performance.

Empirical studies in the field of ECE leadership are limited; however, literature suggests that the concerns for ECE managers' lack of management training and leadership knowledge are growing (Dunlop, 2008; Ebbeck & Waniganayake, 2003; Ho, 2011; Jorde-Bloom & Sheerer, 1992; Muijs, 2004; Rodd, 2013; Whalley & Allen, 2011). Dunlop (2008) commented that many ECE managers are considerably unprepared for their roles. ECE literature reveals a general assumption in the EC field that ECE leaders' knowledge in leadership will impact their ability to perform their responsibilities and affect school performance (Dunlop, 2008; Ebbeck & Waniganayake, 2003; Ho & Chen, 2013; Muijs, 2004; Rodd, 2013; Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2004; Whalley & Allen, 2011). Despite this assumption, Clark, Martorell, and Rockoff

(2009) found mixed outcomes regarding the relationship between formal leadership training and school achievement.

Subject matter knowledge (SMK). Leaders' knowledge of subject matter is found to be related to teacher development and student learning (Coburn, 2005; Nelson, Stimpson, & Jordan, 2007; Spillance, 2005). One way school leaders affect student achievement is the provision of support for classroom instructional improvement—classroom observations and feedback and providing learning opportunities for staff (Louis, Dretzke, & Wahlstrom, 2010; May, Huff, & Goldring, 2012; Printy, 2008, 2010). This claim is drawn from findings in many subject areas. In mathematics, Nelson, Stimpson, and Jordan (2007) found that many elementary school leaders do not have adequate mathematics knowledge to conduct classroom observations and provide meaningful feedback. Consequently, teacher development and student achievement in mathematics education suffer (Nelson et al., 2007; Spillance, 2005). In language arts and literacy, Spillance's (2005) research team conducted an intensive study for five years in 15 primary schools with structured interviews investigating the impacts of school leaders' subject matter knowledge on teacher development. Spillance found that principals who had expertise in language arts and literacy tended to produce more positive changes in language arts and literacy at their schools; and these principals did not promote effective teacher development in mathematics as they did not perceive themselves having the subject matter knowledge in mathematics (Spillance, 2005). The claim that school leaders' subject matter knowledge impacts teacher development and student learning is also supported by Coburn's (2005) and McGhee & Loew's (2007) research. In 2005, Coburn studied two urban elementary schools in California and investigated how the

principals' knowledge of reading instruction and reading policy influenced teacher learning about the changing reading policy. His data from interviews and observations revealed that the principals' understandings about what constitutes "good" reading instruction shaped the processes of teacher interpretation and adaptation of the new reading policy (Coburn, 2005). As a result, the teachers in these schools had deeper understanding of reading instruction and how to implement the new reading policy. Coburn (2005) concluded that school leaders' knowledge of subject matter and how students learn can influence leadership practices, teachers' subject knowledge, and student learning. Overholt and Szabocsik's (2013) qualitative study with 18 principals reached a similar conclusion: the principals' levels of understanding of best practices for literacy affected their effectiveness in connecting with teachers to discuss instructional practices and improve literacy progress in their schools.

The importance of leaders' SMK on student learning is highlighted in McGhee and Lew's (2007) study. Using a 13-item survey, McGhee and Lew (2007) examined the effect of principals' subject matter knowledge in writing, belief, and intervention on teachers' writing instruction. The sample included 169 elementary and secondary rural, urban, and suburban teachers. The study found that the school leader's understanding of effective writing explained approximately 57% of the variance of their actions and interventions in supporting teachers' writing instructions.

Considerable evidence in the literature supports that teacher effectiveness and classroom instructional quality impact student achievement (Kirschner, Sweller, & Clark, 2006; Louis, Dretzke & Wahlstrom, 2010; Wayne & Youngs, 2003). When leaders' subject matter knowledge links with teacher development and instructional quality, early

childhood literature strongly suggests that preschool leaders be equipped with early childhood subject matter knowledge—knowledge of child development and early learning (Mead, 2011; NCATE, 2010). New Jersey School Leaders Professional Standards 2.1 states that administrators should have knowledge and understanding of student growth and development (New Jersey Department of Education, 2004). This is particularly important for preschool leaders. In early childhood education, a sound knowledge of child development is the platform for teaching young children's early literacy and early math learning (NYSUT, 2008). Academic rigor and developmentally appropriate practices cannot be separated. The assessment of early childhood teaching and learning must be anchored on the understanding of child development and built on developmentally appropriate practices (National Research Council, 2008). In preschool programs, the leader's knowledge of child development and early learning directly impacts the leader's ability to evaluate a program's curriculum, how teachers are using developmentally appropriate practices to promote early math and early literacy learning (Mead, 2011; NCATE, 2010). In the PreK-3rd Policy to Action Brief, Mead (2011) urges principal preparation programs to equip principals with essential knowledge and skills in the areas of child development and early education.

In conclusion, leadership literature provides inconsistent evidence in regards to the impact of leader education level and leadership knowledge on school performance. Yet, sufficient evidence in literature indicates that leader subject matter knowledge impacts student achievement. The results suggest that leader background may potentially influence student achievement. This study will control leader background characteristics (years in current position, total leadership and management experience, education level,

leadership knowledge, and subject matter knowledge) when examining the impacts of transformational leadership practices on student achievement.

Summary

Hispanic ELs are one of the fastest growing populations in the United States (U. S. Census Bureau, 2012f). Along with a language barrier, young Hispanic ELs often face poverty challenges and low parental education, and are at risk of academic failure (Han, Lee, & Waldfogel, 2012; Hemphill & Vaneman, 2011; Kober et al., 2010). High quality preschool programs are found to boost young ELs' school readiness and produce developmental benefits for school performance (Barnett, 2008; Espinosa, 2010, 2013; Gormley, 2008; Karoly & Gonzalez, 2011). EC program quality research literature concludes that many preschools have not incorporated the changing social and cultural values in the programs to reflect the changing concept of high preschool program quality (Castro, Espinosa, & Páez, 2011; Crosnoe, 2007; Good, Masewicz, & Vogel, 2010; Peisner-Feinberg and Yazejian, 2010). Leadership studies reveal that school quality and learning conditions are impacted by the quality of school leadership (Hilliard & Jackson, 2011; Ho, 2011; Ho & Chen, 2013; Mathers, Singler, & Karemaker, 2012). Improving ECE leadership may change the preschool program quality disparity for young English Learners.

Although TL has been found to support school conditions and student learning, research relating school leadership to student achievement has been inconsistent, with studies finding no correlation and others finding small but significant correlation (Chin, 2007; Heck & Moriyamal, 2010; Marzano, Waters, & McNulty, 2005; Nettles & Petscher, 2007; Sun & Leithwood, 2012; Tubin, 2011). In addition, TL has not been

studied in EC settings. Given the achievement gap and the importance of preschool to future school success, it would be valuable to determine if the application of TL in preschools enhances EL's achievement.

There is evidence in the literature that leader background characteristics may influence student outcomes. When investigating the relationship between TL practices and student achievement, it is necessary to control leader background factors such as the school leader's years of service in current position, total leadership and management experience, and academic qualifications—education level, leadership knowledge, and subject matter knowledge (Clark, Martorell, & Rockoff, 2010; Coelli & Green, 2012; Eberts & Stone, 1988; Piawa, Hee, Ismail, & Ying, 2013).

Chapter 3: Research Method

Finding ways to support Hispanic ELs' educational success is important (U.S. Census Bureau, 2012c; Galino, 2010; Hernandez, 2012). The purpose of this study was to investigate whether TL practices by preschool center directors, as perceived by instructional staff, relate to young Hispanic EL's preschool achievement. The research questions were chosen based on evidence from the literature that leadership is key to effective schools (Hilliard & Jackson, 2011; Ho, 2011) and TL creates school conditions supporting student learning in K-12 schools (Eyal & Roth, 2011; Nedelcu, 2013). In addition, building on supports from the literature that leader background characteristics (years of service in current position, total years of leadership and management experience, and academic qualifications—education level, subject matter knowledge, and prior teaching experience) are also related to student achievement, the research questions and hypotheses included leader characteristics as control variables.

This study examined the following research questions and hypotheses:

Q1. What relationship, if any, exists between a preschool site director's TL practice of setting directions, as perceived by instructional staff, and the preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q2. What relationship, if any, exists between a preschool site director's TL practice of developing people, as perceived by instructional staff, and the preschool

Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q3. What relationship, if any, exists between a preschool site director's TL practice of redesigning the organization, as perceived by instructional staff, and the preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q4. What relationship, if any, exists between a preschool site director's combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and the preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q5. What relationship, if any, exists between a preschool site director's TL practice of setting directions, as perceived by instructional staff, and the preschool Hispanic ELs mathematics achievement at the end of the school year (M4),

controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q6. What relationship, if any, exists between a preschool site director's TL practice of developing people, as perceived by instructional staff, and the preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q7. What relationship, if any, exists between a preschool site director's TL practice of redesigning the organization, as perceived by instructional staff, and the preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

Q8. What relationship, if any, exists between a preschool site director's combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and the preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling

for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

$H1_0$. No statistically significant relationship exists between preschool site directors' TL practice of setting directions, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H1_a$. A statistically significant relationship exists between preschool site directors' TL practice of setting directions, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H2_0$. No statistically significant relationship exists between preschool site directors' TL practice of developing people, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service

in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge)?

$H2_a$. A statistically significant relationship exists between preschool site directors' TL practice of developing people, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H3_0$. No statistically significant relationship exists between preschool site directors' TL practice of redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H3_a$. A statistically significant relationship exists between preschool site directors' TL practice of redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H4_0$. No statistically significant relationship exists between preschool site directors' combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H4_a$. A statistically significant relationship exists between preschool site directors' combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs literacy achievement at the end of the school year (L4), controlling for literacy achievement scores at marking period 3 (L3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H5_0$. No statistically significant relationship exists between preschool site directors' TL practice of setting directions, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management

experience, education level, leadership knowledge, and subject matter knowledge).

$H5_a$. A statistically significant relationship exists between preschool site directors' TL practice of setting directions, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H6_0$. No statistically significant relationship exists between preschool site directors' TL practice of developing people, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H6_a$. A statistically significant relationship exists between preschool site directors' TL practice of developing people, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of

service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H7_0$. No statistically significant relationship exists between preschool site directors' TL practice of redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H7_a$. A statistically significant relationship exists between preschool site directors' TL practice of redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

$H8_0$. No statistically significant relationship exists between preschool site directors' combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4),

controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

H8$_a$. A statistically significant relationship exists between preschool site directors' combined TL practices of setting directions, developing people, and redesigning the organization, as perceived by instructional staff, and preschool Hispanic ELs mathematics achievement at the end of the school year (M4), controlling for mathematics achievement scores at marking period 3 (M3), average student age, and director background characteristics (years of service in current position, total years of leadership and management experience, education level, leadership knowledge, and subject matter knowledge).

This chapter includes a discussion of the research methods and design, population, sample, instruments, and operational definition of variables, data collection, processing and analysis, assumptions, limitations, delimitations, ethnical assurances, and a summary.

Research Methods and Design

Research studies in education and social sciences are often divided into three main types: descriptive, relational, and causal (Kline, 2008; Trochim & Donnelly, 2008). All three types of studies can be investigated using either qualitative or quantitative methods, depending on the research problem and the research question (Vogt, 2008). A research design is "a plan for collecting evidence that can be used to answer a research question" (Vogt, 2007, p.8). The research questions of this study asked whether there is a

statistical relationship between leadership practices, as perceived by instructional staff, and young EL's academic achievement. Based on the research question of this study, a quantitative approach was the most appropriate.

Quantitative research focuses on gathering numerical data, keeping the impact of a researcher's personal bias to a minimum and using mathematically based methods to test relationships between quantitative variables (Aliaga & Gunderson, 2006; Newman & Covrig, 2013; Muijs, 2010). There were quantitative instruments available to measure the variables in the research questions—TL practices and preschool achievement. These existing quantitative measures made testing relationships among the variables possible and the quantitative method appropriate for this study.

Qualitative research collects qualitative data, such as words, pictures, or objects, to produce a wealth of detailed information and deeper the understanding of a person, an event, a case, or a phenomenon (Patton, 2002). It will not have provided quantitative information on the relationship between leadership variables and student achievement. Therefore, a qualitative method would have been unfitting.

A correlational approach was the optimal quantitative design for this study. In correlational research, investigators use correlational statistics to test the hypotheses, to describe the relationship, and to measure the degree of association between two or more variables (Black, 2009; Mitchell & Jolley, 2012; Muijs, 2010; Pallant, 2011). Correlational techniques are often used in non-experimental research designs in which researchers do not manipulate or control the variables and only describe them as they exist naturally (Pallant, 2011). This design allowed the researcher to predict an outcome (Pallant, 2011), such as young EL's achievement (dependent variable), based on an

independent variable (leadership practices). Other designs, such as an experimental or quasi-experimental design, were neither necessary nor feasible. Experiments or quasi-experiments require a researcher to set up control groups and experimental groups, and then manipulate variables in a laboratory-like environment to measure effects (Vogt, 2007). In this study, the researcher had no control over how a preschool director leads his or her school. This study investigated the leaders' existing transformational practices in their natural styles and did not manipulate or control the variables. In addition, researchers must take reasonable steps to avoid harming research participants (APA Ethics Code 3.04). If the researcher asked a director to purposefully use poor practices, it would be hurting the children. Thus, it would be unethical for this study to use an experimental or quasi-experimental design and manipulate the center directors' practices for testing the effects of these manipulations. The purpose of the study was to investigate a relationship, rather than to determine cause and effect among variables. The design of this quantitative correlational study was descriptive, non-experimental, and cross-sectional.

The most common form of nonexperimental research is the survey (Tabachnick & Fidell, 2012; Vogt (2007) stated that surveys are popular because they are efficient and relatively inexpensive. There are three kinds of leadership surveys: employee-reported, leader-self-reported, and observer-reported. The employee-reported survey method has a limitation that the survey participants may have difficulties recalling information or telling the truth about a controversial question. This factor may affect the validity of the research results. Still, literature suggested that employee-reported survey data are more reliable than a leader-self-report survey data (Schwarz, 1999; Trochim & Donnelly, 2008;

Watkins, 2010). An observer-based survey would be less appropriate than an employee-survey because the staff members have a longer-term, everyday view of the leader, while an observer would be limited to a particular window of time. Therefore, this study chose to investigate from the instructional staff's point of view. An online survey was fast in data collection from all willing instructional staff. The data was useful in describing the characteristics of Great Falls' preschool program directors. For these reasons, the survey research method was optimal for this project.

It is important for correlational studies to control potential confounding variables in the research design. Confounding happens when a third variable that is not the independent variable of interest affects the dependent variable systematically (Kovera, 2010). This study was designed to control for the director characteristics, known to relate to student achievement, as well as the EL achievement scores at Time 3 and average student age. In the case of controlling for Time 3, this allowed the researcher to control for beginning differences in the students' achievement.

Population

This study took place in Great Falls Public Schools (GFPS) (pseudonym), an urban district in New Jersey with approximately 30,000 students from Pre-K to 12th grade. In 2013-2014 school year, the district's Department of Early Childhood Education (DECE) had 33 preschool sites (each with a site director) and 243 preschool classrooms (each with a maximum of 15 students). One of the sites was terminated in summer 2014. Therefore, only 32 sites and 239 classrooms were available for this study. The total preschool population in 2013-14 was approximately 3,600 students. There were 1,855 (52%) Hispanic ELs.

The preschool instructional staff within the Great Falls district numbers 255: 239 classroom teachers and 16 master teachers. The 16 master teachers are divided into 8 teams, and each team works with 4-5 preschool sites' teachers and directors to implement the Creative Curriculum. The preschool site teacher populations range from 4 (2 classroom teachers and 2 master teachers) to 18 (16 classroom teachers and 2 master teachers).

Sample

This study had three sample groups: sites and directors, instructional staff, and students.

Sites and directors. All 32 available preschool sites were invited to participate. However, two preschool special education sites, School BB and School EE, were later eliminated from final analyses due to the sites' data errors and differences from the other sites. After examining the collected data, another site's student math scores were also discarded based on irregularities and teacher errors. As a result, the literacy analyses included 30 sites and the mathematics analyses included 29 schools, which were the entire available population of preschool sites and directors in the district suitable for this study.

Among these 30 leaders, 22 were preschool center directors and 8 were public school principals. The majority of these leaders were highly educated: 57% held a graduate or higher degree, and 60% had college level leadership and management training. However, at least 30% did not have any child development or ECE credit hours. Almost 67% of them were seasoned leaders with over 10 years of leadership experience;

however, 40% were in their current position for approximately one year or less and had been transferred from other positions into their current site.

Power analysis, using the G*Power 3.1 software (effect size |f2|=0.26, α=0.05, two-tail test, power {1-β} = 0.80), shows that the sample size of 30 preschool sites was sufficient to detect a medium effect size (Cohen, 1992) but may have been too low to detect a small or small to medium effect size. The power of a statistical test is the probability that the selected test will detect significant results if they exist (Myors, 2006; Vo & James, 2010). Statistical significance, effect size, and sample size are the major factors that influence power (Vo & James, 2010). A large sample size will make the variation within the sample (standard error) smaller and allow the researcher to detect a significant relationship if one is present (Vo & James, 2010). An effect size is a measure of associations between two variables (Hu, 2010). Larger effects are easier to detect than small effects. A study with low power may not find significant results if the effect size is small (Vo & James, 2010). As a result, this study might be at risk of a Type II error—not finding a statistically significant result when one actually exists (fail to reject the null hypothesis) (Vo & James, 2010).

Instructional staff. Data collection for the independent variables of interest came from the preschool instructional staff. The entire available population of classroom teachers and master teachers who worked during the 2013-2014 year was invited via email to participate in the study. This study received 217 consent-forms either online or in paper form. Among these responses, 23 people did not agree to participate; therefore, this study yielded 194 completed leadership surveys. In all, 130 preschool classroom teachers completed 130 surveys and 16 master teachers completed 64 surveys, resulting

in a 57% participation rate (146 participants from a total of 255 potential participants) and 64% collection rate (194 surveys collected from 303 possible surveys). The sample size was 3 to 12 participants per site. Participant characteristics are shown in Table 1.

Table 1

Teacher Participant Sample Characteristics

Characteristics	*n*	%
Job Title		
Master Teacher	16	
Participated	16	100%
Classroom Teacher	239	
Participated	130	54%
Total Participants	**146**	**57%**
Total Instructional Staff	255	100%
Surveys Collected		
Master Teacher	64	21%
Classroom Teacher	130	43%
Total Completed Surveys	**194**	**64%**
Total Possible Surveys	303	100%
Years of Experience		
<1	1	0.55%
1-2	14	7.69%
3-4	13	7.14%
5-6	13	7.14%
7-8	23	12.64%
9-10	37	20.33%
11-15	53	29.12%
16-20	15	8.24%
>20	13	7.14%
Answered	**182**	**99.99%**
Skipped	12	
*Certification(s):		
P-3 Provisional	12	6.45%
P-3 Standard	160	86.02%
Elementary Standard	67	36.02%
Bilingual Certification	18	0.68%
ESL Certification	10	5.38%
Answered	**186**	
Skipped	8	

ᵏ Some people hold 2 or more certifications

Level of Education		
Undergraduate Degree, BA or BS	81	44.02%
Graduate Degree, MA or MS	73	39.67%
Above Master Degree	30	16.30%
Answered	**184**	**99.99%**
Skipped		
Age Range		
<25	3	1.64%
26-35	51	27.87%
36-45	60	32.79%
46-55	50	27.32%
56-65	18	9.84%
>65	1	0.55%
Answered	**183**	**100.01%**
Skipped	11	
Ethnicity and Race		
White	55	29.73%
African American	23	12.43%
Hispanic	80	43.24%
Arab	7	3.78%
Bengali	6	3.24%
Others	14	7.57%
Answered	**185**	**99.99%**
Skipped	9	
Speak a Language Other Than English		
Yes	127	67.91%
No	60	32.09%
Answered	**187**	**100.00%**
Skipped	7	

Total Surveys: 194

Student samples. For the dependent variables, the sample of EL students was the whole population of 1,390 Hispanic ELs whose primary language is Spanish and had achievement data entered into online GOLD in both marking periods 3 (MP3) and 4 (MP4). The student sample included 633 three-year-olds and 757 four-year-olds, representing 74.93% of the entire preschool Hispanic EL population (1,855). The other

25% were not included because those students did not have data at both MP3 and MP4. The student sample size ranged from 4 to 125 per site.

Materials/Instruments

Leithwood's (2006) self-administered 5-point Likert scale TSL survey instrument (Appendix A) and the Teaching Strategies GOLD's 10-level observational assessment measure was used to collect leadership data. The TSL measure (Version 2006) has 57 Likert scaled items. Nine are leadership items examining a leader's practices relate to Setting Directions, Developing People, and Redesigning the Organization. For the nine leadership items, the staff was asked to report how much they agreed that their leader reflects a particular TL characteristic. The highest mark "strongly agree" was awarded five points, agree = 4, undecided = 3, disagree = 2, and down to the lowest mark "strongly disagree" receiving one point. The lowest possible leadership score a participant could rate a site director was 9 ("strongly disagree" for all nine questions) and the highest possible score was 45 ("strongly agree" for all nine questions). In order to describe the study sample, participating teachers and master teachers were asked eight demographic questions, such as their languages, years of preschool teaching experience, their teaching certification area, university degrees held, and current teaching assignment, in addition to the TSL survey instrument items. This information was used only to describe the participating teachers and not for analyses to answer the research questions.

Leithwood and Jantzi (2006) utilized data from the 4-year evaluation of the England's National Literacy and Numeracy Strategies (NLNS) to test Leithwood's TSL model of transformational leadership and to establish the reliability of the TSL instrument. Using two forms of the 5-point Likert-scale survey, one each for literacy and

numeracy, data on all five variables in the TSL framework were collected— leadership practices, teacher capacities, teacher motivation, work settings, and teachers' classroom practices. According to Leithwood & Jantzi (2006), the TSL instrument demonstrated good reliability. Each category (Setting Directions, Developing People, and Developing People) received two Cronbach's alphas, one from literacy data and one from numeracy data. For Setting Directions, the literacy-based and numeracy-based alphas were 0.81 and 0.82, respectively. For Developing People, the literacy-based and numeracy-based alphas were 0.85 and 0.84, respectively. And for Redesigning the Organization, the literacy-based and numeracy-based alphas were 0.80 and 0.88, respectively (Leithwood & Jantzi, 2006).

The construct validity of the TSL instrument has been established through 20 years of qualitative and quantitative research and revision over time. Applying Burns' (1978) and Bass' (1985) transformational theory into school settings, Leithwood (1994) first introduced his six-dimension model of transformational school leadership in 1994, published the Nature of School Leadership (NSL) Survey in 1995 (Jantzi & Leithwood, 1996; Leithwood & Jantzi, 1995), and revised the 6- dimension NSL tool to 8 dimensions in 1997 (Leithwood & Jantzi, 1997). These two versions of the NSL survey are still being used by many researchers (Ejimorfor, 2007; Luck, 2003; Selamata, Nordinb & Adnanc, 2013). The six TSL-dimensions in the 1995 NSL Survey are: vision, modeling, group goals, support, stimulation, and expectation. The two leadership dimensions added to the 1997 NSL are strengthening school culture and building collaborative structures. Later, the six-dimension 1995 NSL was revised and four dimensions added to include the managerial factors in school leadership (Leithwood & Jantzi, 1997). Leithwood named

this new instrument the Leadership and Management of Schools Survey (Leithwood & Jantzi, 1997, 1999).

Building on the evidence from research about large-scale school reform, Leithwood revised his leadership survey into three categories (setting directions, developing people, and redesigning the organization) and nine dimensions (vision, setting goals, expectations, individual support, encouraging new ideas, modeling, collaboration among staff, group decision, and school-family relationship) (Leithwood & Jantzi 2006; Leithwood, Jantzi & Mascall, 2002; Leithwood et al., 2004). Leithwood has been using his TSL survey to guide large-scale school reform and to investigate the influence of TL practices on staff capacity, teacher motivation, school conditions, and student achievement (Leithwood & Jantzi, 2006; Leithwood, Jantzi & Mascall, 2002; Leithwood et al., 2004). This study will use the 2006 version, the latest version of Leithwood's TSL survey.

The outcome data, evidence of young ELs' achievement in literacy and mathematics, was collected from the TS Gold which is an observational assessment measure used by the GFPS preschool teachers to assess students' learning outcomes of the Creative Curriculum for Preschool. According to Cabell, Justice, Zucker, and Kilday (2009), teacher observational assessment measures are more accurate than others because they are on-going, rooted in daily adult-child interactions, and use various sources and methods to gather information. The Creative Curriculum for Preschool is aligned with the Common Core State Standards and the New Jersey State Early Learning Guidelines (Teaching Strategies, 2013). The TS GOLD is completed four times a year, though not all preschool children completed all four administrations.

The TS GOLD system has undergone an extensive research review and is found to be both valid and reliable (Teaching Curriculum, 2013). One of the validation methods for a new measure is to compare it with an existing tool. Kim and Smith (2010) compared TS GOLD with the *Creative Curriculum Developmental Continuum for Infants, Toddlers & Twos,* an older and validated measurement, and found that the TS GOLD demonstrated the expected relationship between age and child development. The internal consistency of the total score was high, with Cronbach's alpha of 0.97 for the Language Domain, 0.95 for Literacy Domain, and 0.95 for Mathematics Domain. Kim and Smith concluded that TS GOLD is appropriate for measuring a broader scope of development and learning for children in a wide range of ages with high reliability and validity. Do-Hong, Richard, and Diane (2013) further examined the TS GOLD system's measurement equivalence across subgroups of children based on their primary language and disability status and found TS GOLD is equally valid and reliable for children with disabilities and for English learners. The TS GOLD is considered a linguistically and culturally responsive assessment tool (Do-Hong, Richard, & Diane, 2013; Teaching Strategies, 2012-2014).

Operational Definition of Variables

This study had four independent variables, two dependent variables, and eight control variables, as described below. The three sub-scales of the transformational school leadership—setting directions, developing people, and redesigning the organization—were considered as independent variables. This is standard practice for use of the TSL measure (Jantzi & Leithwood, 1996; Leithwood & Jantzi, 1999, 2006).

Setting directions. Setting directions is a term Leithwood & Jantzi (2008) used to describe the strategies transformational school leaders use to inspire and challenge staff to achieve high performance. These strategies include helping a group develop shared understandings, creating high performance expectations, visioning and establishing purpose, monitoring organizational performance, and promoting effective communication and collaboration. This independent ordinal variable (X1) was defined by calculating the mean score of the three relevant items—item 1 (vision), item 2 (setting goals), and item 3 (expectations) in the TSL survey (Leithwood & Jantzi, 2006). The value of this variable ranged from 1 (strongly disagree) to 5 (strongly agree). It was computed to address Research Questions Q1 and Q5.

Developing people. Developing people is a term Leithwood & Jantzi (2008) used to describe the strategies transformational school leaders use to increase the staff's capacity of instructional leadership and promote high quality of teaching and learning. These strategies include providing feedback, encouragement, individualized support, professional development, and modeling high level of professional practices. This independent ordinal variable (X2) was defined by calculating the mean score of the three relevant items—item 4 (individual support), item 5 (encouraging new ideas), and item 6 (modeling) in the TSL survey (Leithwood & Jantzi, 2006). The value of this variable ranged from 1 (strongly disagree) to 5 (strongly agree). It was computed to address Research Questions Q2 and Q6.

Redesigning the organization. Redesigning the organization is a term Leithwood & Jantzi (2008) used to describe the strategies transformational school leaders use to strengthen district and school cultures, modify organizational structures, and build

collaborative processes so that school cultures and structures can facilitate the work of organizational members and support the school's improvement agenda. These strategies include encouraging staff's participation in district decisions, creating opportunities for collaboration among school leaders, establishing learning organizations and professional learning communities, and developing good relationships with parents and community leaders. This independent ordinal variable (X3) was defined by calculating the mean score of the three relevant items—item 7 (collaboration among staff), item 8 (group decision), and item 9 (school-family relationship) in the TSL survey (Leithwood & Jantzi, 2006). The value of this variable ranged from 1 (strongly disagree) to 5 strongly agree). It was computed to address Research Question Q3 and Q7.

Transformational school leadership. Transformational school leadership is a term Leithwood & Jantzi (2008) used to describe the strategies transformational school leaders use to reform schools and improve the quality of teaching and learning. These strategies include setting directions, developing people, and redesigning the organization. The study defined this independent ordinal variable by calculating the mean score of variables X1, X2, and X3. The value of this variable ranged from 1 (strongly disagree) to 5 strongly agree). Transformational school leadership was computed to address Research Question Q4 and Q8.

Young EL's literacy achievement – L4. Young EL's literacy achievement is a term used in this study to describe Hispanic preschool EL's growth in language and literacy areas according to New Jersey Department of Education's Preschool Teaching and Learning Standards (NJ DOE, 2013). This study defined this dependent ordinal variable by calculating each preschool site's Hispanic ELs' language and literacy mean

score in the Creative Curriculum's Teaching Strategies (TS) GOLD system, which reflects a child's emergent reading, emergent writing, listening and speaking, foundational skills and language required by the NJ Preschool Standards. The levels for each item in TS GOLD are ranged from level zero (not yet) to level nine, with "not yet" as the lowest level and nine as the highest level of performance. Since there are eight assessment items in the Language Area and 12 assessment items in the Literacy Area, the possible Language Area Raw Score for each child ranged from 0 point (lowest performance) to 72 points (the highest performance) and the Literacy Area Raw Scores will be ranged from 0 point (lowest performance) to 108 points (the highest performance). The raw language and the raw literacy scores were aggregated across all ELs at each preschool site to obtain the site's EL language and literacy mean scores. A site's EL literacy achievement score was the average of the site's EL language mean score and the EL literacy mean score. The assessment was completed four times a year. The language and literacy mean scores from time 4 were used.

Young EL's literacy achievement – L3. The language and literacy mean scores, as described above, from time 3, which is the earliest available prior assessment for all participants, was an ordinal control independent variable.

Young EL's mathematics achievement – M4. The measurement of the young EL's mathematics achievement is similar to the young EL's literacy achievement. This study defined this dependent ordinal variable by calculating each preschool site's Hispanic ELs' mathematics score in the Creative Curriculum's Teaching Strategies (TS) GOLD system, which reflects a child's knowledge and skills in counting and cardinality, operations and algebraic thinking, number and operations, measurement and data, and

geometry required by the NJ Preschool Standards. Since there are seven assessment items in the Mathematics Area, the total possible Mathematics Raw Score for each child is ranged from 0 point (lowest performance) to 63 points (the highest performance). The Mathematics Raw Scores from time 4 were aggregated across all ELs at each preschool site to obtain the site's EL mathematics mean score.

Young EL's mathematics achievement – M3. The mathematics mean scores, as described above, from time 3, which is the earliest available prior assessment for all participants, was an ordinal control independent variable.

Average student age. This ordinal independent control variable is defined as the mean age at each site based on the total 3-year-olds and 4-year-olds Hispanic EL students at each site. The age data was retrieved from each preschool site's TS GOLD information.

Director years of service in current position. This control independent ratio variable is the number of years a center director or a preschool principal has been in his or her current position. The data were provided by the school district's human resources department.

Director total years of leadership and management experience. This control independent ratio variable is the total years of experience a director has as an educational leader or manager. The data were provided by the school district's human resources department.

Education level. Based on the director's background information provided by the district's human resources department, director's education levels were categorized into five levels,

Level 1: Non-degree holders

Level 2: Bachelor's degree holders

Level 3: Bachelor's holders, plus 15 credit hours of early childhood education, business administration or accounting or education administration or related field

Level 4: Graduate degree or higher

Level 5: Doctorate degree holders

Leadership knowledge. According to the district's information provided by the human resources department, leaders' content knowledge in leadership and management was categorized into five levels, used by the district:

Level 1: Director's Academy

Level 2: Bachelor's degree in business administration, or accounting, or education administration or related field

Level 3: Bachelor's degree with a specialization in early childhood education supplemented by 15 credit hours of business administration or accounting, education administration or related field; or bachelor's degree in business administration or accounting, education administration or related field supplemented by 15 credit hours of early childhood education; or graduate degree or higher in education supplemented by 15 credit hours of business administration or accounting or education administration or related field

Level 4: Graduate degree or higher with a specialization in early childhood education (specialization may be completed in either a graduate or bachelor's program) supplemented by 15 credit hours of business administration or accounting, or education administration

Level 5: Graduate degree or higher with a specialization in educational leadership/administration, and/or completed a NJ State principal certification program, with or without any early childhood education credit hours

Subject matter knowledge. Leaders' early childhood education subject matter knowledge, according to the leader information provided by the district, was categorized into five levels based on the leaders' coursework and certification(s) in child development and early childhood education:

Level 1: No training in child development and no course work in early childhood education, regardless of whether the leader has a degree in educational leadership or completed a NJ State principal certification program

Level 2: Child Development Associate (CDA) credential, and/or 15 credit hours early childhood education

Level 3: More than 15 credit hours in early childhood education

Level 4: Bachelor's degree with a specialization in early childhood education, and/or Pre-K-3rdgrade teaching certificate holders

Level 5: Graduate degree or higher with a specialization in early childhood education

Data Collection, Processing, and Analysis

Prior to data collection, the researcher obtained approvals from the TSL survey author, the GFPS district, and Northcentral University's Institutional Review Board (IRB). As a current supervisor of the GFPS Department of Early Childhood Education, the researcher had access to a listing of full-time preschool center directors, preschool

principals, preschool teachers, and preschool master teachers in GFPS, as well as the student data from the TS online GOLD Assessment system.

Permission to use the TSL survey was granted by Dr. Kenneth Leithwood, its author (Appendix B). In addition, approval to conduct this research at GFPS and obtain data on the preschool directors from human resources was secured (Appendix C, D, and E) from the district. The TSL survey and demographic questions were prepared in SurveyMonkey (see Appendix A) for administration to participating teachers. After obtaining NCU IRB's approval, recruitment began.

All classroom teachers received an email at the email address provided in the online GOLD assessment website informing them about the research, asking for their participation, providing a link to the SurveyMonkey location with informed consent and the survey, and providing the researcher's name and contact information for clarifying questions. The link took participants to the informed consent document and then to the survey. The invitation email and the survey instructions clearly indicated that any teachers who did not work in the district during the 2013-2014 school year would be excluded from participation.

The recruiting process of the preschool master teachers was different from the preschool classroom teachers. The researcher emailed preschool master teachers to provide them information about the study and then met with them as a group to provide them the informed consent and the paper surveys. Preschool master teachers used the paper surveys to rate all directors they worked with during the 2013-2014 school year.

The staff members (master teachers and classroom teachers) were given 21 days to complete the survey. A second, third, and fourth email, as a reminder, was sent to all

instructional staff again on the 6th, 12th, and 18th day of the participation period. For sites that had low participation rates in the online survey, the researcher personally visited the site and collected paper surveys. The teachers' and master teachers' paper surveys were manually entered into the database generated from the online survey responses.

Data on preschool directors' background characteristics (control variables) were retrieved by Human Resources and the Department of Early Childhood Education from the district archives. Participants' and leaders' demographic characteristics were described using the mean, median, and standard deviation, as appropriate, to describe the samples. Each preschool site's EL achievement data and student age data were retrieved from the preschool center's online TS GOLD account used by the district. Only students who had scores for both MP3 and MP 4 were used. The data from these three sources were matched by preschool name used by the district.

After collection, all data for the IVs and DVs were inspected and aggregated by preschool site to calculate mean scores. The teacher surveys were aggregated by site to calculate the mean TL scores for each director. Each preschool site's EL GOLD language and literacy mean scores at time 4 were combined to calculate the mean (DV1). The EL GOLD language and literacy mean scores at time 3 were combined to calculate the mean (control variable). Each site's EL GOLD math score at time 4 was DV2 and time 3 was a control variable and each was calculated the same way.

After examining the data, two sites' data were discarded. Both School BB and School EE are special education preschools. Special education preschoolers' academic development and growth process are extremely different from the general student population this research is studying. These special education students would not be

expected to show as much growth over the same period of time as the other students. In addition, these two sites' TS GOLD records showed that student data contained teachers' data entry errors. Another site, School U, also showed data entry errors in student achievement data. The 4-year-olds in School U had no data and its 3-year-olds' mathematics score at time 4 was six points lower than its score at time 3. This was an abnormal situation perhaps due to teacher data entry mistakes. Therefore, the 3-year-old's math scores were excluded from final analysis. As a result, the literacy analyses included 30 sites and the mathematics analyses included 29 schools.

Once data entry and inspection was completed, the researcher examined the relationship between the leader background control variables and DVs using regression analysis. Data from all five leader characteristic variables were plotted into one regression model, predicting literacy data, and then math data in a second analysis. Three leader background variables (leadership knowledge, subject matter knowledge, and total years of experience) were found to be significantly related to Hispanic EL student literacy achievement. They were entered into the planned literacy analyses. Education and total years in current position were not found to be significantly related to the literacy outcome so these two leader characteristics were left out from final literacy analyses.

Another three leader background variables (leadership knowledge, subject matter knowledge, and total years of experience) were found to be significantly related to Hispanic EL student mathematics achievement. They were entered into the planned mathematics analyses. Total years of experience and total years in current position were not found to be significantly related to the mathematics outcome so these two leader characteristics were left out from final mathematics analyses. Descriptive statistics of

the relationships between leader background variables and student achievement from initial analyses are provided in Table 2.

Table 2

Leader Background Variables and Student Achievement at Marking Period 4: Zero-Order Correlations and Significance Levels

Leader Background Variables	Literacy MP4		Mathematics MP4	
	Correlation	Sig.	Correlation	Sig.
Leadership Knowledge	-.33	.036	-.38	.020
SMK	.35	.029	.37	.020
Education	-.19	.150	-.32	.040
Total Yr. Exp.	-.33	.040	.24	.110
Yrs. in Current Position	.25	.100	.09	.330

n=30 (literacy), *n*=29 (mathematics)

The TL data and the GOLD data were evaluated with multiple regression analysis. Multiple linear regression analysis is an appropriate analytic technique for this study, because it can estimate the relationship between an outcome (DV) and a predictor (IV) (Field, 2013). This technique is also very flexible, with the ability to examine multiple predictors at once, allowing ability to add control variables. One can use as many predictors as desired (Field, 2013). A total of eight multiple regression analyses were conducted— two for each of the four IVs (setting directions, developing people, redesigning the organization, and TSL) to predict each of the two DVs, literacy and math achievement, using SPSS, controlling for prior achievement scores, average student age, and director characteristics.

Multiple regression is appropriate only if a set of underlying regression-assumptions are satisfied (Field, 2013). According to Urland and Raines (2008), there are four assumptions of regression: the relationship is linear (the assumption of

linearity), the variance of errors is the same across all levels of the IV (the assumption of homoscedasticity), the errors are independent of each other (the assumption of independence), and the errors are normally distributed (the assumption of normality). The researcher used regression diagnostic measures to test the data and the residuals to ensure that all the above assumptions were satisfied before conducting the final analysis.

To ensure data meet the regression assumptions, residuals were plotted against the two dependent variables—Literacy (L4) and Mathematics (M4) data at Marking Period 4 (MP4). The L4 and M4's residual Q-Q plots and scatterplot analyses revealed data linearity, randomness, and no predictability between the residuals and each variable. The assumption of linearity was met. Although this study plotted linear fit for convenience, precise linear relationships were not expected, nor will the conclusions rely on them. Rather, the linear relationships were used to determine if there is a correlation. Therefore, it was not necessary to perform the Lack of Fit test to determine whether the pattern between the variables is linear.

The assumption of homoscedasticity was tested using a standardized scatterplot (Garson, 2012). Homoscedasticity means the relationship under investigation is the same for the entire range of the dependent variable (Garson, 2012). This assumption has many different names including uniform variance, homoscedasticity, and homogeneity of variance. All these terms signify the pattern of the residuals (or the errors) when plotted against the predicted values. The residuals on the L4's and M4's standardized scatterplot were examined and they appeared to be a patternless cloud of dots. This means that the pattern of the error is consistent across the range of predicted values and the assumption of homoscedasticity was met.

Then, the independence of errors was tested using the Durbin-Watson statistic. This type of systematic error occurs typically when the independent variable is time. Although this study is not using time as independent variable, the Durbin-Watson test was run to check whether the errors produced were uncorrelated and met the assumption of independent errors. The Durbin-Watson values for L4 and M4 were 1.95 and 1.73, respectively. The results signified that the assumption of independence of errors was met (Field, 2009).

Finally, the Shapiro-Wilk test was used to test normality of errors. Regression assumes that variables have normal distributions. Non-normally distributed variables can distort relationships and significance tests. Visual inspection of data plots, skew, kurtosis, and P-P plots was performed to test the assumption of normality. The Kolmogorov-Smirnov tests provided inferential statistics on normality. Descriptive analysis found the L4 and M4 to be normally distributed. The L4 variable had a skewness of -0.50 and Kurtosis of 0.07, and the M4 variable had a skewness of -0.24 and Kurtosis of -0.42. The Shapiro-Wilk test confirmed that the non-normality in L4 (Sig.=0.36) and M4 (Sig.=0.86) was not significant. The variables met the assumption of normality (Field, 2009).

To satisfy regression assumptions, one cannot ignore the problems of outliers. The issue of detecting outliers and satisfying assumptions are interwoven. Osborne and Waters (2002) stated that removal of extreme outliers can reduce the probability of Type I and Type II errors and improve accuracy of estimates. Outliers were identified either through visual inspection of histograms, frequency distributions, or the regression procedure. After all four regression assumptions were satisfied, extreme outliers with

standardized residual greater than 3 or Mahalanobis D^2 with $p <= 0.001$ were not found. Therefore, it was concluded that the literacy and math outcome data were suitable for parametric linear regression tests. All 30 sites' literacy scores and 29 sites' math scores were entered into the final analyses.

Assumptions

This study had two primary assumptions. The GFPS hired qualified trainers from the Creative Curriculum to provide classroom teachers professional development workshops on how to use the TS GOLD assessment system. The district's 16 master teachers also provided preschool teachers on-going site-based support on child assessment, such as anecdote-taking and leveling accuracy. This study assumed that the student achievement data collected by the teachers represented a sufficient level of accuracy.

The second assumption of this study was that the participants would honestly complete the leadership survey. Some factors might have affected a teacher's honesty. A teacher might not have been honest if she or he wanted to make the director look better or worse because of their personal relationship. However, employee-reported survey data have been found to be more reliable than other types (e.g., leader-self-reported or observer) of survey data (Schwarz, 1999; Trochim & Donnelly, 2008; Watkins, 2010). Based on support in the literature, this study assumed that the evaluation of the directors by the staff represents an accurate picture of the director practices.

Limitations

Before the study was conducted, low power based on a small population size was a potential limitation of this study. This study focused on one school district with 32

preschool sites. The ending power of this study might be low due to the relatively small and fixed sample size. A study with low power might not find significant results if the effect size was small (Vo & James, 2010). This study found mixed results. Given that this study used a relatively small and fixed sample size, Type II error is possible.

Another limitation of this study design was the potential confounding problem in correlational studies. Confounding variables are a serious methodological issue in correlational studies (Kovera, 2010). Although this study was designed to statistically control for some variables (three director background characteristics, EL achievement scores at Time 3, an average student age), that does not mean that some other variable did not have an influence. It is possible that an unknown confound produced the correlation, even though the researcher statistically controlled for all identifiable confounding variables (Kovera, 2010).

Delimitations

Preschool center directors' educational leadership and EL achievement have been neglected in early childhood research. This study sought to find solutions for the EL educational disparities in one district. For these reasons, this study was delimited to just one school district, the preschool environment, and EL students only in accordance with the identified problem and purpose. The generalizability of the research results are limited and the results might not generalize to other districts, another educational environments, or different types of students.

Ethical Assurances

Educational leadership doctoral research projects are regulated by the American Psychologist Association's (APA, 2013) Ethical Principles of Psychologists and Code of

Conduct (hereafter referred to as the Ethics Code), the U.S. Department of Health and Human Services' (HHS, 1979) ethical principles and guidelines in the Belmont Report, and the rules of the Institutional Review Boards (IRB) of the student's university. According to the American Psychological Association's Ethics Code (APA, 2013), the applicable principles to this research were beneficence, researcher responsibility, and participants' rights.

According to Ethics Code 3.04, educational researchers should conduct risk assessment throughout the process (APA, 2013). Social scientists have the obligation to positively influence society and to not harm the public (Committee on Science, Engineering, Public Policy, National Academy of Science, National Academy of Engineering, & Institute of Medicine, 2009). Therefore, dissertation research should benefit human life. An educational student researcher should choose a project with "social validity" (Wester, 2011, p. 302) — a study with positive impact on education or on society. The results of this study could ultimately benefit the preschool ELs and the district involved with the educational data collected. The intent of the study was to find strategies that improve EL achievement. The school district may utilize the information regarding the possible link between transformational leadership practices and higher EL achievement. District administrators may plan TL workshops to train preschool directors and improve early childhood workforce quality. The participants were not subjected to any harm at any time during the research process other than potential discomfort in evaluating their leader.

The researcher is a current supervisor of the GFPS Department of Early Childhood Education. The participants were current preschool teachers and master

teachers in the GFPS district's early childhood programs. Conducting research in the public school system in which a researcher is employed made the issues of participant and data confidentiality more complex and important. However, the survey design was carefully planned to protect participants—a secured anonymous online survey. The informed consent document was the basis for assuring confidentiality to the participants and the researcher's assurance that there would be no ramifications should an individual decline to participate. When it was signed, it meant that the participant trusted the researcher. The researcher did not exclude any of the potential participants regarding their age, sexual orientation, religious affiliation, or gender. The survey asked for the participant to rate their center director, however, the name of the director was not mentioned in the survey. While the survey asked for the participant's preschool location, it did not ask for a name. Data were matched using the preschool location, not other identifying information about the directors, teacher participants, or students. A secure plan for collection, transmission, and storage of data, and removing identifiers was adhered to. Participation in the study for teachers was confidential and identities of the preschool directors were kept confidential. By using strategies such as these, the student's research project was compliant with the Common Rule, protect the privacy of subjects and maintain the data confidentiality of research.

Coercion was another concern due to the fact that the researcher is an early childhood supervisor of the participating district. Some teachers or master teachers might have felt compelled to participate. The participation in this survey was voluntary and there were no consequences for choosing not to participate. This information was

emphasized in the invitation email and was repeated in the consent form (See Appendix F).

To protect the dignity, rights, and welfare of human participants, Federal policy requires all research using human subjects to be reviewed and approved by an Institutional Review Board (IRB). This educational dissertation research project involved human participants. So, the student researcher submitted the proposal to Northcentral University's IRB for review and obtained approval prior to undertaking the investigation. The IRB provides specific guidelines to help researchers address potential issues before projects begin. The IRB determined that this research was eligible for expedited review. The researcher provided the proper information to the IRB to allow understanding and review of the research proposal. The GFPS district granted the researcher permission to conduct this survey project (Appendix C, D, and E).

Summary

Hispanic ELs are at the greatest risk of educational failure of any ethnic group. Improving preschool program directors' leadership practices may raise ECE program quality and narrow gaps in young ELs' academic achievement. This quantitative correlational study used Leithwood's TSL model to investigate whether transformational leadership practices by preschool center directors, as perceived by instructional staff, related to young EL's preschool achievement. Data was collected using Leithwood's (2006) self-administered 5-point Likert scale TSL survey instrument and the Teaching Strategies GOLD's 10-level observational assessment measure. The sample size was 30 preschool sites. A total of 130 classroom teachers and 16 master teachers (146 instructional staff) completed 194 TSL surveys to assess site director's leadership

practices. Classroom teachers completed the surveys either through SurveyMonkey or using a paper survey, and master teachers completed a paper survey for each of the site directors they worked with during the school year 2013-2014. SPSS was used to aggregate individual data by school/director and then to calculate means.

The GOLD literacy and mathematics scores, aggregated for 1,390 EL students by preschool site, were plotted against preschool directors' TSL scores. Multiple regression analyses were performed to examine the relationships among these variables and determine whether young EL's achievement (dependent variable) was predicted by director's leadership practices (independent variable), controlling for relevant prior student assessment, average student age, and director characteristics.

Before this study was conducted, there were concerns of two potential limitations. The first was low power. This study focuses on one school district with 30 qualified preschool sites. As a result of the relatively small and fixed sample size, the ending power of this study might be too low to find significant results if the effect size was small. The second limitation was the potential confounding problem in correlational studies. Although the researcher statistically controlled for all identified confounding variables, it was possible that an unknown confound produced the correlation.

The researcher followed the American Psychological Association's regulations and guidelines to ensure the research process was ethical and the participants' rights were protected. The purpose of this study met the APA's beneficence ethics code. The intent of the study was to find strategies that improve EL achievement. The school district may utilize the information regarding the possible link between transformational leadership

practices and higher EL achievement. District administrators may plan TL workshops to train preschool directors and improve early childhood workforce quality.

The researcher is an early childhood supervisor of the participating district, and the participants were preschool teachers and master teachers in the district's early childhood programs. Potential coercion was a relevant issue. However, teacher participation in the study was largely anonymous; identities of the preschool directors and the research results were kept confidential. Since participation in the survey was voluntary and there were no consequences for choosing not to participate, the possibility of coercion was lessened. This information was emphasized in the invitation email and repeated in the consent form.

Chapter 4: Findings

This quantitative correlational study examined whether preschool directors' TL practices, as perceived by instructional staff, related to Hispanic EL's preschool achievement. The study was nonexperimental in design, testing hypotheses about the relationships between the variables. This chapter contains survey results, correlational analysis results for the research questions and hypotheses, a discussion of the research results, and an analysis and interpretation of the results. SPSS version 22 was used to perform all statistical analyses.

Results

Summary of responses to survey. On the 5-point Likert scale, the mean score of transformational practices was 3.52. Based on Leithwood and Jantzi's (2006) comments, a mean of 3.52 reflects low levels of TL practices to assist with implications of the Teaching Strategies by preschool directors, based on teacher ratings.

There are three TL sub-scales and nine domains in the survey. The survey results of these nine domains ranged from 3.29 to 3.77. According to Leithwood and Jantzi (2006), the domains yielding the highest average score are considered those practices with the most evidence to teachers, and the domains yielding the lowest average scores are considered those practices with low levels of evidence to teachers. Among the nine domains, those with the most evidence to teachers were: 1) leaders demonstrating high expectations for their work with students (3.77), 2) helping develop good relationships with parents (3.70), and 3) encouraging collaborative work among staff (3.63). In contrast, those with the least evidence to teachers were: 1) leaders modeling a relatively low level of professional practices (3.29), 2) creating conditions in the school to allow for

wide participation in decisions (3.31), 3) setting short-term goals for literacy and numeracy teaching and learning, and providing teachers individualized support as they implemented the Strategies (both domains averaged 3.39). The results of teachers' survey responses are summarized in Table 3.

Table 3

Descriptive Statistics of Measures of Transformational Leadership: Means and Standard Deviations (SD)

	Mean	*SD*
Measures of Transformational Leadership (LP Mean)	**3.52**	**.50**
Setting Directions (LP1)	***3.55***	***.56***
1. Helping clarify the reasons for implementing the Strategy	3.42	.67
2. Provided useful assistance to you in setting short-term goals for l/n teaching and learning.	3.39	.66
3. Demonstrated high expectations for your work with pupils in l/n.	3.77	.60
Developing People (LP2)	***3.42***	***.50***
4. Given you individual support to help you implement the Strategy	3.39	.59
5. Encouraged you to consider new ideas for your teaching of l/n	3.46	.60
6. Modeled a high level of processional practices in relation to the Strategy.	3.29	.60
Redesigning the Organization (LP3)	***3.59***	***.52***
7. Encouraged collaborative work among staff.	3.63	.64
8. Created conditions in the school which allow for wide participation in decisions about the Strategy.	3.31	.56
9. Helped develop good relationships with parents as part of the school's efforts to respond productively to the Strategy.	3.70	.57

n=30

Relationships among transformational leadership and student achievement. When co-variates were not considered, all TL variables have a positive correlation with student achievement. All of these relationship were significant, except LP2 (developing people) with mathematics achievement. The following correlation coefficients reflect only the relationship between two variables at a time without considering how other variables might influence that relationship.

Table 4

Summary of the Zero-Order Correlations between Transformational Leadership Variables and Student Achievement

TL Variables	Literacy Achievement	Mathematics Achievement
Setting Directions (LP1)	.51**	.51**
Developing People (LP2)	.47**	.30 (*ns*)
Redesigning the Organization (LP3)	.42 *	33*
Transformational Leadership Practices (LP Mean)	.50**	.41*

* $p < .05$, ** $p < .01$

Relationships among transformational leadership and student achievement, when student prior achievement, average student age, and director background characteristics were controlled. The research results of this study were mixed when controlling for prior achievement, average student age, and director background characteristics. The three TL subscales and the mean score of transformational leadership practices were found to be positively correlated to EL students' literacy and math achievement. However, in conducting regression analyses with relevant control variables, only the first subscale (Setting direction, LP1), the second subscale (developing people, LP2), and overall transformational leadership practices (LP Mean) yielded

statistically significant results for math achievement. The rest of the predictions were not significant, although positive.

Research question 1. This research question was to determine whether there was a relationship between a preschool site director's TL practice of setting directions (LP1) and the preschool Hispanic ELs literacy achievement, when controlling for prior achievement, average student age, and director background characteristics. The data analysis found the relationship to be positive but statistically non-significant, even though the overall model was significant (R^2 =.79, F (6, 23) = 14.06, p<0.01*)*. The finding did not reject the null hypothesis 1 and therefore, it cannot support the alternative hypothesis for H1. The output of the regression analysis for the first research question is presented in Table 5.

Table 5

Regression Analysis of Setting Directions (LP1), Controlling for Literacy Scores at Marking Period 3 (L3), Subject Matter Knowledge (SMK), Leadership Knowledge, Total Years of Experience, and Average Student Age

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value
Setting Directions (LP1)	1.68	4.91	.04	.735
L3	.86	.14	.81	.000
SMK	.37	1.56	.03	.815
Leadership Knowledge	-.34	1.58	-.02	.832
Total Yr. Exp.	.32	.31	.12	.312
Average Age	-.44	16.71	-.00	.979

n=30

Research question 2. This research question was to determine whether there was a relationship between a preschool site director's TL practice of developing people (LP2) and the preschool Hispanic ELs literacy achievement, when controlling for prior achievement, average student age, and director background characteristics. The data analysis found the relationship to be positive but statistically non-significant, even though the overall model was significant (R^2 =.80, F (6, 23) = 15.64, $p<0.01$). The finding did not reject the null hypothesis 2 and therefore, it cannot support the alternative hypothesis for H2. The output of the regression analysis for the second research question is presented in Table 6.

Table 6

Regression Analysis of Developing People (LP2), Controlling for Literacy Scores at Marking Period 3 (L3), Subject Matter Knowledge (SMK), Leadership Knowledge, Total Years of Experience, and Average Student Age

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value
Developing People (LP2)	6.81	4.64	.16	.156
L3	.83	.13	.78	.000
SMK	.61	1.49	.04	.684
Leadership Knowledge	-.36	1.47	-.03	.811
Total Yr. Exp.	.31	.30	.11	.311
Average Age	-5.28	15.91	-.04	.743

n=30

Research question 3. This research question was to determine whether there was a relationship between a preschool site director's TL practice of redesigning the organization (LP3) and the preschool Hispanic ELs literacy achievement, when

controlling for prior achievement, average student age, and director background characteristics. The data analysis found the relationship to be positive but statistically non-significant, even though the overall model was significant (R^2 =.79, F (6, 23) = 14.01, *p<0.01).* The finding did not reject the null hypothesis 3 and therefore, it cannot support the alternative hypothesis for H3. The output of the regression analysis for the third research question is presented in Table 7.

Table 7

Regression Analysis of Redesigning the Organization (LP3), Controlling for Literacy Scores at Marking Period 3 (L3), Subject Matter Knowledge (SMK), Leadership Knowledge, Total Years of Experience, and Average Student Age

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value
Redesigning the Organization (LP3)	1.14	4.90	.03	.818
L3	.87	.13	.82	.000
SMK	.35	1.57	.03	.827
Leadership Knowledge	-.38	1.59	-.03	.815
Total Yr. Exp.	.31	.31	.12	.327
Average Age	.30	16.51	-.00	.986

n=30

Research question 4. This research question was to determine whether there was a relationship between a preschool site director's transformational practices (LP Mean) and the preschool Hispanic ELs literacy achievement, when controlling for prior achievement, average student age, and director background characteristics. The data analysis found the relationship to be positive but statistically non-significant, even though the overall model was significant (R^2 =.79, F (6, 23) =14.378, *p<0.01).* The finding did

not reject the null hypothesis 4 and therefore, it cannot support the alternative hypothesis for H4. The output of the regression analysis for the fourth research question is presented in Table 8.

Table 8

Regression Analysis of Transformational Practices (LP Mean), Controlling for Literacy Scores at Marking Period 3 (L3), Subject Matter Knowledge (SMK), Leadership Knowledge, Total Years of Experience, and Average Student Age

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value
Transformational Leadership Practices (LP Mean)	3.78	5.19	.09	.474
L3	.85	.13	.80	.000
SMK	.49	1.55	.04	.757
Leadership Knowledge	-.25	1.55	-.02	.875
Total Yr. Exp.	.31	.31	.11	.326
Average Age	-2.32	16.55	-.02	.890

n=30

Research question 5. This research question was to determine whether there was a relationship between a preschool site director's TL practice of setting directions (LP1) and the preschool Hispanic ELs math achievement, when controlling for prior achievement, average student age, and director background characteristics. The data analysis found the relationship to be both positive and statistically significant, with a significant overall model (R^2 =.70, F (6, 22) = 8.53, p<0.01). The model indicates higher levels of TL practice of setting directions (LP1) predicted higher student math achievement when controlling for additional variables. The finding rejected the null

hypothesis 5 and therefore, it supported the alternative hypothesis for H5. The output of the regression analysis for the fifth research question is presented in Table 9.

Table 9

Regression Analysis of Setting Directions (LP1), Controlling for Mathematics Scores at Marking Period 3 (M3), Subject Matter Knowledge (SMK), Leadership Knowledge, Education, and Average Student Age

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value
Setting Directions (LP1)	9.59	4.34	.34	.038
M3	.60	.15	.61	.001
SMK	2.28	1.67	.23	.186
Leadership Knowledge	3.24	2.86	-.02	.875
Education	.31	.31	.32	.269
Average Age	-11.49	13.96	-.12	.419

n=29

Research question 6. This research question was to determine whether there was a relationship between a preschool site director's TL practice of developing people (LP2) and the preschool Hispanic ELs math achievement, when controlling for prior achievement, average student age, and director background characteristics. The data analysis found the relationship to be both positive and statistically significant, with a significant overall model (R^2 =.70, F (6, 23), $p<0.01$). The model indicates higher levels of TL practice of developing people (LP2) predicted higher student math achievement. The finding rejected the null hypothesis 6 and therefore, it supported the alternative hypothesis for H6. The output of the regression analysis for the sixth research question is presented in Table 10.

Table 10

Regression Analysis of Developing People (LP2), Controlling for Mathematics Scores at Marking Period 3 (M3), Subject Matter Knowledge (SMK), Leadership Knowledge, Education, and Average Student Age

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value
Developing People (LP2)	9.65	4.32	.31	.036
M3	.71	.15	.71	.000
SMK	1.91	1.62	.19	.251
Leadership Knowledge	2.58	2.74	.26	.356
Education	-4.77	3.47	-.37	.183
Average Age	-12.20	14.05	-.12	.395

n=29

It is an interesting phenomenon that Developing People (LP2) was not significant in the preliminary analysis (Table 3: *Summary of Zero-Order Correlations between Transformational Leadership Variables and Student Achievement*), but it was significant in the final analysis (Table 9). This is a sign of the existence of suppression. Suppressor effects occur when a predictor, such as Developing People, has a significant effect but only when other variables are held constant (Field, 2009). One of the control variables (M3, SMK, Leadership Knowledge, Total Years of Experience, and Average Student Age) suppressed the error variance in Developing People (Field, 2009).

Research question 7. This research question was to determine whether there was a relationship between a preschool site director's TL practice of redesigning the organization (LP3) and the preschool Hispanic ELs math achievement, when controlling for prior achievement, average student age, and director background characteristics. The

data analysis illustrates the relationship to be positive but statistically non-significant, even though the overall model was significant (R^2 =.65, F (6, 22) = 6.93, $p<0.01$). The finding did not reject the null hypothesis 7 and therefore, it cannot support the alternative hypothesis for H7. The output of the regression analysis for the seventh research question is presented in Table 11.

Table 11

Regression Analysis of Redesigning the Organization (LP3), Controlling for Mathematics Scores at Marking Period 3 (M3), Subject Matter Knowledge (SMK), Leadership Knowledge, Education, and Average Student Age.

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value
Redesigning the Organization (LP3)	5.33	4.54	.18	.252
M3	.68	.16	.68	.000
SMK	1.54	1.74	.15	.384
Leadership Knowledge	1.67	2.93	.17	.575
Education	-3.39	3.64	-.27	.363
Average Age	-5.38	14.77	-.06	.719

n=29

Research question 8. This research question was to determine whether there was a relationship between a preschool site director's transformational leadership practices (LP Mean) and the preschool Hispanic ELs math achievement, when controlling for prior achievement, average student age, and director background characteristics. The data analysis found the relationship to be positive and statistically significant at the p< .10 level, with a significant overall model (R^2 =.69, F (6, 22) = 8.11, $p< .01$). The model

indicates higher levels of transformational leadership practices (LP Mean) predicted higher student math achievement. The finding rejected the null hypothesis 8 and therefore, it supported the alternative hypothesis for H8. The output of the regression analysis for the eighth research question is presented in Table 12.

Table 12

Regression Analysis of Transformational Practices (LP Mean), Controlling for Mathematics Scores at Marking Period 3 (M3), Subject Matter Knowledge (SMK), Leadership Knowledge, Education, and Average Student Age

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value
Transformational Leadership Practices (LP Mean)	9.31	4.66	.29	.058
M3	.66	.15	.662	.000
SMK	2.01	1.67	.208	.242
Leadership Knowledge	2.73	2.85	.27	.348
Education	-4.605	3.54	-.36	.208
Average Age	-11.04	14.33	-.11	.449

n=29

In summary, there were four predictors, two outcome variables, and five control variables assessed in eight regression analyses. The results of these eight regression analyses are summarized in Table 13 for literacy and Table 14 for mathematics.

Table 13

Summary of Literacy Regression Analyses Results

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value

Setting Directions (LP1)	1.68	4.91	.04	.735
Developing People (LP2)	6.81	4.64	.16	.156
Redesigning the Organization (LP3)	1.14	4.90	.03	.818
Transformational Practices (LP Mean)	3.78	5.19	.09	.474

n=30

Table 14

Summary of Mathematics Regression Analyses Results

Predictor	Slope (*b*)	Standard error (*se*)	Standardized Regression (β)	*p* value
Setting Directions (LP1)	9.59	4.33	.34	.038
Developing People (LP2)	9.65	4.32	.31	.036
Redesigning the Organization (LP3)	5.33	4.54	.18	.252
Transformational Practices (LP Mean)	9.31	4.66	.30	.058

n= 29

Evaluation of Findings

This section evaluates the key findings, comparing and contrasting them with current research. Multiple regression analyses were used to explore the relationships among Hispanic preschool ELs' academic achievement and center director's transformational leadership practices, controlling for covariates of student prior achievement, average student age, and director background characteristics (total years of leadership and management experience, leadership knowledge, and subject matter

knowledge for literacy and education level, leadership knowledge, and subject matter knowledge for mathematics).

Transformational practices and student achievement. Regression analyses produced eight predictor equations for Setting Directions (LP1), Developing People (LP2), Redesigning the Organization (LP3), and Transformational Leadership Practices (LP Mean)—4 for preschool EL student literacy scores and 4 for mathematics scores at marking period 4. When co-variates were not considered, Transformational Leadership Practices (LP Mean) were significantly related to both student literacy and mathematics achievement. In preliminary literacy analysis, all three TL sub-scales were significantly related to student literacy scores. In preliminary mathematics analysis, setting directions (LP1) and redesigning the organizations (LP3) were significantly related to student mathematics scores. These findings are consistent with literature that reported positive correlation between transformational practices and student achievement (Bird & Wang, 2011; Chin, 2007; Day et al., 2009; Heck & Moriyama, 2010; Leithwood & Jantizi, 2005; Marzano, Waters, & McNulty, 2005; Moolenaar, Daly, & Sleegers, 2010; Muijs, 2011; Nettles & Herrington, 2007; Robinson et al., 2008; Sagnak, 2012; Sun & Leithwood, 2012; Waters, Marzano, & McNulty, 2003). In preliminary analyses, Setting Directions had the strongest correlation of the three TL subscales with student achievement in literacy and mathematics. However, these relationships were influenced by other variables.

In final analyses, control variables were added to the regression models. When co-variates were controlled for, the TL practice of Setting Directions (LP1), Developing People (LP2), and the combined Transformational Practices (LP Mean) were found to

have a small positive and significant correlation with student mathematics outcomes. The relationship between Redesigning the Organization (LP3) and student mathematics outcomes was found to be statistically non-significant but positive. In addition, none of these transformational predictors had a significant relationship with student literacy outcomes.

A .10 significance level was used as the cut off for the predictive value of Transformational Practices (LP Mean) for student mathematics outcomes, as the *p* value was 0.058. In practice, the most commonly used values for alpha are 0.01, 0.05, and 0.10, representing a 1%, 5%, and 10% chance of a Type I error occurring (Noymer, 2008). Noymer explained that the custom of using 0.05 as the level of alpha is not based on any statistical science theory or criteria other than conventional practice that has become the accepted standard. He actually suggested that it is more reasonable choosing 0.10 for alpha in a smaller data set since standard errors will be larger in smaller data sets. For larger data sets, Noymer recommends using 0.01 or 0.001 alpha values. This study's sample size is small. Therefore, it is reasonable to use 0.10 as the alpha value.

The small positive significant relationship between Transformational Practices (LP Mean) and student mathematics achievement found in this study (using a significance level of α=.10) adds evidence into a rich portfolio of transformational leadership research (Abu-Tineh, Khasawneh & Omary, 2009; Eyal & Roth, 2011; Leithwood & Jantizi, 2005, 2006; Leithwood & Sun, 2012; Muijs, 2011; Nguni, Sleegers & Denessen, 2006; Ross & Gray, 2006; Valentine & Prater, 2011). There is evidence in the literature that transformational leadership contributes to staff capacity building and to teachers' commitment, motivation, and job satisfaction (Eyal & Roth, 2011; Muijs,

2011), positively impacting school effectiveness perceived by teachers and student achievement (Bird & Wang, 2011; Chin, 2007; Day et al., 2009; Heck & Moriyama, 2010; Leithwood & Jantizi, 2005; Marzano, Waters, & McNulty, 2005; Moolenaar, Daly, & Sleegers, 2010; Muijs, 2011; Nettles & Herrington, 2007; Robinson et al., 2008; Sagnak, 2012; Sun & Leithwood, 2012; Waters, Marzano, & McNulty, 2003).

The finding of a small positive significant relationship between the TL practice of Setting Directions (LP1) and student achievement is consistent with current research (Bird & Wang, 2011; Heck & Moriyama, 2010; Khatri, Templer, & Budhwar, 2012; Leithwood et al. 2004). Bird and Wang (2011) found that school principals who set directions and lead with a clear vision were more likely to have engaged staff and improved school conditions. Khatri, Templer, and Budhwar's (2012) research also found similar results. Heck and Moriyama (2011) focused on direct and indirect relationships between leadership practices and students' math and reading outcomes and found that improvement-focused school leadership directly affected students' learning outcomes.

The finding of a small positive significant relationship between the TL practice of Developing People (LP2) and student achievement is also consistent with current research (Hollingworth, 2012; Johnson, 1994; Leithwood & Jantizi, 2005, 2006; Leithwood & Sun, 2012; Muijs, 2011; Munjuri, 2011; Sagnak, 2012). Both Hollingworth's (2012) and Munjuri's (2011) research confirmed that instructional staff's performance is increased by professional development, training, and employee empowerment.

However, the non-significant relationship found between the TL practice of Redesigning the Organization (LP3) and student mathematics achievement is inconsistent

with current research (Leithwood & Jantzi, 2005; Sagnak, 2012). Furthermore, the findings of non-significant relationships between student literacy outcomes and the four transformational leadership predictors contradict the findings by other researchers (Bird & Wang, 2011; Eyal & Roth, 2011; Muijs, 2011; Sagnak, 2012).

Overall, this study's findings were very similar to Leithwood and Jantzi's (2006) research results: student achievement results were not significantly related to any of the TL variables in literacy scores but were related weakly to TL practices in the numeracy scores. Leithwood and Jantzi did not comment on why there may have been a relationship with numeracy but not literacy. As this study found similar results, it is possible that student mathematics achievement may be more responsive to TL than literacy. On the other hand, other literature reveals that the research on transformational leadership has yielded inconsistent and mixed results related to student achievement, which could suggest there is not a meaningful difference between mathematics and literacy achievement in this context. This is the first early childhood transformational leadership research conducted to address Hispanic ELs' academic disparities. The study's significant positive findings for prediction of young EL's mathematics achievement by leader's transformational practices extended the knowledge in the field of early childhood education.

Leader background characteristics and student achievement. In initial literacy analysis, leader' total years of experience, leadership knowledge, and subject matter knowledge were found to have significant relationship with student literacy achievement and so were maintained in the final literacy analyses as control variable. In initial mathematics analysis, leader's education level, leadership knowledge, and subject

matter knowledge were found to have significant relationship with student mathematics achievement and so were maintained in the final mathematic analyses as control variable. However, none of these background variables were found to have significant relationship with student achievement in the final regression analyses. Potentially, the contradicting results between initial and final analyses could have been caused by collinearity and/or multicollinearity. Collinearity describes a situation in linear regression analysis in which two independent variables have a non-zero correlation (Enders, 2008; Tacq, 2004; Vogt, 2005). Multicollinearity describes a situation in which multiple independent variables are associated with each other (Enders, 2008; Tacq, 2004; Vogt, 2005). The problems of collinearity and multicollinearity are that they increase standard errors and widen confidence intervals; and thus, they affect significance testing and lower the possible prediction of the outcome (Cohen, Cohen, West & Aiken, 2003; Tacq, 2004). The result will likely be that one or more variables fail to achieve statistical significance (Enders, 2008).

To test whether the leader background variables in this study significantly correlated with each other, two correlation matrices were generated using SPSS. The results of these analyses are shown in Table 15 and Table 16.

Table 15

Literacy Analysis: Leader Variables Correlation Matrix

	Leadership	SMK	Total Experience
Leadership			
SMK	-.19		
Total Experience	.16	.36*	

* $p = .05$

Table 16

Mathematics Analysis: Leader Variables Correlation Matrix

	Leadership	SMK	Education
Leadership			
SMK	-.19		
Education	.84**	.12	

** $p = .01$

The results indicated that subject matter knowledge significantly correlated to total years of experience; and therefore, collinearity existed in the literacy regression model (Table 15). The results also indicated that leadership knowledge significantly correlated to education level; and therefore, collinearity existed in the mathematics regression model (Table 16). According to Field (2009), the consequences of having two variables with correlation (collinearity) are not as serious as having multiple variables with correlations (multicollinearity). However, the problem is very serious in small sample size data sets (Field, 2009). This study used only a 32-leader sample. It is likely that the collinearity among the leadership variables affected these variables' ability to achieve statistical significance in the final analyses. The evaluations of these leader background variables are discussed below:

Leadership knowledge. In the initial analyses, leadership knowledge was found to be significantly and negatively related to both literacy and mathematics outcomes. When leadership knowledge went up, student achievement went down. In the final analyses, the relationship between leadership knowledge and student achievement was not found to be significant for literacy nor mathematics.

These findings contradict most leadership research results. Current literature indicates that deeper knowledge of the leadership discipline has positive effects on school performance (Behbahani, 2011; Corcoran, Schwartz, and Weinstein's, 2012); Dunlop, 2008; Ebbeck & Waniganayake, 2003; Ho & Chen, 2013; Muijs, 2004; Rodd, 2013; Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2004; Whalley & Allen, 2011). These results, however, support Clark, Martorell, and Rockoff's (2009) research findings, which found that the relationship between formal leadership training and school achievement was mixed. Clark et al. found evidence that when new graduates from NYC Aspiring Principal Program (APP) entered schools as principals, relative school performance did not improve and in some cases even declined. However, experienced principals were able to improve their school performance after receiving further formal training in leadership (Clark et al., 2009), which suggested that formal leadership education enhanced leader performance.

Clark et al. (2009) expressed concern about the challenges of determining the relationship between formal leadership education and school performance. As Clark et al. pointed out, the APP principals later were able to improve school performance after about three years. In addition, the less able principals might be more likely to be terminated early in their career and the more able principals might be more likely to be assigned to difficult schools. These factors make improvement harder to measure.

Subject matter knowledge. Leader subject matter knowledge was found to be significantly and positively related to both literacy and mathematics outcomes in the initial analyses. These findings are consistent with current research (Coburn, 2005; McGhee & Lew, 2007; Nelson, Stimpson, & Jordan, 2007; Spillance, 2005). For

example, Coburn's (2005) reading study found that leader subject matter knowledge influenced leadership practices, teachers' subject knowledge, and student learning. McGhee and Lew's (2007) writing study concluded that principals' subject matter knowledge had direct impacts on teacher instructions and student performance. In addition, Overholt and Szabocsik's (2013) qualitative literacy study reached a similar conclusion: the principals' subject matter knowledge affected leadership effectiveness and student literacy progress in their schools.

In spite of this, leader subject matter knowledge was not found to be significantly related to student achievement for literacy nor mathematics in the final analyses. These results contradict current research findings.

Education level. In the initial analyses, the relationships between this variable and student achievement were mixed—the relationship was found to be non-significant in literacy, but it was negative and significant in mathematics. In the final analyses, leader educational level was found to have no significant relationship with student achievement, neither in literacy nor in mathematics.

The mixed results found in this study are consistent with current research. The negative relationship found between leader's education level and student achievement in this study's initial mathematics analyses was also found in other studies (Ballou & Podgursky, 1993; Eberts & Stone, 1988; Murnane, 1981). Both Ballou and Podgursky's (1993) and Eberts and Stone's (1988) research concluded that leader education level and school performance were negatively correlated. The higher the education a leader has, the lower the school performance is. Eberts and Stone (1988) suggested that perhaps these leaders were appointed to more challenging schools. But Murnane (1981)

interpreted this result as due to school personnel obtaining higher levels of education to advance their salary instead of to improve their skills. Currently, there is no agreement in the literature on this topic.

In the literature, the research findings on this topic are inconsistent and contradicting each other. Piaw, Hee, Ismail, and Ying (2014) found that leader education level was one of the major factors that influenced leadership skills and school performance; but many researchers found non-significant results (Ballou & Podgursky, 1993; Eberts & Stone, 1988; Clark, Martorell, & Rockoff, 2009). The non-significant findings in the initial literacy analyses as well as the final literacy and mathematics analyses in this study are consistent with Ballou and Podgursky (1993), Eberts and Stone (1988), Clark, Martorell, and Rockoff's (2009) research findings. These researchers concluded that there was no relationship between leader education level and school performance.

Total years of leadership and management experience. In the initial analyses, leaders' total years of leadership and management experience was found to be significantly and negatively related to student literacy outcomes, but the relationship was non-significant in mathematics. In the final literacy and mathematics analyses, the results showed that there was no significant relationship between leader total years of experience and student achievement.

The findings of a negative or no relationship between leader total years of experience and student achievement contradict the positive findings in current literature (Clark, Martorell, & Rockoff, 2010; Branch, Hanushek, & Rivkin, 2013; Piaw, Hee, Ismail, & Ying, 2014). Piaw, Hee, Ismail, and Ying (2014) found that experienced

leaders had stronger leadership skills and that leader's total years of experience positively correlated with student achievement.

However, these findings are consistent with the research that found mixed or negative results. Currently, literature provides mixed evidence on the relationship between leader total years of experience and student achievement (Branch, Hanushek, & Rivkin, 2013; Chingos & Peterson, 2011; Dhuey & Smith, 2014). Chingos and Peterson (2011) found that leader total years of experience had no significant influence on student achievement and Dhuey and Smith (2014) found that leader total years of experience negatively related to student's math and reading achievement. Dhuey and Smith explained that new principals are more likely than seasoned principals to change the school policies—such as teacher incentives, curriculum, and others—which boost student performance. This might be the reason for the negative relations found between leader total years of experience and student achievement.

Years of service in current position. In both initial and final analyses, the leader's number of years of service in current position was found to be unrelated to student achievement. This result contradicts some existing literature. Most studies found that leader turnover hurts student achievement and the number of years a school leader is in the current position is positively correlated with student achievement (Béteille, Kalogrides & Loeb, 2012; Clark, Martorell, & Rockoff, 2010; Coelli & Green, 2012; Miller, 2013). However, there are exceptions and disagreement in the literature. Corcoran, Schwartz, and Weinstein (2009) argued that new leaders provide faster impact on improving student performance than experienced leaders; therefore, the number of

years a leader is in the current position may not be positively linked to student achievement.

Summary

Overall, the preschool teachers in this district perceived that the center directors were implementing low levels of transformational practices to assist them with implementation of the Teaching Strategies. According to the regression analyses, Setting Directions (LP1), Developing People (LP2), and Transformational Practices (LP Mean) significantly predicted student mathematics achievement, when controlling for student prior mathematics achievement, average student age, and leader background characteristics—total years of leadership experience, leadership knowledge, and subject matter knowledge. These findings are consistent with previous findings in leadership literature that found a positive relationship between transformational leadership and student outcomes (Bird & Wang, 2011; Heck & Moriyama, 2010; Sun & Leithwood, 2012). As a predictor for student's mathematics achievement, the predictive strength of Setting directions (LP1) was exactly the same as Developing People (LP2). However, the third TL subscale—Redesigning the Organization (LP3) was not found to be significantly related to student mathematics achievement. This finding is not consistent with the findings by other researchers (Leithwood & Jantzi, 2005; Sagnak, 2012).

Regression analyses showed that transformational leadership had a significant and positive relationship with Hispanic EL mathematics achievement, but not literacy. This phenomenon is similar to Leithwood and Jantzi's finding in 2006. Leithwood and Jantzi (2006) also found positive and significant relationship between transformational practices

and student mathematics achievement. But the significant relationship was not found in student literacy outcomes.

In the initial correlation analyses, leadership knowledge was found to have a negative and significant relationship with student outcomes, both literacy and mathematics. However, subject matter knowledge was found to be positively and significantly related to student outcomes, both literacy and mathematics). Education level was found to be negatively and significantly related to student mathematics outcomes, but have no significant relationship with literacy. Years of experience was found to be negatively and significantly related to student literacy outcomes, but not to mathematics. Years in current position was found to have no significant relationship with student outcomes.

In final regression analyses, no significant relationships were found between any leader background control variables and student outcomes. These non-significant findings contradict the significant findings in leadership research (Behbahani, 2011; Clark, Martorell, & Rockoff, 2010; Coburn, 2005; Coelli & Green, 2012; Eberts & Stone, 1988; McGhee & Loew, 2007; Dunlop, 2008; Miller, 2013; Piawa, Hee, Ismail, & Ying, 2013). However, the non-significant findings of this study are consistent with the many mixed findings in current research (Ballou & Podgursky, 1993; Clark, Martorell, & Rockoff, 2010; Corcoran, Schwartz, and Weinstein's, 2012; Dhuey & Smith, 2014; Eberts & Stone, 1988). Additional analyses suggested that collinearity and multicollinearity may be responsible for the insignificant results of the leader background variables in the regression analyses. It is possible that the non-significant findings on the leader background variables in this study and other research could be a result of the

collinearly effect. In addition, other unknown factors, such as the less-able-leaders might be more likely to be terminated early in their career, may complicate the process of determining the relationship between leader background variables and student achievement and contribute to the mixed evidence in current literature.

In summary, this is the first transformational leadership research conducted in early childhood settings to address the Hispanic ELs academic disparities. The study's significant positive predictions of EL's mathematics achievement based on leader's transformational practices extended the knowledge and added new evidence into current bodies of leadership research and English Learners research in the field of early childhood education.

Chapter 5: Implications, Recommendations, and Conclusions

This research sought solutions for Hispanic EL achievement disparities. Hispanic ELs in America are at high risk of educational failure (Galino, 2010; Hemphill & Vaneman, 2011; Hernandez, 2012; Kober, Chudowsky, & Chudowsky, 2010). The impacts of failing Hispanic ELs are great. The dropout rate of Hispanic students is higher than 20%, comparing to less than 9% for White students (U.S. Census Bureau, 2012c). Most of these ELs who dropout and their children are living in poverty because they earn at least $10,000 less annually than high school graduates (U. S. Census Bureau, 2012b). In addition, 75% of US crimes in 2011 were committed by high school dropouts (Child Trends, 2013). When Hispanic ELs fail in American schools, both students and society suffer (Groot & Van Den Brink, 2010; Lockner & Moretti, 2004).

Furthermore, the growing number of young Hispanic ELs is changing the early childhood education landscape. In 2008, one-fourth of the babies born in the U. S. had Spanish as their home language (Martin, Hamilton, Sutton, & Ventura, 2010). Hispanic youth is predicted to compose about 35% of America's total youth population by 2050 (Passel & Cohn, 2008; U.S. Census, 2012e). Finding strategies to improve this growing population's academic achievement is an urgent needed for the future of these children and society (Barnett, 2008; Camilli, Vargas, Ryan, & Barnett, 2010; Espinosa, 2010, 2013; Groot & Van Den Brink, 2010).

Academic achievement gaps between Hispanic ELs and non-ELs begin in early childhood (Crosnoe, 2007; Espinosa & Zepeda, 2009; Farkas, 2003; Kieffer, 2008). These gaps span all educational levels, affecting individuals and the generations to come (Rearson & Galino, 2009). Early childhood research has found that only high quality

preschools can promote young children's school readiness and booster student achievement, and low quality preschools can harm children (Camilli, Vargas, Ryan, & Barnett, 2010; Shager et al., 2013; Wong, Cook, Barnett & Kwanghee, 2008). The 21st century is a critical time of change for ECE leadership (Thornton, 2010). The preschool center director is responsible for creating the culture and school conditions for quality education and is accountable to the community and funding agencies. The quality of EC leadership is vital for improving preschool program quality and changing the preschool to become more linguistically and culturally responsive to its changing population (Hilliard & Jackson, 2011; Ho, 2011; Ho & Chen, 2013; Mathers, Singler, & Karemaker, 2012; Stipek & Ogana, 2000). Further research on EC leadership may help improve preschool effectiveness for young Hispanic ELs.

Literature suggests that transformational leadership practices may be a strategy for improving EL's academic achievement and should be further explored (Alanís & Rodríguez, 2008; Espinosa, 2010, 2013; Good, Masewicz, & Vogel, 2010; Hunt, 2011; Kose, 2011; Peisner-Feinberg & Yazejian, 2010; Shield, 2004, 2010). This study addressed two problems—a practical educational problem of Hispanic EL academic achievement disparities and a TL theoretical problem of inconsistency in predicting student achievement. The purpose of this study was to investigate whether preschool director's transformational practices, as perceived by instructional staff, related to the young EL's preschool achievement. A quantitative correlational research method was employed for this investigation.

Four primary methodological limitations of the research warrant caution when drawing conclusions in the interpretation of results—preschool sample size, teacher

sample size per site, correlational research confounds, and the time periods used to measure student achievement. The first limitation of this study is potential low power. This study focused on one school district with 30 preschool sites which were appropriate for inclusion. As a result of the relatively small and fixed sample size, the ending power of this study was too low to detect small or small to medium effect sizes if they existed among the variables.

In addition, this study used varying sample sizes for teachers and students per site. While the overall participation rate was 57% and the survey collection rate was 64%, each site's teacher sample size varied from 3 to 12 participants. Some school sites have only 2 classrooms, with a maximum 4 possible participants (two teachers and two master teachers). Even though these smaller sites yielded a 75% response rate (3 out of 4 possible participants), varying sample sizes at each site and small sample sizes at some sites may have caused a limitation related to internal consistency—reliability (Litwin, 1995). Reliability refers to accuracy and precision of a measurement instrument or scale (Casby, 2011; Javali, Gudaganavar, & Shodan, 2011). In this situation, the varying teacher sample size per site may affect the accuracy of the measurement of TL practices by the director; and the varying student sample size per site may affect the accuracy of measurement of student performance. More participants (teachers or students) would contribute to better reliability for that site; with fewer participants (teachers or students), there is a greater chance for bias in measurement. For some sites, reliability, particularly in the measurement of TL practices, may be low, given a small number of teacher participants.

Another limitation of this study was the potential confounding problem. This often is a serious methodological issue in correlational studies (Kovera, 2010). While the researcher statistically controlled for all identifiable confounding variables, it is still possible that an unknown confound produced the significant correlation between transformational practices and student mathematics outcomes (Kovera, 2010).

Finally, a methodological limitation of this study was the time period used to measure student achievement, marking period 3 (MP3) and marking period 4 (MP4). The achievement scores from MP3 were used because GFPS does not collect 3-yr-old students' literacy achievement scores until MP3. In other words, MP3 scores were the earliest available prior assessments for all participants. The time between MP3 and MP4 was only 10 weeks apart. Minimal student achievement change would be expected to occur in such a short window. Additional significant results may have been found with a longer window for student achievement to occur.

The primary ethical dimensions of this study were protecting participants and data confidentiality. This research was conducted in a public school district in which the researcher is employed, and the participants were current preschool teachers and master teachers in the district's early childhood programs. This situation made the issues of protecting participants and data confidentiality more complex and important. However, the survey design and informed consent form were carefully planned and protected participants. The security plan for data collection, data transmission, data storage, and the removal of identifiers was adhered to. Therefore, data confidentiality and director's identification were protected.

This study addressed a practical educational problem of Hispanic EL academic achievement disparities and a TL theoretical problem of inconsistency in predicting student achievement. The results showed a positive significant relationship between student mathematics achievement and setting directions, developing people, and combined transformational practices. The findings are consistent with leadership literature that found a positive relationship between transformational leadership and student outcomes. This study suggests a strategy for EL disparities, supports transformational theory, and extends TL literature to specifically include early childhood education and English Learners.

The following chapter will discuss the implications and conclusions of this study, providing final thoughts and recommendations, and offering suggestions for further study.

Implications

There were eight research questions and associated hypotheses in this study. This section will discuss the generalization of the research and their implications, as well as the impact of leader background characteristics on the study.

Generalization of the results. The influence of preschool center directors' educational leadership and EL achievement has been neglected in prior early childhood research. This study sought to evaluate a potential strategy for addressing the EL educational disparities in an urban district located in a low-income area, with approximately 30,000 students from pre-K to 12th grade. Approximately 63.3% of the district's student population is Latino, 26.5% black, 5.8% White, 4% Asian and 0.4% others (NJ DOE, 2014). Almost 86% of the students are qualified for free lunch (NJ

DOE, 2014). At the preschool level, all children are qualified for free breakfast, lunch, and snack. This context is very similar to many urban cities in America. However, this study was delimited to just this urban school district, the preschool environment, and EL students only, in accordance with the identified problem and purpose. The generalizability of the research results is limited and the results might not generalize to other districts, another educational environments, or different types of students.

Implications of the hypothesis testing associated with research questions 1-4. Analyses showed positive but non-significant relationships between transformational practices and student literacy achievement. Although overall models were significant, the study results did not support the relationships between transformational leadership practices and student outcomes that were previously discovered in other research (Bird & Wang, 2011; Chin, 2007; Day et al., 2009; Heck & Moriyama, 2010; Leithwood & Jantzi, 2005; Marzano, Waters, & McNulty, 2005; Moolenaar, Daly, & Sleegers, 2010; Muijs, 2011; Nettles & Herrington, 2007; Robinson et al., 2008; Sagnak, 2012; Sun & Leithwood, 2012; Waters, Marzano, & McNulty, 2003).

However, the student's achievement scores collected in this study were from marking period 3 (L3) and marking period 4 (L4), a 10-week time frame. The variance in student literacy achievement in marking period 4 was largely explained by L3. This implies that a longer window of time is needed for student achievement to change.

In addition, this study focused on one school district with 30 preschool sites. The correlations between leadership practices and student literacy outcomes were relatively small (LP1 $r=.03$, LP2 $r= .14$; LP3 $r=.02$; LP Mean $r= .07$). As a result of the relatively small and fixed sample size, the ending power of this study was too low to detect small or

small to medium effect sizes if they existed among the variables (Vo & James, 2010). This implies that the relationships may have been significant with a larger sample size. When drawing conclusions, the limitations of the study must be carefully considered.

Implications of the hypothesis testing associated with research question 5, 6, and 8. Analyses showed that Setting Directions (LP1), Developing People (LP2), and Transformational Practices (LP Mean) had a statistically significant and positive relationship with student mathematics outcomes. The alternative hypotheses were supported and the null hypotheses rejected. These findings were similar to Leithwood & Jantzi's (2006) research, in which they also found that transformational leadership was significantly related to student numeracy achievement, but not literacy (Leithwood & Jantzi, 2006). It is unclear why there were significant results for math, but not literacy. Although Leithwood and Jantzi (2006) also found similar results, they did not suggest possible explanations. This study's data shows that the student literacy growth was greater than math growth. The average literacy growth was 31.60 points per site, and the average math growth was 22.50 points per site. The greater literacy growth rate should have provided the literacy data higher sensitivity to respond to TL practices than mathematics. But the results showed the opposite: student math outcomes were more responsive to TL practices than literacy. On the other hand, the data shows that the range in student math growth was wider than literacy growth. The math growth range (-3.00 to 46.50 points) was 49.50, and the literacy growth range (16.43 to 60.02) was 43.59. Perhaps the wider growth-range in math data signals the math outcomes more responsive to TL practices than literacy or allowed significant results to emerge. Another possible reason for the lower sensitivity of L4 may be due to the higher standard error of the mean

in L4 data (*SEM*=4.02) than M4 data (*SEM*=2.95). The standard error of the mean refers to error in the estimates due to random fluctuations in the samples (Vogt, 2005). The smaller the standard error, the closer the sample statistic is to the population parameter. When sample size increases, the standard error decreases (Little, 2004). However, standard error can also be influenced by outliers (Vogt, 2005). One value could contribute largely to the results of the standard deviation (Vogt, 2005). Since there were four outliers in L4 and only one outlier in M4, the higher number of outliers might have weakened the L4 regression model's ability to detect significance.

The finding of a positive relationship between transformation leadership and student achievement was significant and consistent with many of the leadership literature findings discussed in the literature review (Bird & Wang, 2011; Chin, 2007; Day et al., 2009; Heck & Moriyama, 2010; Leithwood & Jantizi, 2005; Marzano, Waters, & McNulty, 2005; Moolenaar, Daly, & Sleegers, 2010; Muijs, 2011; Nettles & Herrington, 2007; Robinson et al., 2008; Sagnak, 2012; Sun & Leithwood, 2012; Waters, Marzano, & McNulty, 2003). Although the current study did not aim to establish causality, it does support the claim that transformational leadership theory and transformational practices should be included in early childhood leadership models, as predictors of student achievement. It is recommended that the district provide preschool center directors transformational leadership professional development to increase their leadership competency. In addition, the levels of implementation of transformational practices should be considered when evaluating current leaders.

Among the three transformational sub-scales, only setting directions and developing people had significant relationships with student mathematics achievement.

This implies that these two practices are stronger predictors of student mathematics achievement than Redesigning the Organization. It is recommended that these two transformational practices have priority and be thoroughly introduced first in leadership trainings for preschool center directors.

Implications of the hypothesis testing associated with research question 7.

With the finding of the current study that leader's practice of Redesigning the Organization was not a significant predictor of student mathematics achievement, the assumption could be made that this particular transformational practice does not predict increased student achievement. However, Redesigning the Organization is the most complicated concept among the three subscales. Without proper training, preschool teachers may not have the knowledge of the organizational restructuring strategies; and therefore, lack of an appropriate framework to interpret the items in this subscale. The transformational model emphasizes three organizational redesign strategies: encourage collective learning among staff, create structural conditions (such as PLCs) to foster shared leadership, and develop relationships with parents to gain their support for the new implementation. Sagnak (2012) found that principals' leadership empowerment behavior of creating an innovative climate affected teachers' innovative behavior. Sagnak concluded that school organizations become more effective in teaching and learning as a result of the leader's empowerment behaviors, such as enhancing trust, allowing participation in decision making, supporting teachers, and facilitating teachers' work. Currently, no directors or teachers had been trained in how to establish a PLC or other restructuring methods. An assumption could be that teachers do not have an

educated frame for evaluating their leader's practices in this area. Perhaps there is validity issue in the teacher's responses to the items in this category.

At this time, the preschool teachers and directors have not received training in collaborative shared leadership. Most teachers do not even have common planning time for discussion or collaboration among staff. But these teachers rated their leaders on "encouraged collaborative work among staff" (item 7) relatively high. The mean score for item 7 was 3.63, which is the third highest scored items among the nine items. The insignificant result of this research question could be caused by the validity issue in the teachers' response to this item. Perhaps, without training in this area, these teachers interpret "congeniality" as collaboration and teacher leadership that yield improved student outcomes.

Furthermore, most preschools in GFPS have not established a parent-teacher association or an advisory committee to include parents in their decision making process. However, the teachers rated their leaders on "helped develop good relationships with parents as part of the school's efforts to respond productively to the Strategy" (Item 9) with a mean score of 3.70, which is the second highest scored item. Again, perhaps there is a validity issue in the teachers' response to this item. It is possible that these teachers interpret "niceness" as "relationship" that yields increased student achievement.

Without proper training, perhaps these teachers did not have good understanding of the meaning of "Redesigning the Organization" and the three restructuring strategies used to achieve higher student outcomes. To obtain more valid results and to more clearly understand the impact of Redesigning the Organization on student achievement, it

may be important to provide both leaders and teachers the necessary training in advance before conducting future research.

Implications of the testing associated with leader background variables. Based on previous research, leader background characteristics, such as years of service in current position, total leadership and management experience, education level, leadership knowledge, and subject matter knowledge, are known factors that influence student outcomes (Clark, Martorell, & Rockoff, 2010; Coelli & Green, 2012; Eberts & Stone, 1988; Piawa, Hee, Ismail, & Ying, 2013). However, the relationships between leader background factors and student achievement were not significant in the regression analyses. But they were significant in the zero-order correlations. It is possible that a 10-week time lapse was too short for the data to show significant predication from leader background variables to student achievement.

To further investigate the reasons why the leader background variables did not achieve significance, the researcher examined the literacy and mathematics leader variable correlation matrices. The leader variable correlation matrices showed that subject matter knowledge and total years of experience had collinearity in the literacy regression model, while education and leadership knowledge had collinearity in the mathematics regression model. The collinearity poses a threat to these regression models because of the relatively small number of cases. As a result, the regression coefficient had a very large standard error and the predictions were unreliable (Cohen, Cohen, West & Aiken, 2003; Tacq, 2004). Caution should be exercised in interpreting the findings of the regression related to the leader variables.

Nevertheless, student achievement is influenced by many other factors, such as home stabilities, the child's attendance, and the child's motivation. These additional child factors may affect the impact of leader background variables on student achievement. It is unclear whether these leader background variables would have been significantly related to student achievement if additional child variables are controlled.

This study has several implications for the district and for transformational theory. This is the first research study that confirms the relationship between early childhood transformational leadership and Hispanic ELs academic achievement. Given the achievement gap and the importance of preschool to future school success, this is a valuable discovery. The current study has determined that the application of TL in preschools may enhance young Hispanic EL's academic achievement. By using transformational leadership theory, preschool center directors could implement strategies that would predict increased student outcomes. If school districts provide transformational leadership trainings to preschool center directors and consider TL practices in evaluation of leaders, it may support preschool leaders to improve Hispanic EL's achievement. In addition, the results of the current study add to the body of literature related to transformational leadership and student achievement. The research expands the transformational leadership theory by suggesting that Setting Directions and Developing People might have a stronger relationship than Redesigning the Organization with student mathematics outcomes.

Based on the results of this study, the predictive relationships between leader background factors and student achievement are not significant. It is unclear whether additional child variables—such as home stabilities, the child's attendance, and the

child's motivation—are needed to be controlled for to allow leader background variables to show their significant relationship with student outcomes. However, the relationships were significant in the zero-order correlations. So, it may be important to allow longer time period for influence to occur and allow the results to show their significance.

Recommendations

The results of this study generated several recommendations for the district and for future research and application. The challenge with Hispanic EL educational disparities is that many other strategies have been previously tried and the achievement gaps between ELs and non–EL students continue to widen (Hemphill & Vaneman, 2011; Koberet al., 2010). Literature shows that early childhood education fosters Hispanic ELs academic success (Barnett, 2008; Camilli, Vargas, Ryan, & Barnett, 2010; Espinosa, 2010, 2013; Gormley, 2008; Karoly & Gonzalez, 2011), and early childhood leadership quality impacts preschool program effectiveness (Muijs, Aubrey, Harris, & Briggs, 2004; Rodd, 2013; Robins & Callan, 2009). Based on the results of the current study, a positive relationship between transformational leadership and Hispanic EL student mathematics outcomes is established. The finding suggests that the district should provide preschool center directors transformational leadership trainings to increase their leadership competency. In addition, the implementation levels of transformational practices could be considered when evaluating current leaders.

This is the first ECE research study that confirms a statistically significant relationship between transformational leadership and Hispanic young ELs' academic achievement. Given the achievement gap and the importance of preschool to future school success, two recommendations can be derived: 1) it is recommended that future

TL literature specifically include early childhood education and English Learners, and 2) it is recommended that the transformational leadership model be added to early childhood leadership models.

The current study found a statistically significant relationship between transformational leadership and student mathematics achievement, but not with literacy. Further study is needed to understand whether transformational leadership impacts student literacy outcomes differently than mathematics. The results suggest including both student literacy and mathematics outcomes in future transformational leadership research and not considering student achievement as a single variable, as there be differences across domains.

Moreover, the literacy regression analyses showed that a one point change in score for L3 predicts change in score of 0.79 to 0.82 for L4. It is evident that the variance in student literacy achievement in marking period 4 was largely explained by L3 and more time is needed for change to occur. In addition, leadership practices will require a longer period of time to influence student achievement. More time is needed for the potential impact to show its effect. It is recommended that future study covers a longer period of time for leader practices to show its significant impact on student outcomes, as well as a longer time for students to experience growth. In addition, it is recommended that a larger sample of preschool leaders be included in future studies to produce higher statistical power, and a larger teacher sample size per site to improve the reliability of the measurement.

Based on the result of research question 5, 6, and 7, Setting Directions and Developing People are stronger predictors of student mathematics achievement than

Redesigning the Organization. It is recommended that these two transformational practices have priority and be thoroughly introduced in the leadership trainings for preschool center directors. Furthermore, it is recommended that preschool teachers be trained on the meanings of the subscales and the terminology used in the survey items in advance before conducting the research in the future. Providing teachers an educated frame to evaluate their leaders will improve the validity of the teachers' responses to the survey questions.

Regarding the impacts of leader background factors on student achievement, this study did not find significant results in the final regressions. However, leader variables were found correlated to student achievement in initial analyses. Further examination is needed to evaluate the relationship between these variables and student achievement.

Conclusions

Despite a concerted effort from the government, district leaders, researchers, and other educational constituents, the achievement gaps between ELs and non–EL students remain persistent and continue to widen (Hemphill & Vaneman, 2011; Koberet al., 2010). Finding effective strategies to overcome the challenge of Hispanic EL educational disparities is urgent and important to the future of these children and our nation. Early childhood leadership can increase preschool program effectiveness and promote student learning (Muijs, Aubrey, Harris, & Briggs, 2004; Rodd, 2013; Robins & Callan, 2009). This quantitative correlational study sought solutions for Hispanic EL achievement disparities by investigating whether transformational practices by preschool center directors, as perceived by instructional staff, relate to the young EL's preschool achievement.

This study demonstrated that setting directions, developing people, and combined transformational practices are significantly related to student mathematics achievement, when controlling for student prior mathematics achievement, average student age, and leader background characteristics—total years of leadership experience, leadership knowledge, and subject matter knowledge. These findings are consistent with previous findings in leadership literature that found a positive relationship between transformational leadership and student outcomes. The positive findings suggest using TL as a strategy for EL disparities. It is recommended that the district provides preschool center directors transformational leadership trainings to increase their leadership competency.

This study is the first research confirming that early childhood transformational leadership is statistically related to Hispanic young ELs' mathematics academic achievement. It is recommended that future transformational leadership study includes early childhood education and English Learners, and transformational leadership be added to early childhood leadership models.

On the other hand, this study did not support the hypotheses that transformational leadership practices predict student literacy outcomes. These findings contradicted previous findings in leadership literature that found a positive relationship between transformational leadership and student outcomes. Including a larger sample of preschool leaders and a larger teacher sample size per site is recommended for future study to produce higher statistical power and to improve the reliability of measurement. It is also recommended that future transformational leadership study includes both

student literacy and mathematics outcomes to further investigate whether the impact of transformational leadership is different on literacy than mathematics.

In all, the study's results generated nine recommendations:

1. The district should provide preschool center directors transformational leadership trainings to increase their leadership competency.
2. The implementation levels of transformational practices should be considered when evaluating current leaders.
3. Future TL research should include early childhood education and English Learners.
4. The transformational leadership theory should be added to early childhood leadership models.
5. Both student literacy and mathematics outcomes should be included in future transformational leadership research study to further investigate whether the impact of transformational leadership is different on literacy than mathematics.
6. Future study should cover a longer period of time to allow for student change and also leader impact.
7. Future study should utilize a larger sample of leaders to generate higher statistical power, and a larger teacher sample size per site to improve the reliability of measurement.
8. Preschool teachers should be trained prior to conducting future research. Providing the teachers an educated frame to evaluate their leaders will improve the validity of their responses to the survey items.

9. Future research is recommended to further examine the relationship between leader background variables and student achievement.

High-performing preschool center directors play an important role in schools helping at-risk children, such as EL students, attain excellent outcomes. The descriptive statistics, correlations, and regressions presented in this study are a starting point in exploring the relationship between early childhood leaders' transformational practices and Hispanic English Learners academic achievement.

There are strengths and weaknesses in using a correlational method to find solutions for EL disparities. The conclusions of this study offer specific implications for early childhood education, as well as for districts that are struggling to close the achievement gap between young English Learners and their peers. This study also highlighted the current ECE leadership challenge that most preschool center directors are not familiar with the concepts and practices of transformational leadership. Many ECE leaders do not yet have the strategies and the leadership skills needed to change the preschool culture and meet the needs of young English learners and their families (Espinosa, 2010. 2013; Kose, 2011; Leeson, Campbell-Barr, & Ho, 2012; Shield, 2004, 2010; Thornton, Wansbrough, Clarkin-Phillips, Aitken, & Tamati, 2009).

A key limitation of this study was its low statistical power. A study with low statistical power has a reduced chance of detecting a true effect. Due to the small sample size of center, cautions should be exercised when interpreting the non-significant results of TL practices in relationship to student literacy outcomes. On the other hand, this study found significant results for prediction of Hispanic EL preschool student math outcomes from leader TL practices despite multiple limitations (e.g., small leader/site sample size,

variable and small teacher sample per site, short time span to allow for change, etc.). The limitations of this study actually strengthen the confidence in the significant findings of the study.

This study's limitations suggest recommendations for future research. The relationship between early childhood transformational leadership and young English Learners achievement should be further explored with a larger-scale study: larger leader and teacher sample sizes. In addition, future studies should be sustained over a long period of time to maximize the opportunity for leader impact and student growth.

The field of early childhood education still has much to do to understand how leadership competence can help improve preschool program quality, shifting the preschool organizational culture to become linguistically and culturally responsive to its changing population and closing the achievement gap.

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Appendixes

Appendix A: Leadership Survey

Transferred from Leithwood, K., & Jantzi, D. (2006). Transformational school leadership for large-scale reform: Effects on students, teachers, and their classroom practices. *School Effectiveness and School Improvement,* 17(2), 212. DOI: 10.1080/09243450600565829.

Directions for Participants:

a. This survey is about early childhood leadership practices. **Please stop here if you did not work in our district during the 2013-2014 school year.**
b. Please rate your preschool center director or school principal who is in charge of your preschool during 2013-2014. If you have both a site director and a site educational manager, please describe **the administrator who is in charge of your site's curriculum and instruction.**
c. The word "*Strategies"* in the survey means the **Creative Preschool Curriculum Teaching Strategies**
d. The abbreviation ***"l/n"*** means **language and literacy,** plus **numeracy and mathematics.**
e. There are two parts in this survey. Part A. Measures of leadership practices: 1) Setting Directions, 2) Developing People, and 3) Redesigning the Organization; and Part B. Respondent Demographics.
f. Your responses are confidential.

Part A. Transformational School Leadership Survey					
Measures of Transformational Leadership Those in positions of responsibility in your school	**Implementation Level**				
	1	**2**	**3**	**4**	**5**
	Strongly disagree	**disagree**	**Undecided**	**Agree**	**Strongly agree**
I. Setting Directions					
1. Helped clarify the reasons for implementing the Strategy.					
2. Provided useful assistance to you in setting short-term goals for l/n teaching and learning.					
3. Demonstrated high expectations for your work with pupils in l/n.					
II. *Developing People*					
4. Given you individual support to help you implement the Strategy.					
5. Encouraged you to consider new ideas for your teaching of l/n.					
6. Modeled a high level of professional practice in relation to the Strategy.					
III. *Redesigning the Organization*					

7. Encouraged collaborative work among staff.					
8. Created conditions in the school which allow for wide participation in decisions about the Strategy.					
9. Helped develop good relationships with parents as part of the school's efforts to respond productively to the Strategy..					

Part B. Respondent Demographics
1. Were you either a teacher or a master teacher at the current preschool site during the 2013-2014 school year? ____ Yes ____ No
2. Please indicate your current assignment: ____Teacher ____Master Teacher
3. Please indicate your certification in 2013-2014 school year (check all that apply): ____P-3 Provisional ____ P-3 Standard ____Elementary Standard ____Bilingual ____ESL ____Not Applicable
4. Total years of experience as a U. S. preschool teacher (enter the number): ____
5. Highest education completed: ____BA or BS ____Master Degree (MA or MS) ____ Above Master Degree
6. What is your age range? ____18-25 ____26-35 ____36-45 ____46-55 ___56-65 ___ 66 and above
7. What is your ethnicity/race? ____ White ____ African-American ____ Hispanic ____ Arab ____ Bengali ___ Other
8. Do you speak a language other than English? ____ Yes ____ No

Appendix B: Survey Author's Permission

Gmail by Google

jadejfk < jadejfk@gmail.com>

RE: Permission to use the TSL survey
1 message

Kenneth Leithwood < kenneth.leithwood@utoronto.ca> Wed, Oct 2, 2013 at 7:52 AM
To: jadejfk <jadejfk@gmail.com>

You are welcome to us this survey

From: jadejfk [jadejfk@gmail.com]
Sent: Tuesday, October 01, 2013 1:47 PM
To: Kenneth Leithwood
Subject: Permission to use the TSL survey

Dear Dr. Leithwood,

I am a doctoral student at Northcentral University in the U. S. and am planning to use your TSL instrument for my dissertation research. My tentative title is:

Transformational School Leadership for Young English Learners:

The Case of the Paterson Public School District

Would you please grant me permission to do so? Please see attached request letter.

thanks,
Jade F. K.

There is no weakness in recognizing our humanness. But there is weakness in denying it.

Appendix C: District Research Approval Letter

Rec: 3/14/14

PATERSON PUBLIC SCHOOLS

Division of Assessment, Planning and Evaluation
90 Delaware Avenue, Paterson NJ 07503
Office: (973) 321-0867 Fax: (973) 321-0604

Jazmin Rotger de Parra
Director of Assessment, Planning and Evaluation
Email: jparra@paterson.k12.nj.us

Donnie W. Evans, Ed. D.
State District Superintendent

TO: Dr. Laurie W. Newell , Chief Reform and Innovations Office

FROM: Jazmin Parra, Director of Assessment; Planning, & Evaluation

DATE: March 13, 2014

RE: Research Request

In accordance with district policy 9550, I have reviewed the research request application for the applicant/project referenced below and have determined that the request meets the criteria to conduct research within the Paterson Public School District.

The attached document is being provided for your signature and if you would like to view the request in more depth a copy of the application is being provided as well.

Researcher/Applicant Name: Fantasy Ko

Project Title: Dissertation Project is a Survey-based Study. Paterson Public Schools Early Childhood Programs.

Institutional Affiliation: North Central University, AZ.

X I hereby authorize Fantasy Ko, to use the Paterson Public School premises to conduct a study entitled.

X I hereby authorize Fantasy Ko, to recruit subjects for participation in a study entitled.

Laurie W. Newell

Dr. Laurie W. Newell
Chief Reform and Innovations Officer

Preparing All Children for College and Career

Appendix D: Permission to access district principal background information

PATERSON PUBLIC SCHOOLS

Human Resource Services
90 Delaware Avenue, Paterson NJ 07503
Office: (973) 321-0744 Fax: (973) 321-2405

Laurie W. Newell, Ph.D.
Chief Reform and Innovation Officer

Donnie W. Evans, Ed. D.
State District Superintendent

May 21, 2014

Dear Ms. Ko,

I am in receipt of your letter dated May 8, 2014. You have been granted permission to access information regarding principals from the District Offices. We do not hold information regarding preschool directors as they do not fall under the District's purview. You will need to contact the Early Childhood Department for general data and information relating to the preschool centers. All data gathered is to remain anonymous and confidential.

Sincerely,

Laurie W. Newell, Ph.D.
Chief Reform and Innovation Officer
Paterson Public Schools

Preparing All Children for College and Career

Appendix E: Permission to access preschool director information

PATERSON PUBLIC SCHOOLS
Division of Early Childhood Education & Special Programs
90 Delaware Avenue, Paterson NJ 07503
Office: (973) 321-0433 Fax: (973) 321-0489

Susana Peron
Assistant Superintendent
Email: speron@paterson.k12.nj.us

Donnie W. Evans, Ed. D.
State District Superintendent

Memorandum

May 29, 2014

Ms. Jade Fantasy Ko
Supervisor, Early Childhood Education
90 Delaware Avenue
Paterson, NJ 07503

Dear Ms. Ko,

I am in receipt of your letter dated May 23, 2014. I also understand that Dr. Newell, Chief Reform and Innovation Officer granted permission to access information regarding district staff. I am also granting you access to general data and information related to preschool providers under the condition and understanding that all data gathered is to remain anonymous and confidential.

My best wishes toward your new endeavor.

Sincerely,

Susana Peron

Susana Peron, Assistant Superintendent
Division of Early Childhood Education & Special Programs

Appendix F: Informed Consent Document
Informed Consent Form
Jade Fantasy Ko

Purpose. You are invited to participate in a research study being conducted for a dissertation at Northcentral University in Prescott, Arizona. The survey will be used to study the relationship between preschool directors' leadership and student learning. The results of this study could be helpful for planning of director trainings to support student achievement.

Participation. Participation in this study is voluntary. If you choose not to participate, there will be no consequences now or in the future. You will be asked to complete 9 leadership survey questions and 8 demographic questions. You should be able to answer all survey questions in about 10 minutes.

Research Personnel. Jade Fantasy Ko is the only researcher involved in this study. Stephanie Wallio, PhD is supervising the research.

Potential Risk/Discomfort. Although there are no known risks associated with participating in this study, some of the information is personally sensitive as you are answering question about your director. You may stop participating at any time. You may also choose not to answer any question that you feel uncomfortable in answering.

Potential Benefit. Participating in this study may not benefit you directly, but it will help many public school districts to improve their preschool leadership quality and support student learning.

Anonymity/Confidentiality. The information collected in this study is confidential. All your responses will be recorded without your name. The coded information is only available to the researcher in this project.

Right to withdraw. You have the right to stop the study at any time. You will not be penalized. You may skip questions in the survey if you do not want to answer them.

I would be happy to answer any questions that may come up about the study. Please direct your questions or comments to: Jade Fantasy Ko at [redacted], Stephanie Wallio, PhD at [redacted], or Northcentral University Institutional Review Board (IRB) at irb@ncu.edu.

Participant Agreement
I have read the above description of A Correlational Study of Early Childhood Leadership and Student Learning. I understand the conditions of my participation. By Clicking Yes, I agree to participate in the survey.

- **Yes**
- **No (If no is clicked, the survey will not continue)**