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Case Study: The Impact of Preschool on Kindergarten Developmental Reading Assessments

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by

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Developmental Reading Assessments

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Dr. Sherry DeVore, Dissertation Chair	Date
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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work at Lindenwood University and have not submitted it for any other college or university course or degree.

Sheila A. Moore

Signature: Sheila Moore Date: 7-17-14

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Abstract

The focus of this comparative study was to examine the connection between attendance in preschool and kindergarten students' literacy success as measured by the Developmental Reading Assessment (DRA2+). Historical data were obtained from the DRA2+ scores of 1,080 kindergarten students in one Missouri school district for the 2010-2011, 2011-2012, 2012-2013 school years. The study was also used to determine the perceptions of kindergarten educators of the impact of preschool on their students. The following overarching question was: What difference exists when comparing the DRA2+ scores of kindergarten students who had a preschool experience and those who did not? Additionally, the perceptions of teachers working with students who had received an early learning experience and students who had not received an early learning experience were gathered. Using a *t*-test to examine the difference between the mean scores of participating and non-participating students, there was a statistically significant difference in scores of students who participated in preschool and those who did not for 2010-2011; however, there were not statistically significant differences in the sets of data for 2011-2012 and 2012-2013. Educators surveyed in this research perceived that students who had not received an early learning experience seemed to have more difficulty learning the basics of school life; attending for longer periods of time; taking direction; using manipulatives, such as scissors, pencils, and crayons; and getting along with peers.

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Chapter One: Introduction

Over the last several decades, participation in center based preschool programs has become much more common, and public support for these programs has grown dramatically (Barnett, 2008). In recent years, discussions in schools across the nation focused on educational reform (Missouri Department of Elementary and Secondary Education, 2014). Since the federal legislation, known as the No Child Left Behind [NCLB], that was introduced in 2001, much research has occurred regarding the short- and long-term effects of preschool education on young children's learning and development (Barnett, 2008).

NCLB changed current law by requiring states, school districts, and schools receiving Title I funds ensure that all students in all student groups meet high standards (Stecher, Vernez, & Steinberg, 2010). According to Chapman (2007):

> The principles of NCLB are exemplified through four goals: (1) all students will reach proficiency or better in reading and math, (2) all students will be taught by highly qualified teachers, (3) all students will graduate high school, and (4) all students will be educated in a safe environment. (p. 2)

The goals of NCLB appeared positive, due to the mandates that all teachers become highly qualified by 2006 (Stecher et al., 2010). However, there has been much controversy over the rigorous and demanding implementation of the law, which required educators to ensure students became proficient by the 2013-2014 school year, specifically in the area of literacy (Stecher et al., 2010). In 2009, state leaders launched another reform effort with the Common Core State Standards, uniting learning goals for students in 48 states (Common Core State Standards Initiative, 2014). With each initiative

throughout the past decade, leaders in politics and education have attempted to increase educators' expectations for students and the rigor of learning objectives (Common Core State Standards Initiative, 2014; Lasser & Fite, 2011).

Background of the Study

Student accountability has risen significantly, and because of these increases in rigorous expectations, students' academic preparations have catapulted in importance (Lasser & Fite, 2011). There is much current interest in the impact of early childhood education programs on preschoolers and, in particular, on the magnitude of cognitive and affective gains (Camilli, Vargas, Ryan, & Barnett (2010). As rising expectations have moved to lower grade levels, the focus has shifted to students' earlier learning opportunities as well (Bartik, 2011). Lasser and Fite (2011) wrote that for students to meet expectations in kindergarten, these children would have to enter school with more preparation and learning foundations firmly established. In fact, Lasser and Fite (2011) advocated for free preschool education for all children in order to meet the needs of public schools' kindergarten requirements.

According to Missouri's education commissioner, Chris Nicastro, politicians recently increased dialogue about making early childhood education accessible for each and every child (Missouri Department of Elementary and Secondary Education, 2013). However, despite the fact that research indicated positive impacts of early childhood education and that many educational leaders supported its plight, recent state and federal budget cuts have dramatically impacted early childhood programs (Dotson, 2013).

In 2013, Head Start, one of the nation's largest comprehensive early childhood programs, faced the financial realities of a large budget sequester (Dotson, 2013). These

budget cuts caused the early childhood organization to release at least 70,000 students from the program across Missouri due to lack of funding (Dotson, 2013; U.S. Department of Health and Human Services, 2014). Lasser and Fite (2011) explained budget reductions could impact students' future educational progress and employment success. Early childhood programing provides academic, social, and emotional benefits for children who attended a preschool setting prior to beginning kindergarten, according to Lasser and Fite (2011). In addition to the academic impact early childhood interventions have, Marchant and Womack (2010) stressed how preschools often have promoted positive social-emotional development and language acquisition, which is critical for students to maximize their academic success.

Although social development is well-accepted in educational research, Marchant and Womack (2010) reported schools are overly cautious about dedicating instructional time to social skills because of the increased demands placed on them to focus on student achievement with national academic guidelines. Many other educational reformists have stressed the significance of early childhood education as well (Ferrandino, 2005). Ferrandino (2005) cited the developmental purposes of imposing more early childhood opportunities, since children learn such a significant amount between birth and the age of five years old. Ferrandino (2005) wrote:

> Public and private support for high-quality early childhood education is growing. Some 30 percent of all American children begin school unable to maximally profit from the educational experiences they will encounter. The percentage is higher for poor children. School readiness is extremely important because nearly every educational benchmark−from being on grade level to staying in school is

related to school readiness. (p. 20)

Early learning is a critical investment (Bartik, 2011). Bartik (2011) explained how the direct and indirect returns on such an investment as early childhood can be measured in the nation's job growth, crime prevention, and decreased reliance on social welfare programs. In fact, the investment in early childhood education would be substantial, including up to $2.62 return for every dollar invested (Duncan, 2013). More recently, U.S. Secretary of Education Arne Duncan (2013) concurred with this mentality during his speech when addressing the Education Commission of the United States. Regarding the impact of budget cuts on early childhood education, Duncan (2013) stated in his address:

> Children don't have lobbyists, don't have PACs, don't make campaign contributions, and can't vote. Children are often without voice in debates in Washington, which is morally and educationally unacceptable; and from a long-term, economic competitiveness standpoint, it is just plain dumb. (para. 5)

Theoretical Framework

A goal of this study is to understand the concept of readiness and its framework in order to facilitate transition from preschool to elementary school. Well-known psychologist Albert Bandura (1997) conducted decades of extensive research in the area of education and behavior. Bandura (1997) proposed the social learning theory, which provided a lens to view this study. The social learning theory explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences (Bandura, 1997).

Bandura (1997) believed that children learn new information and behaviors by

watching others, and that most children learn human behaviors through observations and modeling. Comer and Ben-Avie (2010) elaborated on Bandura's research, stating knowledge of how children learn leads to an increase in research on the development of readiness skills and early literacy development in preschool children. Comer and Ben-Avie (2010) reinforced that although intervention at any point in the school trajectory is beneficial to the child, it is the first five years of life that are critical to development and the foundation of children's readiness for schooling.

Bandura's (1997) social learning theory proposed that people learn by modeling, observing, and imitating. Children are actively learning from the moment of birth through the various types of experiences the infant has with caregivers, which are ultimately related to all aspects of development (Ramey & Ramey, 2004). Extensive research by Bandura (1997) revealed individuals learn from one another via observation, imitation, and modeling, supporting a positive relationship between high self-efficacy in students' academic achievements and their learning experiences. Therefore, working as a bridge between behavior and cognitive learning, and because it encompasses attention, memory, and motivation, the impact of preschool students' self-efficacy can be studied (Bandura, 1997).

Self-efficacy is defined as the belief in one's personal capabilities to the extent or strength of one's belief in one's own ability to complete tasks and reach goals (Bandura, 1997). The theoretical framework for this study, which directed the purpose of the research, was selected as appropriate to examine the difference in preschoolers' sense of self-efficacy and academic achievement based on those who have participated in a preschool experience with those students who have not.

Statement of the Problem

As recent accountability measures continue to rise for schools and educators, efforts also have expanded to increase early childhood education and to prepare all students to be ready to learn by kindergarten. Katz (2000) summarized that unless students are provided top quality learning, they will miss opportunities that impact their future success. Duncan (2013) continued:

> For our students to remain competitive in a knowledge-based, global economy, we must do much, much more to level the playing field to enable every child to begin school at the same starting line. We must, once and for all, get our schools out of the "catch-up" business. Our nation's failure to systematically invest in high-quality early learning is a huge missed opportunity. (para. 20)

Experiences that occur early in childhood can have long-term effects on brain function and cognitive development, as well as social emotional functioning (Walker, Chang, Vera-Hernández, & Grantham-McGregor, 2011). Healy (2011) agreed that quality early experiences are essential for learning as brain development during the neo-natal to prekindergarten period occurs rapidly with more growth than any other time, making it a critical period in a child's life. Research by the Missouri Department of Elementary and Secondary Education (2013) indicated that 50% of intelligence is formed by the age four, with the most productive years of learning occurring before the age of five. Healy (2011) added to this body of research, stating a person's brain reaches 95% of its maximum size by the age of six.

With this previous research in mind, this case study was focused on early childhood, more specifically on the major precept of how preschool impacted

kindergarten students' reading abilities (Healy, 2011). Research has determined that children with developmental delays learn and benefit when they enroll in school; however, the rate of learning is not sufficient enough to compensate for the entry level gaps, which often are in excess of two or more years (Ramey & Ramey, 2004). The Missouri Department of Elementary and Secondary Education (2013) recently advocated that the intentional improvement of schools and ultimately the national level of educational reform should begin with providing every family with access to free, quality, early learning.

In a recent report, Missouri's commissioner of education, Dr. Chris Nicastro, stated:

> Universal preschool requires curriculum goals, solid instructional methods, and high-quality teacher preparation. It lays the foundation for a lifetime of learning. All children must enter kindergarten ready for success. However, many children do not have access to early learning and the results of missed opportunities may be evident as early as first grade reading scores. (Missouri Department of Elementary and Secondary Education, 2013, p. 1)

Purpose of the Study

The purpose of this study was to examine the difference between preschool and student achievement in reading in kindergarten as determined by a standardized assessment. Standardized assessments assist in learning more about successful reading readiness and the pre-literacy skills necessary in their formative years (Beaver, 2012). Another purpose of this study was to explore the skills kindergarten teachers expect when children enter kindergarten, therefore, teachers' responses relating to students' efficacy in

reading and the potential causes of such reading in kindergarten were collected and analyzed.

Research Questions

The present study focused on the impact of preschool and the expectations of kindergarten teachers for children entering kindergarten in the same school district. The following three research questions guided this case study:

1. What is the difference between the DRA2+ scores of kindergarten students who had a preschool experience and those who did not?
2. What are the perceptions of teachers of students who had received an early learning experience?
3. What are the perceptions of teachers of students who did not received an early learning experience?

Hypothesis

The following null hypothesis was formed:

H_o There is no difference between the DRA2+ scores of kindergarten students who had a preschool experience and those who did not.

Significance of the Study

This study is significant since the topic of early childhood is relevant in many school districts across the nation (Duncan, 2013). As school administrators and legislators determined how to allocate funding, early childhood often receive the brunt of financial cuts (Dutton, 2012). At the same time, public schools and educators, who serve in those districts, face increasing national accountability standards (Common Core State Standards, 2014). Because of these standards, educators focus attention on assuring that

all students are ready to learn when they entered kindergarten (Dutton, 2012). This issue is relevant and timely in the context of educational reform when this study was conducted. This study is also significant in that it provided the opportunity to gather student data and teachers' perceptions to determine the connection between pre-school and kindergarten learning progress.

Definitions of Terms

For the purposes of this study, the following terms are defined:

At-risk student. An at-risk student is defined as a student who is by virtue of his or her circumstances, statistically more likely than others to fail (McGee & Dail, 2013). Those determining the criteria of at-risk students and their status often focus on ethnic minorities, those who are academically disadvantaged, those who are disabled, and/or those students who are characterized by low socioeconomic status (McGee & Dail, 2013).

Developmental Reading Assessment 2nd Edition Plus (DRA2+). The DRA is a one-on-one assessment tool used to measure student progress in reading (Beaver, 2012). The assessments are designed to be administered in the fall and spring, but can be used more frequently as needed (Beaver, 2012). The DRA2+ is based on the teacher listening to a child read while observing a child's reading proficiency, in fluency and comprehension (Beaver, 2012).

Early childhood educators. Early childhood educators are defined as teachers who provide instruction in a classroom setting of 3- and 4-year old children, or children below the age at which compulsory schooling begins (Harrison, Goldfeld, Metcalf, & Moore, 2013).

Early learning. In this study, early learning is defined as expectations for the learning and the development of young children between the ages of 3 and 5 with what they should know and or be able to do prior to entering kindergarten (Harrison et al., 2013).

Interventionist. An interventionist addresses the specific needs of a particular child when regular classroom instruction is not sufficient (Beaver, 2012). Interventionists work with the teacher to design methods of learning that are most appropriate for each child (Beaver, 2012).

Kindergarten readiness. Early childhood readiness, or kindergarten readiness, is referred to as the level of development at which a student is ready to undertake the skills needed to learn to read and the and the classroom skills such as following directions, sitting still, taking turns, being attentive, and finishing tasks on time (Hull, 2011).

Literacy. Literacy is defined as a student's ability to read and write for knowledge and interest, to write coherently, and think critically about the written word (Beaver, 2012).

No Child Left Behind (NCLB). The NCLB Act of 2001 reauthorized the Elementary and Secondary Education Act (ESEA), the main federal law that affected education n from kindergarten through high school (NCLB, 2001). NCLB (2001) was built on four principles: accountability for results, more choices for parents, greater local control and flexibility, and an emphasis on doing what works based utilizing scientific research.

Preschool. For the purpose of this study, preschool is defined as an educational program conducted at a licensed educational center or school based environment

targeting the education of young children before they attend formal kindergarten (Ackerman, Barnett, Hawkinson, Brown, & McGonigle, 2009).

Reading efficacy. For the purpose of this study, reading efficacy refers to a student's efficacy in the area of reading (Schunk & Zimmerman, 2007). Students with high self-efficacy in reading are students who participate more readily, work harder, and persist longer when they encounter difficulties (Schunk & Zimmerman, 2007).

Special education. Special education is defined as the education of students with special needs, which addresses students' individual differences and goals (U. S. Department of Education, 2013a). The process of special education involves the individually planned and systematically monitored arrangement of teaching procedures, adapted equipment and materials, accessible settings, and other interventions to help learners with special needs achieve a higher level of personal self-sufficiency and success in school and community (U. S. Department of Education, 2013a). Special education services, by this definition, are services available to students for opportunities to be successful in a typical classroom setting (U. S. Department of Education, 2013a).

Title I preschool. A Title I preschool is defined as a preschool program which uses Title I funds, in whole or in part, to improve cognitive, health, and social-emotional outcomes for eligible children who perform below the grade level expectations and/or who are at-risk of failure at a local school district that provides a free public elementary education (U. S. Department of Education, 2013a).

Universal preschool. A universal preschool is defined as a preschool designed to make voluntary access to free public early childhood preschool education available to all families, regardless of income or eligibility requirements (Ackerman et al., 2009).

Limitations and Assumptions

Creswell (2013) explained limitations are those elements over which the researcher has little to no control, and in most instances, any assumptions made become a limitation. The following limitations are provided:

1. The collection of quantitative data was limited to the scores of kindergarten students attending one Missouri elementary school.

2. The quantitative data were from the 2010-2011, 2011-2012, and 2012-2013 school years.

3. The survey data were limited to kindergarten teachers and interventionists in one Missouri elementary school.

4. Although the online survey was based on research, the online survey was created by the primary investigator.

5. The online survey data were limited only to participants who chose to complete and submit the survey.

Despite the most completed research, Creswell (2013) explained, researchers must acknowledge assumptions so that studies are understood in the accurate context by which they were conducted. Creswell (2013) defined assumptions as those aspects taken for granted in the study, which include statements that a researcher understands to be true. In this study, the following assumptions were accepted:

1. Participants were honest in their responses to the instrument.

2. The most relevant and accurate instrument was selected to measure teachers' efficacy with students who did and those who did not have early childhood experiences.

3. At the time students completed the literacy assessment, they performed to the best of their abilities without any interruptions or distractions that may have altered their performance.

4. Students who attended preschool received quality instruction in literacy prior to entering kindergarten.

Summary

As school districts around the country, including Missouri, where this case study was conducted, evaluate funding regarding early education, educators seek to determine the impact of preschool on kindergarten students and the long term benefits to student academic performance. This study was conducted to add to the body of research surrounding both the positive and negative issues of an early learning preschool experience. In addition, this study was developed to examine perceptions of educators concerning preschool experiences which may provide insight for other educators and administrators when making future decisions regarding early childhood learning opportunities.

In Chapter One an introduction to the study was presented, providing background information on the current state of early learning in preschool. The theoretical framework provided a basis for the research establishing the importance of understanding the elements of universal early learning opportunities. The purpose, research questions, and hypothesis were stated. Also, provided in Chapter One were the definitions of key terms, limitations, and assumptions.

In Chapter Two of this study, a review of literature providing foundational knowledge necessary to understanding the historical background of early learning

included, but was not limited to: early childhood developmental learning opportunities in literacy; instruction verses play; cognitive and social emotional gains; review of universal preschools programs, such as the Boston Public School, Tulsa Preschool, and Tennessee Voluntary Preschool; retention; redshirting; and the economic benefits and impact of funding for children who attended preschool and those who did not participate in an early learning experience. Additionally, it was anticipated that data gleaned from the study of President Obama's Early Learning Plan, parent involvement, and a glimpse into the transition from preschool into kindergarten, would contribute to the relevant information regarding this case study.

In Chapter Three the research design and methodology were discussed, including: problem and purpose of the study, research design, population, and sample, instrumentation, data collection, and data analysis. Data analysis was presented in Chapter Four. In Chapter Five, a summary of the findings related to literature, conclusions, and recommendations for further research were discussed.

Chapter Two: Review of Literature

As the topic of early childhood education attracts increasing attention across the nation, a growing number of researchers are beginning to make connections between early interventions for young learners and school success (Ackerman et al., 2009). Administrators, educators, and legislators stress the importance of learning in early childhood; and even more so after the introduction of the Common Core State Standards, the Missouri Learning Standards as they are locally called (Common Core State Standards Initiative, 2014). In Chapter Two, is a review of the literature related to the connection of early childhood learning and the impact of participation in an early learning program upon kindergarten literacy skills. Also included are information on various approaches to universal early childhood education and additional research on Bandura's theoretical framework as related to preschool students' reading efficacy and kindergarten readiness.

Kindergarten Readiness

Early childhood readiness, or kindergarten readiness, is referred to as the level of development at which a student is ready to undertake the skills needed to learn to read and the classroom skills, such as following directions, sitting still, taking turns, being attentive, and finishing tasks on time (Hull, 2011). Researchers in early childhood have defined school readiness as skills children need to achieve later success in school (Cross & Conn-Powers, 2011). School readiness skills are attributed to more than just pre-academics (National Association for the Education of Young Children, [NAEYC], 2009). Readiness skills include cognition, mental and physical health, and fine motor, as well as social and emotional well-being (NAEYC, 2009). In order to make a lasting impact on a

child's school readiness, the influences of family and community supports are needed (O'Brien & Dervarics, 2011). The NAEYC (2009) indicated the prerequisite for "ensuring that children are ready for successful school experiences is one of the most pressing issues in early childhood policy and practice" (p. 1).

The six developmental domains that characterize the lines along which children grow are physical, cognitive, psychological, language, social, and ethical (Comer & Ben-Avie, 2010). For children to be successful in these domains, children need to identify with others, develop their own identity, and internalize a set of values (Comer & Ben-Avie, 2010). Comer and Ben-Avie (2010) determined that social factors strongly influence children's cognitive development and academic competence, which supports the need for teachers to foster learning in increased social skills . When describing school preparedness, aspects of readiness include:

- physical aspects such as being healthy;
- language aspects such as communication skills;
- emotional aspects such as curiosity, confidence, motivation, and social skills such as taking turns;
- respecting others' viewpoints;
- readiness to learn aspects such as sitting still and paying attention;
- and cognitive aspects such as school-related academic skills. (Lara-Cinisomo, Fuligni, Ritchie, Howes, & Karoly, 2008, p. 2)

In the study, "Preventing Conduct Problems and Improving School Readiness: Evaluation of the Incredible Years Teacher and Child Training Programs in High Risk Schools", Webster-Stratton, Reid, and Stoolmiller, (2008) defined school readiness as a

combination of "emotional self-regulatory ability, social competence, the absence of behavior problems, and parent teacher involvement" (p. 1). School readiness is a process that continues over time promoting the need to understand children's individual needs that facilitate the smooth transition from preschool to kindergarten (Lara-Cinisomo et al., 2008). Porath (2009) stated school readiness, or social competence, is a necessary quality for the successful start of a student's academic career. Porath (2009) defined social competence as "an essential capability to bring to school because of its relationship to school success" (p. 93). Children who are able to interact positively with their peers and teachers in the complex social setting of preschool have an increased chance of a being successful in kindergarten and beyond (Porath, 2009). Children enter kindergarten from vastly differing backgrounds with various skills. In order to prepare children for school, the role of parent involvement provides children with a stimulating learning environment that supports children's transition from home to school (Lara-Cinisomo et al., 2008). Therefore, parent involvement and transition to kindergarten will be explored later in this review.

The five areas that researchers have identified as early childhood indicators of kindergarten readiness, that have the potential to predict later school success, and that can be measured in standardized assessments are summarized:

> (a) Motor Area: gross motor items include catching, jumping, hopping, and skipping. Fine motor items include building with blocks, cutting, copying shapes and letters, and writing, and the popular finger-touching task; (b) Language Area: items include answering simple personal questions (name, age, and sex), articulation, naming (expressive) or identifying (receptive) objects and actions,

> plus phonemic awareness tasks such as rhyming and I Spy; (c) Concepts Area: items include pointing to named body parts, naming or identifying colors, and rote counting, counting blocks, placing a block in named positions, identifying concepts in a triad of pictures, sorting shapes. And automatic naming of colors;(d) Self-Help Development: looks at the child's development of personal care skills related to dressing, eating, and grooming; and (e) Social Development: looks at the child's development of social skills with other children and parents, including rule compliance, sharing, self-control, and empathy. (Pearson Assessments and Information, 2012)

Research conducted by Webster-Stratton et al. (2008) indicated that school readiness may in fact be a better predictor of future academic success or performance than a student's intelligence. Therefore, social interaction and the ability to work cooperatively with classmates and peers are essential components of school readiness (Webster-Stratton et al., 2008).

Early Childhood Opportunities

According to Ackerman et al., (2009), recognizing the impact of early childhood education, state and local administrations participated in state-funded voluntary preschool programs over the previous decade (Ackerman et al., 2009). More recently in 2013, 1.3 million children were enrolled in state-funded preschools, 9,000 fewer students than the previous year (National Institute of Early Education Research, 2014). Within this population group of 1.3 million children, 1.1 children were four years old (National Institute of Early Education Research, 2014). The state of Missouri ranked 35th in access for 4-year-olds to preschool opportunities and 21st in access for 3-year-olds (National

Institute for Early Education Research, 2014). As for the state's level of quality of preschool education, the National Institute for Early Education Research (2014) rated Missouri 7 out of 10. Overall, 28% of Missouri's 4-year-olds receive preschool services (National Institute for Early Education Research, 2014).

While many states' percentages of students not attending preschool are alarming, an even more startling statistic relates to a growing number of low-income or other at-risk students who should be (Ackerman et al., 2009). In 2009, six states offered free voluntary preschool for all 4-year-old students, with most attending (Ackerman et al., 2009). Jones and Reynolds (2011) argued that a large body of research demonstrates the benefits of high-quality preschool education for disadvantaged children. When viewing a historical trend of private educational institutions, students who needed it most and who were most likely at-risk of school failure were also the population least able to afford those services (Jones & Reynolds, 2011).

More recently, Hill, Gormley, and Adelstein (2012) surmised that many preschool programs primarily continue to target disadvantaged students, and the majority of children who are not considered disadvantaged have much more limited access to quality state financed preschool possibilities. Missed opportunities for learning, from birth to school entry, put students behind when they start school and creates barriers in academic achievement (Hill et al., 2012). Research indicates low-income children stand to gain the most from early childhood education because early intervention helps close these achievement gaps (Ferrandino, 2005).

While researchers found home-based early learning opportunities to be effective, they frequently found center-based programs for preschool aged students more likely to

meet the essential criteria for a high-quality program (Mathis, 2012). Mathis (2012) argued the preferred approach to teaching children the primary skills required for kindergarten are found in center-based preschools. Research indicated there are no advantages when comparing private verses public programs, however; the key is the quality of the program the children are offered (Mathis, 2012).

Play Verses Reading Instruction

A view that prevails in the research regarding early childhood education is the fact that preschool leaders, whether center based in public education or private programing, need to dialogue in regards to how best to address the topic of play verses content focused instruction (Miller & Almon, 2009). Play remains one of the primary approaches to learning available to young students in most early childhood experiences (Miller & Almon, 2009). Researchers found that through play, children tried on every role and situation they encountered in life, which was often serious, enjoyable, and deeply satisfying (Miller & Almon, 2009). Miller and Almon (2009) explained that despite its importance for cognitive, social-emotional, and physical growth, they observed playtime has vanished or significantly decreased from preschool classrooms. And, in fact, Miller and Almon (2009), report that preschools have evolved from a role-playing learning environment to more teacher-led instruction.

According to Miller and Almon (2009), historically, kindergarten programs used to emphasize play and hands-on learning. With the emphasis on child centered play and imaginative exploration, children spent most of the day in areas of their choice. However, in the last two decades, kindergarten has drastically changed (Miller & Almon, 2009). Today's kindergarten focuses on teaching math and literacy skills as a preparation

for taking standardized tests in later grades with children spending 30 minutes or less for play time or choice time (Miller & Almon, 2009).

Miller and Almon (2009) indicated that although present in the preschool setting, kindergarten classrooms do not have materials to promote dramatic play, block play, sand and water play, open-ended objects, and art materials as much as they once had. The reasons for exclusion of these materials in classrooms include the lack of use of these materials in curriculum content areas as well as the lack of time, space, and funding (Miller & Almon, 2009). Miller and Almond (2009) wrote:

> Consequently, as schools are forced to place greater importance on academics, teachers are less inclined to incorporate play in their kindergarten classrooms, resulting in loss of play and decreases in recess, which are connected to increased obesity and mental health illness. (p. 18)

Additional commentary by Miller and Almon (2009), sounded the alarm to support healthy development of young children, stating one contributing factor that moved early learning in the U. S. away from play and toward cognitive instruction is the prevalent belief that children should learn to read at the age of five. However, Miller and Almon (2009) advocated the primary goal should be for young children to begin building bridges toward print literacy. Using a more age-appropriate play-based approach allows students time to slowly, but more effectively, build a bridge from oral language to written language (Miller & Almon, 2009). Miller and Almon's (2009) recommend a playful kindergarten that incorporates "child-initiated play with the active presence of a teacher, combined with intentional teaching through playful learning, the arts, and other hands-on experiences" (p. 52).

Ferrandino (2005) discovered similar findings, which explained that in an early childhood setting, play was the foundation for building skills in math, literacy, science and other important disciplines. This was especially important as the foundation allowed children to transfer prior knowledge into many different situations throughout their primary education. Miller and Almon (2009) wrote:

> Play-based learning embraces two approaches simultaneously. One is that children are given ample time to carry their own ideas into play. The other is that their knowledge of the world has been enriched through appropriate content offered in interesting and experiential ways. This can include reading books, storytelling, puppetry, music, and the arts, as well as encouraging hands-on activities and exploration of nature. The children's own play and the content offered enhance one another. (p. 35)

Jones and Reynolds (2011) purposed that for children the act of playing is likened to a scientist's inquiry-based research approach because both engage in "what if?" thinking. When playing, children continually try new possibilities and learn as much from failure and mistakes, as they do from the positive outcomes while they play (Jones & Reynolds, 2011). Almon (2013) agreed that children learn significant values during unstructured play, which include teamwork, responsibility, and perseverance; although to add that it is difficult to assess the effectiveness of child's play, which is one reason that play fell out of favor in schools that were becoming more data-driven (Almon, 2013).

It is increasingly the case that children from all backgrounds enter preschool with poor play skills (Almon, 2013). Almon reports that many students who exhibit poor play skills have spent many hours in front of a screen, either a television or computer screen,

during which they view other people's creativity rather than developing their own (Almon, 2013). Klugman and Smilansky (1990), who wrote *Children's Play and Learning*, illustrated that children who engaged well in social-dramatic play experienced increased gains in language usage and comprehension compared to the children who did not engage well with others. Almon (2013) agreed that students must enter kindergarten sufficiently prepared in order to be successful:

> Such abilities are needed in young children for when they do enter school and standards are calling for greater knowledge of written expression and comprehension of what is meant in a given text. Play-based education in preschool and kindergarten gives children a chance to develop their creativity in balanced ways. It supports the overall healthy development of children and prepares them for the 21st century workplace where creativity is highly valued. (p. 15)

Recently Chien et al. (2010) completed a multi-state study concentrating on the engagement and outcomes of children in pre-kindergarten settings. Chien et al. (2010) found with increased teacher-directed instructional time and decreased non-teacher facilitated playtime, children demonstrated more growth with academic skills. Chien et al. (2010) also found with increased free play time, children demonstrated minimal growth as they progressed from a pre-kindergarten throughout their kindergarten education. Cross and Conn-Powers (2011) reported that explicit and direct instruction in academic areas will improve readiness for kindergarten. Research conducted by Hattie (2009) established that the success of early interventions increases for all children when the services are intensive, systematic, and structured.

Brain Development

The growth rate of a child's brain plays an important role and varies from 80 to 90% by the age of three to 90% full development by the age of five (Child Welfare Information Gateway, 2009; National Center for Infants, Toddlers, and Families, 2012). The brains of young children are "expanding at an incredible rate" (Rushton, 2011, p. 93). Camilli et al., (2010) reported the most significant effect for pre-kindergarteners who attended pre-school was in the area of cognition. Furthermore, Rushton (2011) found a significant impact educators have on the early learning brain development with "the ability to help shape a child's mind" (p. 94). The four basic principles of brain-based learning in a developmentally appropriate early childhood educational setting, as determined by Rushton (2011), are:

- Every brain is uniquely organized. By providing skill leveled materials, those students who are below, average, and above cannot only celebrate successes, but also maximize their skills to venture on to more complex tasks;
- The brain is continually growing, changing and adapting to the environment. Intelligence is not fixed at birth but fluctuates throughout life, depending upon the stimulation of the environment, hormonal levels and other chemical reactions taking place throughout the body;
- A 'brain-compatible' classroom enables connection of learning to positive emotions. The most naturalistic way for this to occur is by allowing students to make relevant decisions and choices about their learning;

- Children's brains need to be immersed in real life, hands-on, and meaningful learning experiences that are intertwined with a commonality and require some form of problem-solving. (p. 92)

The Center on the Developing Child at Harvard University (2014) released, *A Science-Based Framework for Early Childhood Policy*, reporting that, "early experiences determine whether a child's developing brain architecture provides a strong or weak foundation for all future learning" (para. 4). Frey and Fisher (2010) concurred the education field is awash with findings surrounding brain development and its implications for reading in the classroom. In their research on reading and the brain, Frey and Fisher (2010) defended their belief that reading is not an innate skill and that every brain must be taught to read. Moreover, language learning physically changes the brain and consequently should be a reminder to early childhood educators that focus should be placed on repetition, which leads to automaticity (Frey & Fisher, 2010). As children continue to build background knowledge through direct and indirect experiences in reading, Frey and Fisher (2010) noted physical changes continue to occur in the brain.

Complications emerge in the educational field when there is a lack of understanding between oral language and written language, which requires learners to use various areas of the brain (Shultz, 2003). During these same early childhood years, children's brains build foundations for language, reasoning, problem-solving, behavior, and in addition their emotional health is formed (Wisniewski, Podak, & Rasinski, 2011). In agreement Bartik (2011) noted how influential the early years were for language growth:

By age 3, children with high socioeconomic status have on average 1,100 words

> in their vocabulary. While children in middle income have average vocabularies of 750 words and low socioeconomic status children have 480. The key to future reading and writing success begins with language development. If we hope to close the achievement gap, all young children need rich language experiences to develop their vocabularies. (p. 16)

Mason and Galloway (2012) explained how an emphasis on oral language development is identified as one of the premier instructional strategies teachers use to ensure the success of children. This is especially true for those children from low socioeconomic communities (Mason & Galloway, 2012). Additional research conducted by Medina (2008) placed high importance on visuals, which play a large part in early learning and literacy development. Research surrounding brain patterns found that vision trumped all other senses in assisting with memory, which makes vision one of the best sensory tools for learning (Medina, 2008). Pictures are not just easier to remember, but are significantly more likely to be stored in a person's memory and much more likely to be retrieved at a later time (Medina, 2008).

Literacy Development

Research conducted by Jones and Reynolds (2011) explained brain development in young children guides researchers in the development and outline of five essential components of reading instruction, which include phonemic awareness, phonics, vocabulary development, reading fluency, and reading comprehension strategies.

The primary goal of state-funded preschool programs has been to improve the learning and development of young children in preparation for the increasingly rigorous literacy challenges of kindergarten (Barnett, 2011). Studies have shown the value of high-

quality, well-funded preschool programs and that these programs improve children's immediate success in school, as well as future success in school and in life (Barnett, 2011).

Barnett (2011) purposed, state-funded preschool programs significantly impact young children's early language and literacy development. In *The Effects of State Prekindergarten Programs on Young Children's School Readiness in Five States*, Barnett (2011) noted the following benefits of a state-funded preschool in the executive summary:

1. Students who attended state-funded preschool programs grew an additional four months of progress in vocabulary growth.
2. Students who attended state-funded preschool programs scored higher on a test of early math skills.
3. Students who attended state-funded preschool programs identified more letters and could identify a larger number of letter-sound associations. (para. 2-3)

In addition Barnett (2011) reported that most of these students were more familiar with book concepts and book features.

Barnett (2011) admitted that at times it is difficult to evaluate preschool programs and their effectiveness. The researcher wrote, "The most difficult problem faced by evaluators is possible selection bias due to differences between the children who attend state-funded preschool programs and those who do not" (Barnett, 2011, p. 3). In evaluating universal programs, however, it is difficult to locate comparison groups since socioeconomic variables play a role for those who attend private early childhood learning opportunities that are not state-funded (Barnett, 2011). Currently, state-funded preschool

programs are larger in capacity and serve more diverse populations (Barnett, 2008). However, the negative implications for any type of preschool program working with disadvantaged children are equally strong (Barnett, 2008). Children from poverty often have an elevated risk of school failure, which lends importance for all preschool age students to be given an early learning opportunity (Barnett, 2011).

Another significant aspect of intentional instruction in literacy, noted by researchers, is the classroom teacher's role in modeled reading (Frey & Fisher, 2010). Effective teachers teach children how to read more successfully through modeling and demonstrations, reading aloud to their students, and leading discussions that increase comprehension (Frey & Fisher, 2010). Frey and Fisher (2010) added that effective literacy teachers use strategies that enable students to process and think aloud during instruction, which is highly beneficial because children are hardwired to imitate others. For example, even though most young children without disabilities learned to speak, not all become fluent readers and writers (Schultz & Kagan, 2007).

Children can experience a disconnection between verbal communication and written language skills (Schultz & Kagan, 2007). Jones and Reynolds (2011) explained that children are wired for sound, but print is an optional accessory that must be added. Duursma, Augustyn, and Zuckerman (2009) provided recommendations for teachers and parents to follow to improve children's awareness of the written language. The researchers argued:

> Young children need to be read to and talked with, prior to entering school. Reading stimulates a wide range of a child's development, from language to motor skills to increased memory. Children required a rich set of experiences that

> ensured that they hear, process, and produce language. Not only should teachers advocate for families to set a specific reading time, but they must also implement intentional instruction that ensures students have lots of opportunities to engage in oral and written language, especially in ways that allow students to explore the sounds, sights, and meanings of words during class time. (Duursma et al., 2008, p. 554)

Successful preschools place emphasis on students learning to read, according to research conducted by Ornes (2012). Ornes (2012) added that this one factor is vital for academic success and relates strongly back to children's early language development. Ornes (2012) advocated that children who learn in a rich and highly interactive language environment acquire strong oral-language skills. These oral-language skills are necessary for children to understand increasingly complex spoken language and for children to be successful in expressing themselves through the use of increasingly specific words in conversational discourse (Ornes, 2012).

Phonological awareness is a profound component in a preschool experience, where children learn much about the world of reading (Jones and Reynolds, 2011). The two best predictors in preschool of later reading success are phonological awareness and alphabet knowledge (Ornes, 2012). According to Jones and Reynolds (2011), the ability to hear the sounds or phonemes of language are essential to learning to read and write. In order for a child to successfully map sounds to print, he or she first has to hear the sounds and to pronounce the sounds clearly (Ornes, 2012).

In terms of reading and language acquisition, the learning process involves brain reactions to sounds and print (Barnett, 2011). Students' neurons fire inside their brains as

they watch teachers perform or model how to think through information, such as reading for meaning (Barnett, 2011). Frey and Fisher (2010) asserted that teachers should utilize the brain research discoveries when choosing instructional strategies. For example, the way students experience modeling affects how they perform and execute human actions, from imitation to empathy, and from language to learning new information (Frey & Fisher, 2010). Therefore, when chunking information, teachers are grouping information consistent with working memory and long-term transfer, such as in building schemas, which can be referred to as the mental structures that benefit students' learning (Healy, 2011).

A teacher's ability to support language and conceptual knowledge fosters early language skills and provides a foundation for later literacy (Hines, McCartney, Mervis, & Wible, 2011). Schema builds background knowledge and vocabulary utilizing tools, such as concept maps, word webs, and graphic organizers to provide students with schemata, or mental models, they can use to organize information (Healy, 2011). In fact, according to Healy (2011), children who received a wide body of background knowledge and life experiences are more likely to succeed in reading. When students enjoy reading and associate reading with fun, they are more likely to spend substantial amounts of time reading for pleasure (Carbo, 2013). As members of a learning community, families and schools need to collaborate to foster children's enjoyment of reading as they enter kindergarten (Lara-Cinisomo et al., 2008).

Attention in society has shifted from viewing early learning preschool experiences as caretaking, to a view of early educational experiences as foundational for later successful academic achievement (Frey & Fisher, 2010). For the most part, educators

nationwide view reading competence as necessary and vital for school success (Healy, 2011; Heckman, 2011). However, Jones and Reynolds (2011) surmised that reading competence requires the implementation of many different literacy elements in order to acquire success. With appropriate training, highly qualified educators identify reading fluency and comprehension problems and are able to correct those deficiencies early in a child's academic career (Rasinski & Padak, 2001). Weiland and Yoshikawa (2013) added for primary aged children to develop a desire to read and to comprehend what they are reading, educators should actively be involved and engaged with their students before, during, and after the reading process. Weiland and Yoshikawa (2013) explained:

> Reading for success in the 21st century is a complex process, one that extends far beyond decoding words on the page. It is considered to be a process that begins at birth and continues through adulthood. And it is one that must meet the increasingly changing text demands throughout the child's developmental years. (p. 2123)

Additional studies by Hines et al., (2011) indicated that reading research is clear and convincing about the long-term developmental impact of providing high-quality, comprehensive opportunities within a child's early learning experiences. Research documents that children's language and reading development and social and behavioral abilities are intertwined (Hines et al., 2011). In addition, smaller improvements in students' executive functioning, defined as mental processes that assist in connecting working memory and self-regulation, have been identified (Hines et al., 2011). Cross and Conn-Powers (2011), in their work with early childhood education, have categorized the

skills associated with emotions and behavior as executive functioning skills, which are essential to school success. Fuhs and Day (2011) argued:

> Interventions aimed at improving executive functioning that take into account the predictive role of verbal ability may help young children, especially those who are living in at-risk situations, develop the necessary self-regulation skills for academic success and social competence. (p. 414)

Fuhs and Day (2011) also added, "Self-regulation training that encourages verbal ability and feedback may yield optimal outcomes for preschoolers from low income homes" (p. 414).

Cognitive and Social Emotional Long Term Benefits

Research documents the cognitive and social emotional long-term benefits of early childhood are numerous (Weiland & Yoshikawa, 2013). Hines et al. (2011) reported participation in preschool programs has improved children's development in other areas, including both social and emotional growth. The social learning theory, proposed by Bandura (1997), has become perhaps the most influential theory of learning and social development and suggests that children learn new information and behaviors by watching others. In his research, Bandura (1997) explained that children learn and imitate behaviors they have observed in other people. Bandura (1997) identify three basic models of observational learning; a live model where individuals demonstrate or act out a behavior, a verbal instructional model involving explanations of behaviors, and symbolic modeling which involves fictional characters displaying behaviors. Teachers recognize the importance of modeling appropriate behaviors and building self-efficacy (Ferrandino, 2005). Based on a significant body of research across several states, Cross

and Conn-Powers (2011) have concluded that high-quality teachers have a profound effect on the ability of students to learn. Positive school relationships play a significant role in buffering the presence of negative influences associated with lowered risk of misconduct in social behaviors (Swearer, Espelage, Vaillancourt, & Hymel, 2010), even when families and neighborhoods are not a positive influence.

Schweinhart and McGee (2011) concurred that preschool opportunities are beneficial to children learning socially appropriate behaviors, especially for low-income children and children who are non-English speaking. Early childhood is a crucial time for children's cognitive, social, and behavior development (Schweinhart & McGee, 2011). Research statistics prove that children who participated in early learning programs are more likely to attend college, get higher paying jobs, and are less likely to drop out of school or end up spending time in jail (Schweinhart & McGee, 2011).

Ferrandino (2005) documented that high-quality preschool programs pay attention to all aspects of children's development (physical, social, emotional, and intellectual) within an informal setting, where the atmosphere is flexible yet meaningful. Hines et al. (2011) reinforced the belief that children who attend preschool acquire increased cognitive skills, as well as increased abilities to pay attention, to follow directions, and to function productively in groups. Ferrandino (2005) noted the social benefits of preschool, adding that young children learn and develop at different rates; thus, it is difficult to determine their social learning with a single assessment. Tough (2012) wrote in his recent book, *How Children Succeed: Grit, Curiosity, and Hidden Power of Character*, that he believed the development of skills, such as grit, resilience, and self-regulation formulated early in life are essential to success later in life. Preschool

opportunities allow children to develop these skills (Tough, 2012).

Another benefit of preschool has been found in the area of emotional intelligence (Ferrandino, 2005). Ferrandino (2005) defined emotional intelligence as the ability to understand one's feelings, control impulses and anger, and soothe anxiety. Barnett (2008) suggested the foundation for emotional intelligence is built in early childhood. Expounding on the concept of emotional intelligence, Ferrandino (2005) added that students who display empathy and interact positively with others are more likely to persevere to achieve one's goals.

Research indicates that the quality of a child's social skills by age five accurately predicts social and academic competence in later grades (Ferrandino, 2005). Bringing preschool expectations in line with those in kindergarten provides a coherent and related set of experiences for children in the first critical years of schooling (Ferrandino, 2005). In local schools that cultivate a continuum of learning, teachers in later elementary grades work with early childhood teachers on connecting learning goals and expectations across all levels (Ferrandino, 2005).

According to Barnett (2008), program quality is as complex for early childhood education as it is for other grade levels and professionals. While no one characteristic of any program can be considered determinative, Barnett (2008) suggested that key program quality elements are marked by the following:

- small class size with 20 or fewer children;
- ratio of no less than two adults to10 children;
- well trained, adequately compensated, and qualified teachers;
- strong links to social and health services;

- attention to families' needs, including wrap-around child care;
- adequate and appropriate supplies and materials;
- appropriate and sufficient indoor and outdoor space;
- a mixture of child-initiated and teacher directed activities with substantial time for individualized and small-group interactions. (p. 20)

Role of Feedback

There are specific teaching behaviors and practices that foster kindergarten readiness (Cross & Conn-Powers, 2011). Teacher interaction and effective feedback, for example, play a critical role in a quality early learning experience. Wiggins (2012) recognized that the term *feedback* is often used to describe all kinds of comments made after instruction to preschool students, including directives, praise, and evaluation "but none are true feedback as that is information given to students as to how they are performing in their efforts to reach a goal" (p. 11).

When working with preschool students, feedback should be immediate and consistent. Hattie (2009) encouraged teachers to look at feedback in the form of three questions: "Where is the student going? How is the student going? and Where to next?" (p. 18). Hattie (2009) discussed the value of placing focused effort on those educational reforms that have the highest effect size, therefore his work places importance on feedback, as one of the most powerful influences on student achievement. Hattie (2009) analyzed a number of studies that led to his conclusions on the power and importance of feedback: "Feedback is more effective when it provides information on correct rather than incorrect responses and when it builds on change from previous experiences, especially in preschool students" (p. 175). According to Hattie (2009), the four levels of

feedback are:

> First, feedback can be about the task or product, such as the work is correct or incorrect…. Second, feedback can be aimed at the process used to create the product or complete the task…. Third, feedback to the student can be focused at the self-regulation level, including greater skill in self-evaluation, or confidence to engage further on the task…. Fourth, feedback can be personal in the sense that it is directed to the 'self' which… is too often unrelated to performance on the task…. The art is to provide the right form of feedback at, or just above, the level where the student is working. (p. 177)

From decades of educational research, Wiggins (2012) reported that by teaching less and providing more feedback to students, greater learning opportunities are produced. Hattie (2012) reminded educators that the aim of teaching is "to provide feedback that is 'just in time,' 'just for me,' 'just for where I am in my learning processes', and 'just what I need to help me move forward" (p. 122). Providing that "just right" feedback to early childhood learners is significant, and it is not accomplished by just giving feedback more frequently (Hattie, 2012). Hattie (2012) noted:

> There has been much evidence about the frequency of feedback and most of it is not that informative, because there are more important factors involved in effective feedback than merely increasing the amount of feedback, or whether it is immediate or delayed. (p. 122)

Hattie (2012) concluded, "Educating students to have high, challenging, appropriate expectations is among the most powerful influences in enhancing student achievement" (p. 55).

Universal Preschools

Educators have expanded state prekindergarten initiatives to serve more and more of the nation's children during the years prior to kindergarten (Barnett, 2011). Gormley (2007) asserted, "Well-designed, universal preschool programs can produce impressive improvements in school readiness" (p. 9). Gormley (2011) explained that universal preschool programs provide early learning to 4-year-olds without any upper limit on income, operating under the same student eligibility structures as federally funded programs.

Barnett (2008) supported preschool teachers following the same requirements as elementary educators, and in states with universal preschools, teachers are paid comparable to other certified educators. Positive impacts have been linked to reading, prewriting, and pre-math skills in universal preschools in at least six states, including Georgia, Oklahoma, Michigan, South Carolina, New Jersey, and West Virginia (Barnett, 2008). Gormley, Phillips, and Gayer (2008) suggested despite a rich body of studies on preschool, much can still be learned about the effects of preschool on social and emotional development and setting the stage for later academic achievement and future initiatives for universal programs.

As accountability for student achievement increases in Missouri schools, educators struggle with how to better educate children in the area of reading and language arts (Missouri Department of Elementary and Secondary Education, 2014). Weiland and Yoshikawa (2013) explained early childhood learners, ages three to four years old, need meaningful and enriching early literacy opportunities. According to Weiland and Yoshikawa (2013), strategically planned teaching must be implemented while

considering the developmental characteristics of young learners. Lasser and Fite (2011) agreed:

> Proponents of publicly funded preschool promote pre-literacy and numeracy skills as a necessary foundation for future learning and preparedness in kindergarten. They also promote optimal social and emotional development as a precursor to successful learning in the K-12 setting. A culturally relevant curriculum facilitates the transition to school and nurtures the early childhood brain in a language-intense environment. (p. 2)

In a developmentally appropriate classroom, the curriculum is structured to help children become lifelong learners, think critically and imaginatively, ask meaningful questions, formulate alternative solutions, appreciate diversity, and work collaboratively (Ferrandino, 2005).

In recent years, discussions in schools across the nation have focused on educational reform (Common Core State Standards, 2014). Lasser and Fite (2011), the authors of *Universal Preschool's Promise: Success in Early Childhood and Beyond*, advocated for universal free preschool education as one of the best approaches to addressing the educational challenges that are faced in society and that impact education in the future. Advocates for publically funded, universal, voluntary preschools have argued that such programs provide academic, social -emotional, and economic benefits (National Institute for Early Education Research, 2013). The investment in early learning provides the critical foundation for all learning (Bartik, 2011). The direct and indirect returns on such an investment, as measured by job growth, crime prevention, and decreased reliance on social welfare programs is estimated to be substantial (Bartik,

2011).

Jones and Reynolds (2011) reported that children with developmental delays learn and benefit when they are enrolled in school at earlier ages; however, the rate of learning for these children is not sufficient enough to compensate for entry-level gaps, which often are in excess of two or more years. Efforts to close the achievement gap and promote positive child outcomes in universal programs must include positive influence from the family, neighborhood, and childcare setting (Comer & Ben-Avie, 2010).

Boston Public Schools

Boston Public Schools, in a landmark initiative, was one of the first to provide a full day of preschool to all 4-year-olds in the district (Sachs & Weiland, 2010). In 2005, the mayor of Boston directed the public school system to provide all 4-year-olds in the city full day pre-school within the following five years (Sachs & Weiland, 2010). Sachs and Weiland (2010) reported that Boston's mayor based this recommendation on a consensus from research that indicated early childhood education makes a positive difference in long term outcomes. In their reform efforts, Boston Public Schools provided coaching for preschool teachers, assisting them in improving their classroom instructional knowledge and skill (Sachs & Weiland, 2010). Preschool officials worked to improve strategies and to provide high-quality curriculum, teacher collaboration, and high-quality professional development (Sachs & Weiland, 2010).

Another difference observed by Boston educators was to pay their preschool teachers on the same scale as other K through 12th grade educators, so as to recruit high-quality candidates (Sachs & Weiland, 2010). After these efforts were made, Sachs and Weiland (2010) reported positive results. Five years later, in 2010, 85% of Boston Public

School elementary schools had at least one preschool classroom (Sachs & Weiland, 2010).

Years after Boston's preschool program implementation, researchers from Harvard's University School of Education studied the impact of universal preschools on students' academic performance (Weiland & Yoshikawa, 2013). Research documented students experienced moderate-to-large effects in language, literacy, and mathematics skills (Weiland & Yoshikawa, 2013). District and community leaders found it was helpful to build cognitive and socio-emotional skills in students and strongly supported the early learning and development of preschool students (Weiland & Yoshikawa, 2013). When no limits were placed upon enrollment, between 34% and 43% of Boston's 4-year olds participated in the preschool initiative (Weiland & Yoshikawa, 2013). In addition, Weiland and Yoshikawa (2013) documented improvements in students' executive functioning skills, such as working memory and self-regulation.

The findings from the Boston Public Schools' initiative supported similar increases in universal preschool programs as were documented in other states (Weiland & Yoshikawa, 2013). Program survey results proved that with the right investments in teachers and instructional supports, including developmentally specific curricula integrated with tailored coaching in the classroom, participating in high-quality preschool benefited children on a large scale (Weiland & Yoshikawa, 2013). Weiland and Yoshikawa (2013) summarized, "If in the future, congress should approve a new federal and state preschool partnership program, many states could possibly be looking for effective evidence-based models such as the Boston Public School system" (p. 2117).

Tennessee Voluntary Prekindergarten Program

Another example of statewide programing that made a positive impact was the Tennessee Voluntary Pre-Kindergarten (Lipsey, Farran, Bilbrey, Hoffer, & Dong, 2011). Lipsey et al. (2011) studied the Division of School Readiness and Early Learning's full-day pre-kindergarten program in Tennessee. The program was offered to all 4-year-old children who were expected to enter kindergarten in the following school year (Lipsey et al., 2011). Lipsey et al. (2011) promoted understanding of the Tennessee study through the use of four research questions, which included:

1. Did participation in preschool improve the school readiness of the economically disadvantaged children eligible for the program?
2. What characteristics of teachers, classrooms, and organizational context were associated with improvements in school readiness?
3. Did participation in the program improve subsequent academic performance?
4. What were the characteristics of the children who benefitted the most from preschool in terms of subsequent academic performance? (p. 6)

During the research project, Lipsey et al. (2011) discovered that participating children experienced positive effects on all outcome measures of emergent literacy, language, and math skills. Also noted, in addition to increased school readiness, a magnitude of students experienced a large acceleration of gains when compared to those students who had not attended preschool (Lipsey et al., 2011). Research analysis indicated the program accomplished the chief objective, which was accelerating the academic skills of disadvantaged children, leaving them better prepared for kindergarten than they would have been if they had not been afforded an early learning preschool

experience (Lipsey et al., 2011).

Tulsa Preschool Program

In Tulsa, Oklahoma, another universal preschool program was implemented by educational leaders. Gormley, Phillips, Newmark, and Adelstein (2011) researched the social-emotional effects of early childhood education in the Tulsa public school system and revealed learning that occurred in the preschool setting enhanced the social development of participating students. The Tulsa preschool program enrolled 71% of the city's 4-year-olds, at the time, more than any other initiative in the nation (Barnett, 2008). The program planners required the lead teacher for each preschool classroom to hold a bachelor of arts degree and certification in early childhood education (Barnett, 2008). The preschool teachers, in addition to the community Head Start lead teachers, were provided similar wages as other educators in the K-12 school system (Gormley et al., 2011).

As income levels determined eligibility for students, the Head Start program in Tulsa enrolled fewer students than did district funded programs (Gormley et al., 2011). Study results varied according to the rigor of the research design; however, overall, the results indicated Head Start was a cost-effective program, albeit with lesser but still positive results (Ypsilanti, 2012). Research supported Head Start as a valid preschool program and thus should be continued and strengthened in Tulsa, even though funding played a part in the potential contributions towards a high-quality preschool (Gormley et al., 2011).

Young children's social-emotional development encompasses a broad range of outcomes, from the ability to identify and understand one's own and others' feelings, to

establishing and sustaining relationships with both peers and adults (National Scientific Council on the Developing Child, 2014). Having behavior problems in early childhood, for example, is associated with low peer acceptance, maladaptive teacher-child relationships, and antisocial disorders as well as delinquency in secondary school (Brody et al., 2003). Exposure to violence in the home may hinder the child's ability to develop autonomy, security and trust, as well as facilitate the need for self-protective behaviors (Child Trends, 2004). Additionally, these fears tend to isolate children and reduce their exposure and interaction, thus negatively impacting their ability to learn and succeed (Child Trends, 2004).

When conducting research, the Tulsa preschool program leaders sought to minimize the selection bias in the comparisons and analysis of those whom participated in preschool and those who did not (Phillips, Gormley, & Lowenstein, 2009). Negative effects were avoided as the preschools were connected to elementary schools and classrooms were characterized by emotionally supportive teacher-child interactions (Phillips et al., 2009). Longitudinal research from the Tulsa Public Schools documented that preschool participation had no direct effects on social emotional maturity of first graders, but that participation in Tulsa preschools did have positive indirect effects on higher levels of parent involvement, graduation rates, and lower rates of official juvenile arrests (Reynolds, Temple, Robertson, & Mann, 2001)

Statistical analysis of Tulsa preschool data indicated benefits in the emotional and social developmental outcomes of preschool students as recorded by students exhibiting less timidity and higher levels of attentiveness (Gormley et al., 2011). As documented, (Duncan, 2007), the early childhood education field has paid much greater attention to

external behavior, particularly aggression and other behavior problems, than it has to internal behavior, such as timidity or inattentiveness. The Tulsa research sought to understand which social-emotional competencies affected school performance the most and found increasing connections to regulatory behavior, including executive function and attentional capacities (Duncan, 2007).

The Tulsa preschool initiative demonstrated that universal preschool programs, with a strong emphasis on academic content, simultaneously supported the development of emerging social-emotional competencies (Gormley et al., 2011). Stronger capacity to pay attention and lower levels of timidity among children who attended the Tulsa preschool program suggested these children entered kindergarten more prepared to engage in learning than were their peers who had not attended preschool (Gormley et al., 2011).

Retention

Hustedt, Barnett, and Jung (2008) discovered substantial research indicating that high-quality preschool education not only produces immediate gains but confers lasting advantages. Some of the benefits of preschool education are reduced special education placements and grade retention (Hustedt et al., 2008). In recent years, the number of students retained has increased as schools have strived to meet state and federal guidelines and struggled with increasing financial pressures during economic recession (Penfield, 2010). In many states, it soon became mandatory to begin retaining students at the end of either third or fourth grade (NCLB, 2001) With pressure to perform and notify the public of student performance, educators felt they had to make decisions even earlier in the primary grades (Hughes, Chen, Thoemmes, & Kowk, 2010).

Hughes et al., (2010) argued the pressure for students to do well on high stakes tests resulted in even more retentions at the primary level in order to allow students to receive an additional year of instruction. Byrd and Weitzman (1994) reached a similar conclusion that early grade retention is common and that a number of factors are independently associated with the increased risk of retention:

> Predictors associated with early grade retention included poverty, male gender, low maternal education, deafness, speech defects, low birth weight, and exposure to household smoking. To the contrary, high maternal education and living with both biological parents at age six were independently linked with a decreased risk of retention. Understanding the factors that suggest a child is at-risk is important, but in some circumstances, efforts should be aimed at referring such children and families to services that might boost the child's preparedness for school. (p. 485)

Comprehending why children fail is important; however, the larger issue is how to help children succeed (Byrd & Weitzman, 1994). Accountability and pressure, when determined to have been placed on students as young as kindergarten to meet specific competencies before advancing to the next grade, result in increased amounts of stress (Hughes et al., 2010). Initial gains are evident in retained students in early learning years as disadvantaged children in particular respond better to repetition of skills, especially hands on math involving physical objects (Clements & Sarama, 2011).

Results revealed that retained students did not experience a benefit in their growth rate relative to either the preceding year or to the similarly performing but promoted students and made less progress compared to a randomly selected group of students (Silberglitt, Jimerson, Burns, & Appleton, 2006). In a research article entitled, *Does the*

Timing of Grade Retention Make a Difference? Examining the Effects of Early Versus Late Retention, the authors discussed:

> The results of studies were consistent with prior research examining the effectiveness of grade retention as an academic intervention. The authors noted that the empirical evidence did not support the use of grade retention, and considering the expense of students repeating a grade, the lack of positive effects found in the study, and the negative long-term outcomes reported in related research, it is disturbing that the practice of retention continues. (Silberglitt et al., 2006, p. 140)

Despite research indicating little effectiveness, the use of grade retention has increased over the past 25 years (National Association of School Psychologists [NASP], 2011). Allington (2014) reported educators at the elementary level understand the necessity of addressing the literacy needs of struggling students. If weaknesses are not addressed early in a child's academic career, a future of struggling and frustration are inevitable (Allington, 2014). However, research discovered initial gains made by retained students fade over time (NASP, 2011). Denton (2001) suggested that since neither grade retention nor social promotion works, there must be alternatives existing between these two extremes.

Redshirting

Educators need to explore what alternatives are available to end social promotion, while at the same time reducing retention rates (Denton, 2001). Redshirting is a practice to delay kindergarten entry for a child in order to give an extra advantage to the child (Marshall, 2003). Kindergarten plays an important part in a child's socialization to the

school system; however, due to increased academic accountability at all grade levels, the kindergarten curriculum has intensified (Common Core State Standards, 2014). As a result, many parents hold children out of school until they believe their children are academically, socially, or emotionally prepared (Marshall, 2003).

Redshirting refers to parents holding kindergarten-age children back in preschool for an extra year (Marshall, 2003). Parents practice delaying entry into kindergarten for age-eligible students, also known in the literature as academic redshirting, to allow more time for social, emotional, cognitive, and physical development (Frey, 2010). Recent estimates suggest between 6% and 9% of students are redshirted each year as children are deemed unready or not mature enough socially or emotionally for formal instruction in kindergarten (Frey, 2010).

Graue and DiPerna (2000) studied the effects of academic redshirting on children by examining the school records of 8,595 students in the Wisconsin school districts. They reported that 7% of the students had delayed kindergarten entry and a majority of redshirts were boys with summer birthdays (Graue & DiPerna, 2000). This research additionally found that redshirted children were more likely to receive special education services when compared to their peers. Graue and DiPerna (2000) stated children received delayed special services more often because parents sometimes identified problems as immaturity and not as disabilities. However, the authors indicated that resolving these problems by redshirting children might delay the chance for children to receive early intervention services (Graue & DiPerna, 2000)

Moreover, these children performed on academic achievement tests at the same level as their typically promoted peers, and some even performed better than their peers

(Frey, 2005). Research by Grissom (2004) indicated that adolescents whose school entry had been delayed actually demonstrated higher incidences of behavioral problems than did their classmates. Such reports reflect that redshirting did not benefit children, neither academically or socially, and as a result, experts recommend a careful evaluation of each child's needs before making redshirting decisions (Katz, 2000).

Grissom (2004) reported that older students did worse than their classmates, and the older they got, the less well they performed. The negative relationship between children's chronological age and academic achievement is held consistent over time (Grissom, 2004). When students are one-year older than their peers, older students' academic performance continued to decline as they age, hence Grissom's (2004) findings did not support delaying school entry or retaining students (Grissom, 2004). Furthermore, some experts maintain that when redshirting or retaining, children are more likely to experience the lazy learner syndrome (Smith, 2005). Smith (2005) summarized:

> The lazy learner syndrome refers to older students' exposure and competence in skills and concepts that are generally taught in kindergarten. Therefore, they do not engage or challenge themselves academically. Older students are more likely to get frustrated when they are challenged because they are accustomed to learning without effort. Therefore, delaying kindergarten entry is not always beneficial for children. (p. 23)

Grade retention refers to holding back children who are at risk of academic or social failure in the next grade level. Grade retention is a practice mostly reported in kindergarten through primary grades (Frey, 2005). Retention is another issue that is strongly connected to the increasing academic focus and accountability in primary

grades. Frey (2005) stated, "the yearly rate of retention appears to be rising, perhaps spurred by higher levels of accountability and the proliferation of 'zero tolerance' policies regarding achievement in schools" (p. 335). Miller and Almon (2009) maintained that schools use grade retention as a tool to address academic failure and determined from research that retained students' early academic gains slowly fade within a couple of years.

Economic Impact of Early Childhood

The economic impact to society of a comprehensive early childhood education program demonstrates a return of between $2 and $7 for every dollar invested in the program (Reynolds, Temple, White, Ou, & Robertson, (2011). Nobel-Prize-winning economist, James Heckman, estimated that every dollar spent on early childhood education returned 10 cents annually over the life of a child (Heckman, 2011). For example, if $8,000 was invested in early childhood education at birth for a child who went on to live until 65, the return on the investment have been over $650,000, which was nearly 80 times the amount of the original investment of $8,000 (Heckman, 2011).

Hull (2011) argued students who have participated in preschool are less likely to be placed in special education, less likely to be retained in a grade, and more likely to graduate with a high school diploma than similar students who have not attended preschool. Hull (2011) believed participation in preschool promoted higher graduation rates and resulted in savings for school districts, taxpayers, and citizens.

Funding Sources

Throughout the history of establishing preschools, there have been as many different ideas about how to pay for preschool as there are programs (Duncan, 2013). In

2013, 71% of Missouri school districts blended funding for a variety of early learning programs (U.S. Department of Education, 2013a). Funding was included for such programs as the Missouri Preschool Project, Early Childhood programs, Title I, and Early Childhood Special Education (U.S. Department of Education, 2013a).

The legislation, which addressed the standards that directly affect children from birth to school age, is Title I of NCLB. Ewen and Matthews (2007) explained that "Title I of NCLB presents an opportunity for schools and districts to increase investments in high-quality early education initiatives, which may have long term benefits for at-risk children" (p. 1). According to the Consolidated Federal Programs Administrative Manual (2010), the primary legislative purpose of Title I is to: Ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging state academic achievement standards and assessments, and:

> This can be accomplished by meeting the educational needs of low-achieving children, closing the achievement gap between high- and low-performing children, high standards for all students, enriched and accelerated instruction, decentralized decision making, improved accountability, high-quality professional development, coordination and integration of services, expanded family involvement, extended learning time, and early intervention. (p. 20)

Title I funds support early learning, teachers' salaries, professional development, and screenings as appropriate uses of federal funds (U.S. Department of Education, 2013a). According to NCLB, high-quality professional development is characterized by several major interrelated components (U. S. Department of Education, 2002). The major

goal of high-quality professional development is to assist educators, paraprofessionals, staff members, teachers, and administrators with broadening their skills and deepening their learning and understanding of content as well as application of effective instructional strategies (U. S. Department of Education, 2002). According to the Missouri Department of Elementary and Secondary Education (2002), the expectation is for schools to provide professional development that meets the following criteria in the state of Missouri:

- Actively engages teachers in planning, skills, and information over time;
- Directly linked to improved student learning so that all children may meet the Show-Me Standards at the proficient level;
- Directly linked to district and building school improvement plans;
- Developed with extensive participation of teachers, parents, principals, and other administrators;
- Provides time and other resources for learning, practice, and follow-up;
- Supported by district and building leadership;
- Provides teachers with the opportunity to give the district feedback on the effectiveness of participation in professional development activities. (p. 1)

Provisions in the federal Title I guidelines allow schools to utilize portions of Title I funds to allocate resources for the establishment and enhancement of school wide programs for children below the age of 6 (U.S. Department of Education, 2010). According to the federal non-regulatory guidance, *Serving Preschool Children Through Title I*, the use of Title I funds for a preschool program is a local decision (U.S. Department of Education, 2010).

Early intervention allows teachers the opportunity to identify students with learning difficulties, thereby correcting earlier or minimizing learning problems, instead of at a later point in the child's education (U.S. Department of Education, 2013a). In the last decade there has been a growing movement to make high-quality preschool programs available to all 3- and 4-year old children (Ferrandino, 2005). For most preschool programs, serving additional children without sufficient funding resources pose difficult circumstances (Ferrandino, 2005). Another way in which the federal department of education has shown its commitment to early learning is by increasing the funding to both early childhood special education programs and federal Head Start (U.S. Department of Education, 2013a). In addition, there are other federal funding sources for preschool social services programs, such as the federal Child Care and Development fund, and federal Temporary Assistance to Needy Families (U.S. Department of Education, 2010).

New federal sources of preschool funding have recently been created. Examples are Promise Neighborhoods, which has an early learning component, and the Race to the Top (National Institute of Early Education Research, 2014). Learning challenge grants are available to schools wishing to increase early childhood departments and are likely to continue to grow in some form as signature programs of President Obama's administration, as seen in the Preschool for All Plan (National Institute of Early Education Research, 2014).

Three possible strategies for increasing the flexibility of funding sources include: a) coordinating a system to manage information and track expenditures, b) pooling funds to create a master contract at the state level to distribute funds in block grants, and c) de-

categorizing, which requires permission to remove eligibility requirements (U.S. Department of Education, 2013). Weiland and Yoshikawa (2013) suggested that not all early childhood programs are created equal, and spending large amounts of money is not a guarantee of lasting success. Weiland and Yoshikawa (2013) speculated about new reform and in the event that lawmakers should approve a new federal-state pre-school partnership program, many states would seek evidence-based models for funding for early learning. When viewed alongside other research showing the sizable benefits of high-quality preschool, the findings reinforce the message that preschool is a wise investment for children, schools, and their communities (Hull, 2011). Mathis (2012) agreed with the belief that high-quality preschools pay for themselves in future economic and social benefits.

President Obama's Early Learning Plan

Since research has shown the beginning years of a child's life are critical, President Obama (2013) proclaimed early learning as one of the major goals during his State of the Union address. President Obama (2013) emphasized the importance of building a strong literacy foundation in early childhood students because it is necessary for success later in school and in students' careers. In his summary of President Obama's Early Learning Plan, Rodriguez (2013) emphasized:

> Leading economists agree that high-quality early education programs level the playing field for children from low-income families in the areas of vocabulary, social and emotional development, and help students stay on track and remain engaged in the early elementary grades. (p. 1)

In his State of the Union Address, President Obama (2013) proposed an

unprecedented investment in preschool age children with his birth-to-five initiative, which included his promise of $75 billion over the next 10 years. The president explained that his early childhood initiative would create a federal-state partnership to provide high-quality preschool for all 4-year-old students whose families were economically at or below 200% of the federal poverty level (Obama, 2013). United States Secretary of Education, Arne Duncan (2013), elaborated on the President's proposal, explaining that it would boost the quality and supply of federally subsidized childcare for infants and toddlers, as well as expand voluntary home visiting programs, which help parents create positive environments for their children.

President Obama's approach to early education supports the youngest learners with a seamless continuum of care in programs, such as Preschool for All, Early Head Start-Child Care Partnerships, and an expansion of the Home Visiting program (Duncan, 2013). In the 2013 State of the Union address, President Obama (2013) asserted:

> Study after study shows that the sooner a child begins learning, the better he or she does down the road. But today, fewer than 3 in 10 four year-olds are enrolled in a high-quality preschool program. Most middle-class parents can't afford a few hundred bucks a week for a private preschool. And for poor kids who need help the most, this lack of access to preschool education can shadow them for the rest of their lives. So tonight, I propose working with states to make high-quality preschool available to every single child in American. That's something we should be able to do. (para. 39)

President Obama's (2013) preschool initiative capitalizes on growing public awareness about the critical issues facing early childhood development and continues to

support expanding community efforts to seek lasting change for early childhood students. Duncan (2013) confirmed the ground breaking plan for high-quality preschool, which aims at making sure more 4-year-olds enter kindergarten with the tools to be successful in school and beyond, is a top priority for President Obama. The president's proposal would support more 4-year-olds by creating a new federal-state partnership that enables states to provide high-quality preschool for children from low-and moderate-income families (Duncan, 2013). Children who fall behind in primary school have a harder time catching up in the rest of their academic careers, with increasingly negative consequence for economically disadvantaged students who begin school already behind their economically advantaged peers (Duncan, 2013). President Obama's Preschool for All Plan advocates for children from low-income families who began school, on average, 12 to 14 months behind their peers in language development and pre-reading skills (Obama, 2013). President Obama's goal is to sustain lasting effects, benefitting children fundamentally throughout the country (Obama, 2013). In his State of the Union address, President Obama (2013) stated:

> In states that make it a priority to educate our youngest children studies show students grow up more likely to read and do math on grade level, graduate high school, hold a job, and form more stable families of their own. We know this works. High-quality preschool gives children the foundation they need to succeed. So let's do what works and make sure none of our children start the race of life already behind. (para. 40)

Although President Obama strongly promotes preschool reform, Weiland and Yoshikawa (2013) stated that the guidelines outlined in his plan differ from the objectives

of the Boston Public Schools, primarily due to the income limits. President Obama's proposed preschool program requires coverage of only 4-year-olds with family incomes at or below 200% of the poverty level, but does encourage states to include children over that level, as well (McCann, 2013). Duncan (2013) added that investing in high-quality early learning is the best educational investment the nation could make. McCann (2013) agreed this would be the best bang for the educational buck, since the return on the investment is promising.

Duncan (2013) supported President Obama's plan and wrote that high-quality preschools not only build cognitive skills, they also improve students' non-cognitive skills as well. In addition to setting goals for early learning, President Obama's Preschool for All initiative sets high-quality preschool requirements for state programs (Duncan, 2013). The plan requires a bachelor's degree for preschool teachers, a low staff-to-child ratio, a full-day program, employee salaries comparable to those for K-12 teaching staff, and developmentally appropriate evidence-based curricula all provided in a nurturing learning environment (Obama, 2013.). The president's proposal provides the biggest increase in educational opportunities for pre-school age students that have been observed in this century (Duncan, 2013).

Parent Involvement in Early Childhood

Research consistently proves that quality preschool programs benefit not only individual students, but schools districts and communities as well (Comer & Ben-Avie, 2010). Healthy interactions between educators and families create necessary conditions for the early childhood program to impact the life paths of the families; and thus impact the life paths of early childhood students (Comer & Ben-Avie, 2010). A positive

relationship between childcare and nearly every facet of children's development support a growing recognition of the need to provide quality opportunities in early childhood (Comer & Ben-Avie, 2010).

Stipek (2001) reported academic achievement conducted in relation to socioeconomic status, aligns with previous research findings that children from economically disadvantaged families, on an average, begin school with poorer academic skills then their economically advantaged peers. Low socioeconomic status does not directly affect achievement; however, it serves as a mediator between achievement and factors that are associated with economically disadvantaged students such as lower parental involvement, stress, lower expectations, availability of resources, and limited background experiences (Stipek, 2001).

Adding to this dialogue, Hull (2011) explained how the benefits were more pronounced for minority and low-income children who had not attended preschool. According to Hull (2011), minority and low-income students typically start kindergarten 12 to 14 months behind their peers in cognitive abilities. These findings emphasized the value of high-quality preschool and efforts to close achievement gaps (Hull, 2011). The home environment is associated with academic achievement at the start of school as well as in later years (Comer & Ben-Avie, 2010). The effects that the home environment and parenting choices have upon children's motivational development are considered significant (Comer & Ben-Avie, 2010). Children internalize aspects of parental values and expectations, forming self-concepts as a learner, reinforcing the concept that children acquire cognitive skills and literacy through interaction with others who aid and encourage skill development (Comer & Ben-Avie, 2010).

Engaging parents not only impact the lives of children, but also influence the well-functioning of early childhood centers (Comer & Ben-Avie, 2010). The influence of a child's preschool center upon academic achievement is pertinent in developing literacy and numeracy during the first years of formative school (Bartik, 2011). Early literacy skills tend to be more developed in young children who have been read to on a regular basis by their caregiver, which are then linked to increased academic achievement and later success in the school setting (Jones & Reynolds, 2011). Bartik (2011) elaborated:

> The importance of school readiness and mounting evidence demonstrates the role of parenting for children's ongoing achievement. Academic achievement in adolescence and beyond can be linked to academic skills at school entry and school entry ability can, in turn, be linked to preschool abilities. Possibly, preschool experience matters because behavior is more susceptible to the environment earlier rather than later in childhood and because starting school is a critical social transition period. (p. 102)

The benefits of family engagement in students were reported by a study conducted by Galindo and Sheldon (2012); findings included that the more activities the school conducted to engage families, the higher the levels of involvement parents had at school. Kindergarten students whose parents were more involved in school activities and had higher educational expectations were more likely to outperform their peers who did not have parental support and involvement (Galindo & Sheldon, 2012). Performance gains were especially observed in the areas of math and reading. Galindo and Sheldon (2012) confirmed that parent involvement strengthened children's readiness for school and academic performance in later school years.

Ackerman (2009) suggested in order to involve parents in effective transition activities, an understanding of parents' perspectives is necessary. A study conducted by Ackerman et al. (2009) observed that parents focused more on cognitive skills for readiness; whereas, teachers tend to mention social and emotional development as important skills for transition into kindergarten. Wesley and Buysse (2003) reported parents expressed the need for communication with their child's school about kindergarten expectations; content to be covered during the preschool year; school policies, schedules, class assignments, their child's activities each week, and general progress; and ways to be involved with preschool programs. Parents expressed that overall there are few resources relating to school readiness, besides school booklets outlining the basic skills necessary for kindergarten entry (Wesley & Buysee, 2003).

A study by Wildenger (2011), which challenged preschool teachers to be actively engaged with families in transition practices for kindergarten, yielded positive results. However, results were less favorable if levels of communication and collaboration with prospective parents were low, both in the preschool setting and in kindergarten (Wildenger, 2011). The findings of Wildenger (2011) suggested to engage family involvement in transition activities, both preschool and kindergarten programs must work together to support children's smooth transition to kindergarten. Child development is a complicated and complex process with long lasting effects in the educational readiness skills of a young child (McLeod, 2012). Children should be engaged participants in the learning (McLeod, 2012; 2013). Social and cultural characteristics can influence the developmental skills of a young child (McLeod, 2013). The Ministry of Education (2010) reported, "Effective early learning for children arises from the development of

meaningful partnerships between parents and families, teachers, early childhood educators, school leaders and the broader community" (p. 10).

Poverty

In research conducted by Welsh, Nix, Blair, Bierman, and Nelson (2010), children living in poverty were considered to be at-risk of failure, following research which focused on information within the executive functioning, noting specifically, working memory when analyzing kindergarten achievement in reading and math. Welsh et al. (2010) stated, "given the finding that executive functions are an aspect of cognitive development particularly likely to be adversely affected by poverty, it may be that poor children would particularly benefit from targeting executive functioning and early intervention" (p. 51).

Heckman (2011), the 2000 Nobel Laureate, shared research which was dedicated to the development of a scientific basis for early childhood including developing models to study unemployment, wage growth, and skill formation in families of preschool students. Heckman (2011) advocated individual productivity fosters investments in young children, particularly children in poverty or other adverse circumstances. Children develop workforce skills, such as motivation, persistence and self-control, based upon an analysis of the impact of their current family conditions, skills, crime, and family environments (Heckman, 2011). Cognitive abilities are important for a productive workforce and the gaps that emerge early in preschool age students are difficult to change (Heckman, 2011). Starting early and continuing over time, investing in young children is an investment in future productivity and public safety (Heckman, 2007).

Hustedt et al. (2008) uncovered similar findings, which included the impact of families living in an area of concentrated poverty, parental attitudes toward education, parental education levels, and children's academic potential. The American workforce is not gaining in quality or productivity, but rather it has experienced a slower growth, according to Heckman (2011). If this trend in the workforce continues, there will be fewer educated individuals working and lower productivity than in previous periods (Heckman, 2011).

Heckman (2011) predicted growing numbers of children face adverse environments that restrict the development of their educational skills. Heckman (2011) suggested there are two reasons for persistent positive effects of language; basic skills are more easily acquired at a younger age and advanced skills are more readily acquired with a strong foundation in basic skills. Research shows a decline in parenting practices, such as reading to children, using complex language, responsiveness, and warmth in interactions, all of which were associated with better developmental outcomes (Comer & Ben-Avie, 2010). In short, as Hill et al. (2012) stated, "learning begets learning; skill begets skill" (p. 4). This partly explains the link between socioeconomic status and developmental outcomes, which more importantly enhances success by developing the child's ability and motivation to learn in general (Comer & Ben-Avie, 2010). The link between socio economic status and academic achievement has been identified as a significant predictor of phonemic awareness, as the age of the preschool population is considered the pivotal age in which the link becomes more apparent (Stipek, 2001).

Research by Hines et al. (2011) predicted that the impact of even the best preschool curricula is likely to be limited by environmental stress on the developing

brain. Research and programs aimed at improving the ability of both caregivers and educators lay a powerful foundation for subsequent learning and should be taken as seriously as schooling in later years (Hines et al., 2011). Early education and early interventions have the potential to mitigate the effects of poor family environments (Hill et al., 2012). Heckman (2011) wrote, "We cannot afford to postpone investing in children until they become adults, nor can we wait until they reach school, a time when it may be too late to intervene" (p. 451).

Transition to kindergarten

Going to kindergarten is an important stage of life for many children and their parents, who hope for a smooth transition from preschool to kindergarten. Miller and Almon (2009) maintained that kindergarten programs used to emphasize play and hands-on learning. Children chose the areas to play, and the emphasis was on the choices made by children (Miller & Almon, 2009). Children spent most of the school days in active, child-centered, and imaginative exploration in kindergarten; however, in the last two decades kindergarten has drastically changed (Miller & Almon, 2009). Today's kindergarten curriculum focuses on teaching math and literacy skills as a preparation for taking standardized tests in later grades, with children spending 30 minutes or less for free play time (Miller & Almon, 2009).

Research conducted by Kagan and Rigby (2003) determined continuity is a vital process of children's transition between preschool and kindergarten classrooms. Studies have noted the importance of continuity between preschool and kindergarten as an important predictor of children's academic success in school (Kagan & Rigby, 2003). Continuity in transition between preschool and kindergarten classrooms have shown

many benefits and can be achieved without much time or resources involved (Kagan & Rigby, 2003). The recommended transition activities include directly contacting families, visiting students' home before school starts, hosting open house activities with pre-enrollment classroom visits for parents and children, hosting parent orientation sessions, and providing resources for kindergarten expectations (Galindo & Sheldon, 2012). Kagan and Rigby (2003) reported states and school districts are initiating collaboration to enhance transition between preschool and kindergarten. Research has suggested that in such cases, continuity is initiated by providing professional trainings for teachers across the early childhood span and facilitating collaborations among preschool and kindergarten teachers on curriculum, instruction, and assessment (Kagan & Rigby, 2003).

Sustained communication strategies between preschool and kindergarten teachers have not been instituted widely, although research indicates teachers believe these strategies are valuable and worthwhile (Hopps, 2004). Studies conducted by LoCasale-Crouch et al., (2008) reflected that communication between preschool and kindergarten programs are not implemented consistently throughout the year and the exchange of information is only one way, such as a preschool teacher sending a child's portfolio to the child's kindergarten teacher Participating teachers indicated that the lack of communication came from the lack of time and lack of administrative involvement to facilitate ongoing effective communication between vertical teams of teachers (LoCasale-Crouch et al., 2008). Preschool teachers use various strategies to prepare children for kindergarten (LoCasale-Crouch et al., 2008). While visiting kindergarten classrooms, meeting with parents to discuss kindergarten readiness, and contacting kindergarten

teachers about curriculum issues are reported for preschool teachers, kindergarten teachers' visits to the preschool classrooms were the least reported practice (LoCasale-Crouch et al., 2008). LoCasale-Crouch et al., (2008) emphasized schools should focus on sharing knowledge and promote the development of continuity and transition to help children and their teachers build on what has gone before.

The findings of Dockett and Perry (2009) suggested that to engage families in transition activities, both preschool and kindergarten programs must work together to support children's smooth transition to kindergarten. The United States National Education Goals Panel (Dockett & Perry, 2009), identified one of the components for school readiness is in fact the school's readiness for children. In order for a school to be ready for incoming children, schools must promote continuity between preschool and kindergarten, whereby Dockett and Perry (2009) suggested utilizing transition practices that can be implemented in both preschool and kindergarten. One practice in particular is to engage families in conversation regarding the transition period (Dockett &Perry, 2009). Strategies Dockett and Perry (2009) promoted in schools that wished to encouraging continuity are providing time and opportunities for staff to build understandings of each other's educational approach and expectations, developing complementary curriculum, and sharing resources.

Moreover, a growing number of counties, school districts, and charter schools across the nation are currently making efforts to build collaboration among early childhood educators and the education system (Jacobson, 2009). Examples of collaborative work include:

> Providing professional development for teachers and para educators, implementing new preschool learning standards that are aligned to state's K-3 standards, building a data infrastructure that collects information on children's early learning experiences, and linking the data with K-12 data systems. (Jacobson, 2009, p. 3)

According to Jacobson (2009), this type of collaboration is believed to enable children to achieve proficiency by the end of third grade and may close the achievement gap as well as raise academic performance. Mashbum and Gary (2004) noted a positive experience with transition can promote transition for future school adjustments, and it can also assist young children to learn coping skills to manage separation throughout their life. Educators can create training programs, facilitating formal collaborative interactions among teachers, and establishing clear definitions for school readiness (Mashbum & Gary, 2004),

Summary

School readiness is the key to the academic success of early learners (Webster-Stratton et al., 2008). High-quality instruction from well-qualified teachers, a low teacher to student-ratio, and a high level of parental involvement with availability of family services are considered particularly important for early learning success (Weiland & Yoshikawa, 2013). Children who attend preschool programs gain more extensive vocabularies, know more letters and more letter-sound associations, and are more familiar with words and book concepts (Dotson, 2013). Research has suggested early gains in preschool may dissipate and fade if students do not have opportunities to build on their skills and knowledge secured during an early learning experience (Hill et al.,

2012). Short-term effects of a strong preschool program may fade over time, if a lack of parental investments and other family factors offset or fail to reinforce early gains (Hill et al., 2012).

Schweinhart (2011) stressed that not all early childhood programs were created equal, and programs that make an impact are thoughtfully designed, implemented, and staffed by high-quality professionals. The Preschool for All Plan challenged states to keep their promise to children and their families; to ensure that more than a million additional kids are ready to succeed in school and beyond (Obama, 2013). Research based indicators continue to be used to determine program ratings for staff qualifications, teacher and director level of education, years of experience, staff-child ratio, family partnerships, and the learning environment (Sabol, Hong, Pianta, & Burchinal, 2013). Effective preschool programs provide a foundation for children's subsequent school success by sending children to kindergarten with built-in confidence created from success in an early learning opportunity (Jones & Reynolds, 2011). As Dotson (2013) speculated:

> We will pay now or we will pay later. There's no economic recovery strategy or k-12 investment stronger than the commitment to early childhood. Pre-school education, particularly for low income children and families, combats crime, teen pregnancy, and high school dropout rate. (p. 43)

Research indicates quality early learning preschool has great potential for counteracting the negative impact of at-risk factors for children and is considered one of the biggest factors in narrowing the achievement gap in students (Missouri Department of Elementary and Secondary Education, 2013a). Another greatly underestimated problem

for disadvantages children is poverty, and research has shown poverty is transitory (Ackerman et al., 2009). Ackerman et al. (2009) surmised kindergarten readiness is strongly related to parental income, education level, and home language environment, therefore investment in high-quality early childhood education offers a solid alternative to offset the negative effects of poverty and low-socio-economic status.

In terms of academic effects, preschool has shown large, immediate, and considerable long term pay offs (Barnett, 2008). Ewen and Mathews (2007) explained that "the growth in poverty and its associated risk factors among very young children suggests that efforts to reduce the achievement gap should begin in children's earliest years" (p. 1). Research suggests that high-quality intensive preschool education, provided to students for at least two years, could by itself, close as much as half of the achievement gap (Barnett, 2008).

This chapter included a review of literature related to the impact of preschool attendance on students and the issues that currently impact preschool programs. Given the critical nature of learning in the first five years of a child's life, early learning programs are crucial in preparation for kindergarten (Ferrandino, 2005). Ward-Cameron (2013) concluded that 90% of a typical child's brain is developed by the age of 5; therefore, it is logical to put early childhood educators on the frontlines of establishing a foundation for future success, especially in literacy. In Chapter Three, the methodology and design of the study were addressed. Analysis of the data was presented in Chapter Four. A summary of the findings related to literature, conclusions, and recommendations for further research were discussed in Chapter Five.

Chapter Three: Methodology

Problem and Purpose

The DRA2+ scores of kindergarten students who participated in a preschool program were compared with those students who did not, to determine if there was a statistically significant difference in literacy development and kindergarten readiness. In addition, this research aimed to provide insight from surveying the perspectives of kindergarten teachers and interventionists regarding their students' social strengths, sense of self efficacy, and the potential impact on reading ability in kindergarten students from preschool attendance.

Universal preschool and its impact for kindergarten readiness have raised much controversy in current society. Because of the achievement gap between children from advantaged and disadvantaged families, kindergarten readiness is considered to be an important determinant in closing the achievement gap (Barnett, 2008). Due to the introduction of higher standards in elementary grades, academic pressure is continually rising for children in kindergarten; therefore, preschool teachers are working to increase children's readiness for kindergarten (Missouri Department of Elementary and Secondary Education, 2014).

In Chapter Three is a description of the study, including the participants, measures, and procedures. In this case study, quantitative research data were utilized. Creswell (2013) explained that primary investigators may combine quantitative research techniques into a single study. The research design was chosen to achieve a deeper understanding of the connections between DRA2+ scores of kindergarten students who received an early learning preschool experience and those who did not receive a similar

preschool experience. Data were analyzed from three academic years to determine trends. Kindergarten teachers were selected as they are closely involved in the issues of school readiness and can provide authentic information on this topic.

Educator perceptions of the impact of preschool were measured using Likert Scale items along with open-ended questions. These responses were documented following an analysis of student assessment data. Participants were asked to rate their beliefs of the impact of early learning experiences using *strongly agree, agree, undecided, disagree, and strongly disagree*. It is important to mention that teachers' perspectives were embedded within the context of their personal and professional experiences and backgrounds.

Research Questions

The following three research questions guided this case study:

1. What is the difference between the DRA2+ scores of kindergarten students who had a preschool experience and those who did not?

2. What are the perceptions of teachers of students who had received an early learning experience?

3. What are the perceptions of teachers of students who did not received an early learning experience?

Hypothesis

The following null hypothesis was formed:

H_o There is no difference between the DRA2+ scores of kindergarten students who had a preschool experience and those who did not.

Research Design

The goal of quantitative research is to "establish generalizations that transcend the immediate situation or particular setting" (Fraenkel, Wallen, & Hyun, 2012, p. 11). In this study, students' reading abilities as recorded on DRA2+ reading assessments were documented. Teachers' perceptions of students' reading efficacy in kindergarten were analyzed to discover more about successful reading readiness and the pre-literacy skills necessary to assist students in their formative years. The independent and dependent variables, in this study were determined. The independent variables were categorized into two groups: a) students who attended preschool, and b) students who did not attend preschool, all of which were from the same school district. Literacy development in kindergarten children was the outcome variable examined in this case study. The students' reading scores on the DRA2+, which was administered during the last semester of the kindergarten year, was the dependent variable.

To gain further insight, kindergarten teachers and specialized educators, who are referred to as reading interventionists, were surveyed using a Likert Scale survey, in addition to the inclusion of open-ended questions (see Appendix A). Open-ended questions provided an opportunity for educators to share their beliefs and comments with regard to factors that may have the potential to impact the success of early childhood students' reading abilities and their correlating independent reading levels.

Population and Sample

The population for this study included Missouri public school kindergarten teachers and interventionists as well as student scores from the DRA2+. The sample was comprised of all 17 kindergarten teachers and four interventionists in the participating

elementary school. The DRA2+ scores of 1,080 kindergarten students (for 2010-2011, 2011-2012, and 2012-2013) were gathered. This sample represented all kindergarten age students in the participating school.

In this study, the DRA2+ data had been obtained at the end of each school year. Kindergarten teachers recorded the DRA2+ data on a district generated form and provided the scores to the district literacy coach (see Appendix B). In addition, teachers indicated on the reporting form if students had attended a preschool. Teachers obtained this information by referencing the district information data base.

Following permission from district central office personnel, an electronic survey was provided to all 17 kindergarten teachers and four reading interventionists who supported all kindergarten students in the participating school (see Appendix C).

Instrumentation

The data collection tool utilized for this study was the DRA2+, supplied by Pearson Education (Pearson Education, Inc., 2014). The DRA2+ tool was created by Joetta Beaver, focusing on key characteristics and behaviors of good readers (Pearson Education, Inc., 2014). The DRA2+ assesses student performance in reading proficiency, reading engagement, oral reading fluency, and comprehension, which is compiled into one leveled reading score (Pearson Education Inc., 2014). The DRA2+ can be used to document each student's reading progress over time, as it can be administered frequently throughout a school year (Beaver, 2012). Beaver (2012), explained:

> The DRA2+, K-3, assessment enables primary teachers to systematically observe, record, and evaluate changes in student reading performance. DRA2+ provides teachers with information that helps them determine each student's independent

> reading level and identify what the student needed to learn next. The assessment can be used on a semi-annual or annual basis to monitor and document change over time in each student's reading progress. (p. 4)

The building literacy coach, trained in administering DRA2+ assessments, provides yearly training and scoring procedures for all teachers and interventionist prior to DRA2+ assessment window. Thus, training for all staff insures test fidelity. In the second edition of the developmental reading assessment is a built-in timer, which is utilized per directions. Beaver (2012) elaborated:

> The DRA2+, K-3 is specifically designed for kindergarten through third-grade classrooms with rich literature environments. In such classrooms, reading and writing are taught as reciprocal processes, a wide variety of children's books are available and accessible, and reading and writing activities are meaningful. (p. 4)

Beaver (2012) recommended that students are provided with the opportunity to hear a variety of literature and to read aloud on a daily basis, and in addition, respond to literature in multiple ways, so that they are prepared for the reading assessments. Although several safeguards to reduce sources of error are put into place, assessment procedures are not immune to errors (Ravid, 2011).

An electronic survey was made available via SurveyMonkey to all kindergarten teachers and interventionists. Overall, the format of the survey instrument was optimized through the use of the online software provided by SurveyMonkey. The electronic survey allowed for data to be collected and participants to remain anonymous, facilitating educators answering the questions honestly with their perceptions of the impact of preschool.

Data Collection

After obtaining permission from the Lindenwood University Institutional Review Board (IRB) (see Appendix D), an email was sent to the school district assistant superintendent asking if he or she would feel comfortable endorsing this survey to his or her kindergarten faculty. The district assistant superintendent was offered the option of a customized report of the survey findings for his or her kindergarten population if such endorsement was given.

After the response from central office administration was received, an email invitation containing the information prescribed in the Lindenwood IRB adult consent form, a request for respondent participation, and a hyperlink to the survey instrument was delivered to the institutional email account of each of the potential respondents, 17 kindergarten teachers and four interventionist for the 2013-2014 school year (see Appendix E).

The survey in this study consisted of responses used to analyze and gain insight into teachers' perceptions of the impact of preschool on kindergarten students' readiness, reading confidence, and developmental reading levels at the end of kindergarten. Open-ended questions embedded in the survey allowed the participants to provide their personal reflections on the impact of early learning. There were no risks or sensitive topics related to this study.

In addition to the survey, secondary data were obtained from the building literacy coach from kindergarten students' DRA2+ scores for the years 2010-2011, 2011-2012, and 2012-2013. The total numbers of leveled reading scores obtained from kindergarten students were 1,080. In this study, the literacy coach expunged all identifiable

information prior to providing data for analysis of kindergarten students' DRA2+ scores and potential growth relating to literacy development. Components of the DRA2+ leveled reading score were expressive language, phonemic awareness, decoding, fluency, and comprehension.

Data Analysis

A conversion chart was utilized as the DRA2+ raw scores are not reported in linear numbers (see Appendix F). A linear transformation preserves linear relationships between variables; therefore, the correlation between x and y would be unchanged after a linear transformation (Ravid, 2011). Without the use of a conversion chart, the increases or decreases for linear relationships would change and, thus, change the correlation between variables in the DRA2+ data and potentially impact the *t*-test analysis conducted in this research.

An independent two sample *t*-test was conducted to compare the two sets of data for each of the years 2010-2011, 2011-2012, and 2012-2013. Analysis is conducted to determine the greater statistical significance (Ravid, 2011). Data were displayed in charts and frequency distribution was assessed. In statistics, a frequency distribution is an arrangement of the values that one or more variables take in a sample (Ravid, 2011). By doing thus, data were compared and patterns of reading levels were observed. Tables were used to illustrate students scoring in levels determined by the local school district as advanced, proficient, basic, or below basic level, based upon the Scholastic Guided Reading Leveling Chart (see Appendix G).

Data were analyzed by examining the mean of the scores within the district proficiency levels. According to Ravid (2011), the mean, which is also called the

arithmetic mean, is obtained by adding the scores and dividing the sum by the number of scores. In probability and statistics, mean and expected value are used synonymously (Ravid, 2011). The mean serves as an effective measure when analyzing distribution of scores for the sample population. The mean of the students' reading levels, those who attended early learning experiences and those who did not, were evaluate for gains made in the kindergarten attendance year. By analyzing the DRA2+ data from the years of 2010-2011, 2011-2012, and 2012-2013, the findings provided a summary of gains achieved by the kindergarten population.

The Likert Scale survey responses were automatically stored in a spreadsheet integrated within the electronic survey found in SurveyMonkey. The answer choices a respondent was present for each of the four questions were: *strongly agree, agree undecided, disagree, and strongly disagree*. Data collected from the participants' responses to the two open-ended questions were compiled for examination and analysis. From the data representing the kindergarten teachers and interventionists' perspectives, the responses were examined for patterns and explored for relevance.

Summary

Chapter Three provided an overview of the methodology; in addition the design used in the case study was addressed. An explanation of the study's research questions, the null hypothesis, and the general research design of the study were explored. The section on data collection described the methods and procedures for collecting DRA2+ student scores from kindergarten teachers.

In Chapter Three, reviewed were the procedures for collection and analysis of the perceptions of kindergarten classroom teachers and interventionists from one Missouri

school. The survey reflected the educators' perceptions of students' confidence and motivation in reading, as well as their overall kindergarten readiness. Data tables were created from students' DRA2+ leveled reading scores to visualize findings between those who had a preschool experience and those who did not.

In Chapter Four, data collected from developmental reading assessments administered to kindergarten students are presented. Also, data collected regarding the preschool attendance and kindergarten readiness and reading achievement are examined. Additionally, in Chapter Four educator responses from the survey are analyzed for trends and a discussion of the findings and results is provided. Chapter Five contains a summary of the findings related to literature, limitations of the findings, conclusions, and recommendations for further research on the impact of early learning in preschool.

Chapter Four: Analysis of Data

Overview of the Study

The purpose of this study was to examine the influence of an early learning experience on literacy development in students who received a preschool experience and those who did not, by comparing reading scores from kindergarten students utilizing the DRA2+. In addition, educator perceptions of the impact of preschool were gathered utilizing a survey via SurveyMonkey. Two open-ended questions allowed educators to elaborate on personal perceptions of working with kindergarten students who had a preschool experience as well as those who had not received a preschool experience. Perceptions were measured through a Likert Scale with comments from only teachers and interventionist who had experience in the administration of the DRA2+ assessment.

The collection of data was from one elementary school in Missouri. The DRA2+ was administered to each kindergarten student enrolled at the study site during the final quarter of their kindergarten year, by either the classroom teacher or by an interventionist who worked with the student. The DRA2+ data results were compiled by the classroom teacher on a Microsoft Excel spreadsheet with a yes or no, indicating if a student had received an early learning preschool experience. To analyze the assessment results for each year, the kindergarten DRA2+ scores were converted into proficiency levels of advanced, proficient, basic, and below basic. The total number and percentages were reported for each proficiency level.

This chapter represents the findings from utilizing a *t*-test for DRA2+ data for each year (2010-2011, 2011-2012, and 2012-2013). By discovering the mean score for each year, in addition to analyzing the number of students who fell into district set

proficiency levels, data were used to test for statistically significant differences. The survey participants were kindergarten classroom teachers and interventionists who worked with and administered the DRA2+ assessments to kindergarten students. There were 21 educators invited to participate in this survey.

Organization of Data Analysis

Specifically, this research included DRA2+ assessment data collected from 17 kindergarten teachers, three at-risk educators, and one special education resource teacher. The survey was delivered via SurveyMonkey to each of the 21 participants. The role of each educator is represented in Table 1.

Table 1

Total Number of Interventionists

Number of Kindergarten Teachers	Number of At-risk Educators	Number of Special Education Teachers
17	3	1

Note. Data provided by participating school district.

If the DRA2+ student assessment was administered by an interventionist, the assessment results were provided to the homeroom teacher to be compiled with the remainder of the classroom student assessment data. Each of the 17 classroom teachers compiled all student assessment data and provided the raw scores to the building literacy coach. The DRA2+ data were provided to the building literacy coach utilizing a district generated Microsoft Excel spreadsheet. Kindergarten students' DRA2+ scores were coded using a conversion chart, as shown in Table 2.

Table 2

DRA2+ Conversion Chart

DRA2+ Score	Conversion Score
A	1
1	2
2	3
3	4
4	5
6	6
8	7
10	8

Note. Conversion scores provided by participating school district.

The kindergarten data were sorted into proficiency levels. The proficiency level represented a student's progress on the DRA2+. Four categories are utilized by this district for reporting outcomes to the parents and district personnel: advanced, proficient, basic, and below basic. The school district obtained the kindergarten DRA2+ data levels by referencing the Scholastic Guided Reading Leveling Chart. Scoring in the advanced levels (8) or above indicates the student has advanced understanding and exceeds grade-level expectations. Scoring in the proficient level (4-6) indicates the student has proficient understanding and meets grade-level expectations. Scoring in the basic category (3-4) indicates the student understands the basic concepts or skills and partially meets grade-level expectations. Scoring in the below basic (A, 1-2) category indicates minimal understanding and that the student does not meet grade-level expectations. A student who receives a below basic score has academic delays, according to district

expectations, and is considered at risk for academic failure. See Tables 3, 4, and 5 for End of the Year (EOY) kindergarten proficiency levels for each of the three years analyzed in the study.

The total number of students assessed during the 2010-2011 kindergarten year with the DRA2+ was 366. The number of students who received an early learning experience was 240 (65%). The data indicated that 230 students who did receive an early learning experience scored in the basic or above proficiency level with 230 students (95.8 %) scoring out of the at-risk zone of below basic. The data indicated that 126 students (34.4%) of the total kindergarten population who were given the DRA2+ assessment did not have a center based preschool experience. Of those students who did not have an early learning experience, 115 (91%) scored at basic or above.

Table 3

2010-2011 EOY Kindergarten Proficiency Levels

	Levels	Number with Pre-K	Percentage with Pre-K	Number without Pre-K	Percentage without Pre-K
Advanced	(8-10)	94	39%	31	25%
Proficient	(4-6)	43	18%	19	15%
Basic	(3-4)	93	39%	65	51%
Below Basic	(A, 1-2)	10	4%	11	9%

Note. Data provided by participating school district.

The total number of students assessed during the 2011-2012 kindergarten year with the DRA2+ was 372. The number of students who received an early learning experience was 217 (58%). The data indicated that 155 (42%) of the total kindergarten population taking the DRA2+ at the end of the school year did not have a center based

preschool experience. The data indicated that 207 (95%) students who did receive an early learning experience scored in the basic or above categories, scoring out of the at risk zone. Data indicated that 155 (42%) of the total kindergarten population who were given the DRA2+ assessment did not have a center based preschool experience. Of those students 145 (94%) scored at basic or above.

Table 4

2011-2012 EOY Kindergarten Proficiency Levels

	Levels	Number with Pre-K	Percentage with Pre-K	Number without Pre-K	Percentage without Pre-K
Advanced	(8-10)	64	30%	56	36%
Proficient	(4-6)	32	15%	25	16%
Basic	(3-4)	111	51%	64	41%
Below Basic	(A, 1-2)	10	4%	10	7%

Note. Data provided by participating school district.

The total number of students assessed during the 2012-2013 kindergarten year with the DRA2+ was 342. The number of students who received an early learning experience was 235 (69%). The data indicated that 107 (31%) of the total kindergarten population taking the DRA2+ at the end of the school year did not have a center based preschool experience. The data indicated that 227 (97%) students who did receive an early learning experience scored in the basic or above categories, scoring out of the at risk zone. Data indicated that 99 (93%) of the total kindergarten population who were given the DRA2+ assessment and who did not have a center based preschool experience scored at basic or above.

Table 5

2012-2013 EOY Kindergarten Proficiency Levels

	Levels	Number with Pre-K	Percentage with Pre-K	Number without Pre-K	Percentage without Pre-K
Advanced	(8-10)	78	34%	38	36%
Proficient	(4-6)	28	12%	15	14%
Basic	(3-4)	121	51%	46	43%
Below Basic	(A, 1-2)	8	3%	8	7%

Note: Data provided by participating school district.

Analysis of Quantitative Data

An independent two sample *t*-test was conducted for each of the years 2010-2011, 2011-2012, and 2012-2013 to compare DRA2+ scores of students who had an early learning preschool experience and those who did not. Since the number of samples was relatively large, respectively, the assumption of normality was likely to be satisfied. See Tables 6 through 11 for statistical data summary per year.

Based on a *p*-value threshold of 0.05, there was a statistically significant difference between DRA2+ scores of students who attended preschool and those who did not attend preschool (see Tables 6 and 7).

Table 6

2010-2011 Data Set Summary

	n	*M*	*SD*	Mdn
Preschool	240	5.975	1.618	6.0
No Preschool	126	5.421	1.685	5.0

Note. n = Number of participants, *M* = Mean, *SD* = standard deviation, Mdn = median

Table 7

2010-2011 Data Summary from Independent t-Test

Measure	*t*	*df*	*p*	*r*	*d*
	3.070	364	0.002	0.159	0.343

Note: t = *t* distribution, *df* = degree of freedom, *p* = probability, *r* = correlation coefficient, *d* =Cohen's variance

Based on a *p*-value threshold of 0.05, there was not a statistically significant difference between students who attended preschool and those students who had no preschool experience in year 2011-2012 (see Tables 8 and 9).

Table 8

2011-2012 Data Set Summary

	n	*M*	*SD*	Mdn
Preschool	217	5.668	1.630	5.0
No Preschool	155	5.865	1.784	5.0

Note. n = Number of participants, *M* = Mean, *SD* = Standard Deviation, Mdn = *Median*

Table 9

2011-2012 Data Summary from Independent t-Test

Measure	*t*	*df*	*p*	*r*	*d*
	1.101	370	0.272	0.057	0.120

Note. t = *t* distribution, *df* = degree of freedom, *p* = probability, *r* = correlation coefficient, *d* =Cohen's variance

Based on a *p*-value threshold of 0.05, there was not a statistically significant difference between the two sets of data for year 2012-2013 (see Tables 10 and 11).

Table 10

2012-2013 Data Set Summary

	n	*M*	*SD*	Mdn
Preschool	235	5.706	1.630	5.0
No Preschool	107	5.757	1.784	5.0

Note. n = Number of participants, M = Mean, SD = Standard Deviation, Mdn = Median

Table 11

2012-2013 Data Summary from Independent t-Test

Measure	*t*	*df*	*p*	*r*	*d*
	0.257	340	0.797	0.014	0.031

Note. t = *t di*stribution, df = degree of freedom, p = probability, r = correlation coefficient, d =Cohen's variance

To further analyze the data, the mean score for each of the three years was in the proficient range for those who had an early learning preschool experience and those who did not. The data results indicated for 2010-2011 the mean score was higher for those students who had an early learning experience than for those students who had not. The data did not indicate a higher mean score for 2011-2012 and 2012-2013.

Analysis of Survey Data

An email link to an on-line survey was sent to 21 educators in order to gather their responses from two open-ended questions. Survey statements were designed to evaluate the impact of an early learning experience upon kindergarten DRA2+ assessments. Twenty participating educators responded to the survey and provided anonymous comments in regard to their perceptions of the impact of attendance in preschool to kindergarten age students.

Survey statement 1. An early learning preschool experience impacts students overall academic achievement.

Respondents were asked to rate this statement on a scale of *strongly agree, agree, undecided, disagree, and strongly disagree*. Eighteen (90%) educators reported strongly agree, that an early learning preschool experience impacted students' overall academic achievement. One (5%) respondent reported agree, zero were undecided, one (5%) disagree, and zero responded strongly disagree (see Table 12). No participating respondents skipped this question.

Table 12

Descriptive Statistics of Responses to Survey Question 1

	SA	A	U	D	SD
Percentage	90%	5%	0%	5%	0%
No. of Participants	18	1	0	1	0

Note. SA = Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree

Survey statement 2. An early learning preschool experience impacts reading abilities.

Respondents were asked to rate this statement on a scale of *strongly agree, agree, undecided, disagree, and strongly disagree*. Eighteen (90%) educators reported strongly agree, that an early learning preschool experience impacted reading abilities. One (5%) respondent reported agree, zero were undecided, one (5%) disagree, and zero responded strongly disagree (see Table 13). No participating respondents skipped the question.

Table 13

Descriptive Statistics of Responses to Survey Question 2

	SA	A	U	D	SD
Percentages	90%	5%	0%	5%	0%
No. of Participants	(18)	(1)	(0)	(1)	(0)

Note. SA = Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree

Survey statement 3. An early learning preschool experience impacts DRA2+ exit scores from kindergarten.

Respondents were asked to rate this statement on a scale of *strongly agree, agree, undecided, disagree, and strongly disagree*. Thirteen (68.42%) educators reported strongly agree, that an early learning preschool experience impacts DRA2+ exit scores for kindergarten students. Five (26.32 %) responded agree, zero were undecided, one (5.26%) disagree, and zero responded strongly disagree (see Table 14). One question was skipped by a participating respondent.

Table 14

Descriptive Statistics of Responses to Survey Question 3

	SA	A	U	D	SD
Percentages	68.42%	26.32%	0%	5.26%	0%
No. of Percentages	(13)	(5)	(0)	(1)	(0)

Note. SA = Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree

Survey statement 4. An early learning preschool experience impacts and motivates students' attitudes.

Respondents were asked to rate this statement on a scale of *strongly agree, agree, undecided, disagree, and strongly disagree*. Eleven (55%) educators reported strongly

agree, that an early learning preschool experience impacts students overall academic achievement. Eight (40%) responded agree, one respondent was undecided, zero disagree, and zero responded strongly disagree (see Table 15). No questions were skipped by the participating respondents.

Table 15

Descriptive Statistics of Responses to Survey Question 4

	SA	A	U	D	SD
Percentages	90%	5%	0%	5%	0%
No of Percentage	(18)	(1)	(0)	(1)	(0)

Note. SA = Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree

Open-ended question 1. Describe your perceptions from working with students who have received an early learning preschool experience.

When presented this question, responses were varied. One common overriding theme emerged as educators specifically mentioned increased social skills with those students who had received an early learning experience. This resulted in better behavior and ability to attend and focus in class. Eleven educators noted appropriate social or behavior expectations in students who had the opportunity to participate in preschool. Educators discussed the importance of phonemic awareness and knowledge of the alphabet as a result of an early learning preschool experiences.

In addition, concepts of print were suggested as a benefit five times in responses from the survey. Ten of those responding indicated students who had attended preschool were better prepared for kindergarten and/or had a stronger foundation for learning after receiving an early learning experience. In addition, participants indicated that students who had attended preschool were able to start reading faster as phonemic awareness is a

skill that is first acquired during the preschool years.

One survey responder spoke of the increased ability to work with peers for those students who had attended preschool. As mentioned, students who had received an early learning experience felt more confident to complete a task. Expressing more confidence was cited several times as a result of attendance in an early learning experience. Educators emphasized these students often tend to leave kindergarten ahead of peers who had not had an early learning experience.

Interview question 2. Describe your perceptions from working with students who have not received an early learning preschool experience.

When presented with the task of describing their perceptions from working with students who had not received an early learning preschool experience, survey participants used the word "behind" consistently. Educators noted that students who did not go to preschool often struggled as they were deficit in the acquisition of skills necessary to be successful. It was also observed that students who had not attended an early learning experience did not have the oral language necessary to be successful. As reported, those students who had not attended preschool were lacking social skills required in a school environment. Students who had not attended preschool had a harder time with separation, as one educator responded, going on to say, students who had not attended preschool struggled and were easily frustrated.

Seven of the participants commented in their responses they had observed the frustration level of those students who did not have an early learning experience. Also mentioned in several participants' responses were comments regarding the fact that students who had not had an early learning experience began school struggling with

language as well as concepts. One participant wrote, "They begin their school year already feeling frustrated and behind, while also having to work harder than other students." While another participant wrote, "Not having an early learning experience caused students unneeded stress and frustration."

Many survey participants expressed their desire to help the students overcome their frustration. One participant wrote, "The tricky part is trying to help these students learn and become successful while not letting them feel discouraged because they do not know as much as their peers that attended preschool." Participants conveyed that if students did not know the alphabet letters, numbers, and how to write their names as part of a preschool foundation, they were already behind when they entered kindergarten. To further explain, one educator stated, "It usually takes a full semester for those students who have not had an early learning experience to be on grade level and yet at that point they are still working below grade level when compared to most of their peers."

Other comments frequently noted were that with the gap in experience that exists, students become easily frustrated and have to work much harder to catch up to their peers. One teacher stated, "Students who have not received an early learning experience seem to be scared to take risks. They also seem to have trouble completing anything independently." It was also recorded by one educator in the open-ended responses that students who had not received an early learning experience seemed to have a more difficult time learning the basics of going to school, including such things as sitting for longer periods of time, using scissors, and holding pencils and crayons correctly.

However, one responses recorded by an educator expressed the view that by mid-year it was not possible to pinpoint the students who had received an early learning

experience from those who had not had preschool by their academic scores or abilities. The survey participant went on to express that sometimes when a student had not had an early learning experience, the student had not developed negative attention seeking habits and behaviors. Therefore, a teacher did not have to try to break the negative habits that students had developed during their preschool experiences. As frequently noted in the survey data by kindergarten educators, many students lagged behind their peers in academic areas by the time they entered kindergarten. Reading and math skills and the ability to attend to the teacher, when students entered school, were found to be strong predictors of their later academic success.

As indicated from responses in the data, most students learn at fairly equal rates after the first semester of kindergarten; however, students with more resources were likely to have greater opportunities for out-of-school learning prior to coming to kindergarten. Mentioned frequently in the survey responses were comments relating to students who had not had an early learning experience. Concerns regarded those students entering kindergarten without the background knowledge of what school was all about. In was then, as reported by the teachers, that students were less prepared, with limited skills for reading readiness and social skills development, as they entered kindergarten.

Summary

In this case study, data results provided information regarding the factors contributing to literacy development in early childhood. Data analysis was conducted in two stages. DRA2+ scores from kindergarten students, administered in the last quarter of the school year, were collected from one elementary school for three consecutive years, 2010-2011, 2011-2012, and 2012-2013. After descriptive statistics were determined,

responses were further explored with a two sample independent *t*-test for statistical significance.

In the second stage, responses from the survey were used to determine the perceptions that kindergarten teachers and interventionist held of their students when comparing those who had an early learning experience with those who come to kindergarten without having participated in an early learning experience. Survey statements addressed key observations noted from open-ended questions. The overarching themes analyzed were connected to the comments surrounding the need for students to be ready to learn when they entered kindergarten, referred to as kindergarten readiness.

When determining the level of readiness for school that kindergarten teachers and interventionists deemed critical for success in their classrooms, academic skills, although very necessary, were not as high a priority as one may assume. Rather, the skills noted as high priority in this research were prosocial and self-help skills, understanding and following classroom rules and routines, and working independently. Academic behavioral competencies, such as self-control and remaining on task were associated with students who were more prepared and ready for kindergarten. Comments aligned with a previous body of research conducted by Guernsey (2009), who concluded, "What kindergarten readiness means to kindergarten teachers," with teachers reporting it is critical for children to be able to "regulate their impulses, follow through on a difficult task and have self-control to listen to the teacher's directions for a few minutes" (p. 9).

Data suggest that children who have higher emotional and behavioral regulation demonstrate higher achievement scores in literacy and listening comprehension.

Therefore, support exists for providing early intervention in the preschool settings, with a focus on academic skill development as well as social skills. Survey comments supporting the need for early intervention correlated with research conducted by Carter, Wagmiller, Gray, McCarthy, Horwitz, & Briggs-Gowan, (2010), who reported that approximately one in five children meet the criteria for behavioral issues during the transition to formal schooling. Persistent poverty beginning in early childhood, limited parental education, and parent involvement, were found to be significantly associated with lack of school readiness in the preschool population. Therefore, screening and early intervention by educators during the preschool years is warranted to increase the chances of academic and social-emotional success in the transition to kindergarten and formal schooling beyond.

As discussed in this chapter, multiple factors affect the current views and perceptions of kindergarten teachers and the debates surrounding the concept of kindergarten readiness. Various views of thought create dialog about whether or not children should be ready for school, or schools should be ready for children. Despite the fact there are two sides of the position on school readiness, early childhood educators must focus on improving achievement in all developmental domains for all children. Because of the NCLB Act and accountabilities measured under NCLB, kindergarten teachers are pressured to prepare their students for standardized tests. The issues surrounding kindergarten readiness must be seriously considered. Teachers' expectations, their classroom practices, and their freedom to make instructional choices are interrelated. These factors must be examined in-depth because they directly affect children’s learning and their adjustment to kindergarten classrooms.

In Chapter Five is a summary of the findings related to literature. Also presented are limitations of the findings, conclusions, and recommendations for further research on the impact of early learning in preschool.

Chapter Five: Findings, Conclusions, and Recommendations

Within Chapter Five, the study results and findings are discussed as well as implications for future practice and recommendations for future research. The purpose of this case study was to determine the difference in student achievement in reading at the end of kindergarten, as recorded on the DRA2+, between students who have participated in an early learning preschool experience and those who had not. This study was also used to analyze educators' perceptions of the impact upon kindergarten students from attendance or non-attendance in an early learning preschool setting.

Data collected were comprised of the DRA2+ exit scores from the last quarter of the students' kindergarten year for 2010-2011, 2011-2012, and 2012-2013. Each year there were approximately 340-375 students in attendance who were administered the DRA2+ assessment. The response rate from the survey sent to 21 educators serving the kindergarten population was 95%. Results indicated that only one educator did not respond to the survey.

The survey information from 20 educators who provided reading instruction and support to the students in the 17 kindergarten classrooms was analyzed. The following research questions were posed for this study:

1. What is the difference between the DRA2+ scores of kindergarten students who had a preschool experience and those who did not?

2. What are the perceptions of teachers of students who had received an early learning experience?

3 What are the perceptions of teachers of students who did not received an early learning experience?

The null hypothesis for this study was that a difference did not exist between higher reading achievement in kindergarten and those students who participated in a preschool experience. Research from this case study indicated there was no statistical significant difference when comparing kindergarten student's DRA2+ scores for years 2011-2012 and 2012-2013 of those who had preschool experience and those who did not; however, a statistical significant difference was found for 2010-2011; consequently, the null hypothesis was not rejected. Data results could not definitively lead to the conclusion that attendance in a high-quality early childhood program implied an increase in school readiness or kindergarten literacy success. Based on statistical analysis for this study, participation in an early learning preschool experience is not linked to an increase in kindergarten literacy skills as measured by DRA2+ scores.

Summary of the Findings

The DRA2+ data for each year were analyzed independently. Since the sample size for each year was relatively large (n >340), the assumption of normality is likely to be satisfied. Student data were converted into proficiency standards. The proficiency standards were advanced, proficient, basic, and below basic. According to district expectations, students scoring in the below basic proficiency standard were considered to be at risk of failure.

For the school year 2010-2011, the total number of students assessed in kindergarten with the DRA2+ was 366. The number of students who received an early learning experience was 240 (66%). Nearly one third of the total kindergarten population did not have an early learning experience in the school year 2010-2011. Ninety-six percent (230) of students scored in the basic or above categories on the district

proficiency levels, scoring above the at risk zone.

The mean score for those who had an early learning preschool experience was 5.975 > 5.421 compared with those who did not have an early learning experience. The median DRA2+ score for the year 2010-2011 was 6.0 > 5.0 compared with those who did not have an early learning experience. The data indicated that 126 (34%) of the total kindergarten population who were given the DRA2+ assessment did not have an early learning preschool experience. Of those students who did not have an early learning experience, 115 (91%) scored at basic or above. Data indicated a 5% difference in DRA2+ scores for those who scored at or above basic on district proficiency levels when compared with those who had an early learning experience and those who did not.

For the school year 2011-2012, the total number of students assessed in kindergarten with the DRA2+ was 372. The number of students who received an early learning experience was 217 (58%). Greater than one third of the total kindergarten population did not have an early learning experience in the school year 2011-2012. Ninety-five percent (207) of students scored in the basic or above categories on the district proficiency levels, scoring above the at-risk zone. The mean score for those who had an early learning preschool experience was 5.668 < 5.865 compared with those who did not have an early learning experience.

The median DRA2+ score for the year 2011-2012 was 5.0 for those who had an early learning experience and those who did not. The data indicated that 155 (41%) of the total kindergarten population who were given the DRA2+ assessment did not have a center based preschool experience. Of those students who did not have an early learning experience, 145 (93%) scored at basic or above. Data indicated a 2% difference when

comparing those who scored at or above basic on district proficiency levels in the two sample groups.

For the school year 2012-2013, the total number of students assessed in kindergarten with the DRA2+ was 342. The number of students who received an early learning experience was 235 (69%). The number of students who did not have an early learning experience was 107 (31%). Less than one third of the total kindergarten population did not have an early learning experience in the school year 2012-2013. The mean score for those who had an early learning preschool experience was 5.706 < 5.757 compared with those who did not have an early learning experience. The median DRA2+ score for the year 2012-2013 was 5.0 for both those who had an early learning experience as those who did not. The data indicated that 227 (97%) of the total kindergarten population who were given the DRA2+ assessment scored in the basic or above categories on the district proficiency levels, scoring above the at risk zone. Of those students who did not have an early learning experience, 99 (93%) scored at basic or above. Data indicated a 5% difference when comparing those who scored at or above basic on district proficiency levels in the two sample groups.

Analysis of Question Number One

Survey data from questions posed in a survey via SurveyMonkey were gathered. The data were presented in narrative form. The results represented responses from 20 educators who provide reading instruction and assessments to kindergarten students. According to data gleaned from survey responses to question number one, the following information was surmised. An overriding theme repeated frequently throughout the survey comments was the increased benefits to social skills for students who had received

an early learning experience.

Educators frequently included behavior when discussing social skills, indicating students had a stronger knowledge of classroom behavior expectations after attending preschool. Two key areas of oral language that were perceived by survey respondents in an early learning experience were increased vocabulary and increased phonological awareness. According to the survey results on the open-ended responses, 10 of the 20 educators who responded (50%) noted better understanding of the alphabet or phonological awareness for their students who had received an early learning experience. These responses confirmed research findings from Chapter Two, indicating that those students who attended an early learning experience were better prepared with pre-literacy skills to enter kindergarten and to become a reader (Comer & Ben-Avie, 2010). Based upon the responses, concepts of print were an added benefit to those students who had prior experience with an early learning opportunity. When asked to provide their perceptions of students who had experienced an early learning setting, one participant wrote of the increased ability to work with peers for students who had attended preschool.

Teachers noted in the survey responses students with preschool experience appeared to be more comfortable with the kindergarten learning environment. Expressing more student confidence was cited as a result of attendance in an early learning experience. Educators emphasized these students tend to leave kindergarten more advanced than classmates who did not have an early learning experience. Ten (50%) of the participants indicated students who had attended preschool were better prepared for kindergarten or had a stronger foundation for learning after receiving an

early learning experience, and in addition, some noted these same students started reading earlier than classmates. One participant surmised that "an early learning experience provided students with an advantage for success in kindergarten."

Analysis of Questions Number Two and Three

According to data gleaned from survey responses to question number two, the following information was surmised. Students without preschool scored lower than classmates. Educators indicated, more often than not, that students who did not receive an early learning preschool experience were behind their peers in achievement. Also, on teacher stated, "If students did not know the alphabet letters, numbers, and how to write their names as part of a pre-kindergarten foundation, students were already behind when they entered kindergarten." Educators noted that students who did not attend preschool often were at risk of failure as they were deficit in the acquisition of those skills necessary to be successful in school. When asked for their perceptions, educators noted that students who had not attended an early learning experience did not have a strong background knowledge of vocabulary, resulting in the lack of oral language development.

The size of a child's vocabulary when in preschool was one predictor of their ability to comprehend text throughout their entire elementary schooling (Bartik, 2011). Children struggle to understand the words in text or the meaning conveyed unless frequently used words are already a part of their vocabularies. Oral language is arguably the most crucial area of academic focus during the preschool years. Oral language is the primary means by which children gain knowledge about the world they live in. A language rich environment is a key foundation piece for children's literacy development as listening and speaking are the primary ways in which preschool children learn new

concepts and express their thoughts and feelings (Bartik, 2011).

It could not be proven from this research that universal preschool programs would correlate with increased reading abilities for all students. However, research findings previously cited in Chapter Four, indicated those students who had not attended an early learning preschool experience were lacking social skills and were less successful in the school setting. Without an early learning experience, students have a harder time with separation, as one educator responded. Many students have never been left in the care of an adult other than their primary parent or guardian; consequently, students may experience very real separation anxiety for the first time when coming to kindergarten.

An overriding theme, mentioned throughout the participants' responses, was students who have not attended preschool struggle and are easily frustrated when beginning their kindergarten experience. Seven of those responding to the open-ended questions noted frustration levels of those students who did not have an early learning experience, raising this to a notable level of concern. Also mentioned was the observation that students who had not had an early learning experience begin school struggling. Struggling students would be defined as unable to recognize letters and numerals, basic concepts of print, and book-handling skills. Based upon the survey responses, educators perceived that students who began the school year already feeling frustrated and behind had to work harder than their peers to try and catch up.

One survey respondent emphasized that not having an early learning experience causes students unneeded stress and frustration. As stated in another response, teachers expressed concern over the difficulties of trying to help these students learn and to become successful, while at the same time not letting them feel discouraged because

they do not know as much as their peers who attended preschool.

To further explain, one educator wrote that it usually took a full semester for those students who did not have an early learning experience to be on grade level and not at the point where they were working below level, in comparison to others who had the opportunity for a preschool experience. A result of this lack of opportunity was poor behavior and inability to attend and focus in class. One survey participant indicated that "students who have not received an early learning experience seem to be scared to take risks. They seem to have trouble completing any tasks or assignments independently."

It appeared from the perceptions of educators surveyed in this research that students who had not received an early learning experience seemed to have a more difficult time learning the basics of school life, such as attending for longer periods of time; taking direction; using manipulatives such as scissors, pencils and crayons; and the ability to get along with peers. However, one educator felt that by mid-year it was not possible to pinpoint the students who had received an early learning experience with those who had not had preschool by their academic scores or abilities. Further elaboration indicated that sometimes when a student did not have an early learning experience, they had not developed negative academic habits; therefore, a teacher does not have to try to break the habits that the students have developed from preschool. As this was noted only one time in all the survey responses, it was assumed this was pertinent to only one educator.

Comments from participants led one to acknowledge the layers of intervention and academic support provided from highly qualified kindergarten teachers. Clearly, children arrived at kindergarten with a range of background literacy experiences, but

effective teachers can provide rich language and literacy instruction for all children. Mentioned much more frequently were comments relating to students who have not had an early learning experience. Students without any background knowledge of concepts, indicated to teachers those students were less prepared to enter kindergarten, referred to as lower kindergarten readiness skills. If the length of responses to the second survey question were any indication of teachers' strong perceptions and beliefs, it was evident that educators were concerned about the negative impact to those students who had not had early learning experiences.

Limitations of the Findings

The limitations of this study involved the sample of the research, the assessment tool, and the design of the study, as listed below:

1. The collection of quantitative data was limited to one school in Missouri.
2. The collection of quantitative data was from the DRA2+.
3. The collection of quantitative data was limited to students who completed the second semester of their kindergarten year at the participating school.
4. There was an assumption that the DRA2+ was administered with fidelity to every kindergarten student.
5. The collection of response data was limited to 17 kindergarten classroom teachers and four educators who provided reading intervention to the kindergarten students.
6. It was an assumption that respondents to the survey answered honestly without bias.
7. The online survey data was limited only to participants who chose to

complete and submit the survey.

Conclusions

According to the results from DRA2+ data in this study, there was no statistically significant difference in the scores of the two groups, and; therefore, no evidence for providing a universal early learning experience for students. Within the context of the limitations of this study, the statistical data indicated a significant difference between those who had participated in an early learning experience and those who had not in the school year 2010-2011. The statistical data did not indicate a significant difference between those who had participated in an early learning experience and those who had not in the school year 2011-2012 nor in the school year 2012-2013.

However, from the educator survey responses, early learning would beneficial in preparing students to be ready to learn when they enter kindergarten. The data extrapolated from the educator survey perceptions revealed early learning preschool experiences provided opportunities for students to be engaged in meaningful, rich conversations, by expanding their knowledge and vocabularies, and developing positive social habits of engagement. Educators indicated the key to future reading and writing success began with language development.

Preschool teachers must be intentional about what they are teaching as investments in early learning are one of the most effective educational reforms. Strong academic, social, and economic returns were documented in this research. Universal access has shown to be more effective than targeted enrollment, as it reaches needy children from all walks of life. Successful preschool programs depend on the quality of the early learning program. A successful early learning preschool program requires an

emphasis on the whole child. Long term benefits have been found in numerous ways, such as reducing the need for retention, reducing the need for Special Education, reducing dropout rates, reducing crime rates, and reducing teenage pregnancy. The benefits of early learning are increased emotional social development and self-regulation for a strong foundation for later academic achievement and a lifetime of success.

Implications for Practice

Survey responses from this study suggested that the causes of poor academic achievement may partially lie in the limited opportunities for academic and social development during the preschool years. As it has been stated earlier in the body of this research, like it or not, mental and behavioral patterns, once established, are difficult to change once children enter school. School readiness and early childhood academic achievement are at the forefront of the country's domestic social policy concerns, with even President Obama weighing in on the impact of preschool with his Preschool for All plan.

All children should have the opportunity to succeed in school; however, an unprecedented number of children start public kindergarten with major delays in language and basic academic skills. Children with these significant delays attend schools in every state; they are not concentrated in only a few, large urban school districts or in desperately poor rural districts. Waiting until these children fail in school and then providing remedial, pull-out, or compensatory programs or requiring them to repeat grades, typically does not sufficiently help these children to catch up and continue to achieve every year at grade level.

Instead, the knowledge embedded in this research affirmed that children who do

not have positive early transitions to school are those most likely to become inattentive, disruptive, or withdrawn. Although educators believe that young children should learn through play, and social and emotional skills are more important than academic skills, preschool teachers are required to teach basic academic skills to children for kindergarten readiness. Therefore, the issue of school readiness for pre-k children has gained attention among teachers, parents, researchers, and policy makers in recent years.

Later in their secondary educational careers, these same students are the most likely to drop out of school early; to engage in irresponsible, dangerous, and illegal behaviors; to become teen parents; and to depend on welfare and numerous public assistance programs for survival (Clements & Sarama, 2011). Scientific advances in the field of early child development education, as shared in this research, affirmed that the early years are a time of rapid growth and development (Clements & Sarama, 2011). Jones and Reynolds (2011) surmised learning and brain development were truly interdependent and what happened early on in brain development had lasting and important consequences for children. The commitment to improving kindergarten academic reading achievement must start at the beginning. It must start in preschool years by providing children with a rich array of effective learning opportunities and a strong language rich foundation (Jones & Reynolds, 2011).

Research findings demonstrate the unique contributions that the home literacy environment, during preschool years, make in children's early reading outcomes (Hammer, Farkas, & Maczuga, (2010). As experts weighed benefits against short-term costs, preschool for at-risk children from low-income families more than pay for itself. When children grow up in poverty, or homes without books, society ends up paying in

one way or in another. Funding can be secured for early learning opportunities or funding will be required to provide at-risk students with interventions. Investment can be in preschool today or in juvenile detention tomorrow (Greenwood & Turner, 2011). Hence, quality early education is one of the three goals established by Missouri in the Top 10 by 2020 initiative (Missouri Department of Elementary and Secondary Education, 2013a).

Recommendations for Future Research

Based on the results of this study, the following recommendations that warrant further investigation and analysis are:

1. Focused research on the impact of early learning and potential to closing the achievement gap on reading assessments.
2. Focused research on the development of vocabulary and oral language during attendance in an early learning setting.
3. This study should be furthered to include a broader sampling of reading achievement as assessed on the DRA2+ in additional grades.
4. Focused research on the impact of under-resourced families upon reading achievement.
5. Focused research on the impact of early learning upon secondary school success.
6. Further research on the correlation of early learning and graduation rates.
7. Further research could be conducted on the impact of individual careers and college placement after attendance in an early learning center.

Summary

The purpose of this case study was to analyze kindergarten developmental reading assessments from one elementary school in Missouri to determine if a difference existed between higher reading levels and preschool attendance. While this study did not provide concrete proof that participation in high-quality early childhood programs lead to a statistically significant increase in school readiness as measured by the DRA2+, a review of research clearly supports the benefits of preschool. Results raised further questions regarding the impact of early learning on reading achievement in kindergarten.

Given the body of research surrounding the importance of learning in the earliest years…years most critical for brain development, and the potential impact of this investment in education, the goals have never been clearer. The need for high-quality early childhood learning, to ensure that students are ready to learn, has been elevated to the national stage. The best investments are made early in a child's education experience when he or she has the greatest potential to lay the foundation for later achievement and success. This research supported Barnett's (2008) conclusions:

1. Preschool programs have been shown to produce positive effects on children's learning and development;
2. Academic and social growth from preschool attendance varies in size;
3. Well-designed preschool programs produce long term improvements in school success, including higher achievement scores, decrease in retention, and a decrease in special education referrals;
4. Preschool attendance is also associated with reduced delinquency and crime in childhood;

5. Evidence suggests that disadvantaged children reap long-term benefits from preschool. However, children all backgrounds have been found to benefit. (p. 1)

As concluded from the research cited in the literature review, many states have implemented or are moving toward voluntary universal preschool programs. Typically, preschool curriculum focuses on teaching through play and general development; whereas, kindergarten curriculum focus much more on structured instruction and cognitive skills. In the preschool setting, teachers and children have more choices and flexibility. With growing accountability measures, kindergarten teachers, in contrast, have set standard to follow with much less flexibility compared to preschool. For preschool children to be able to adjust to a kindergarten setting, successful transition is necessary.

State and district leaders are committed to seeking ways to provide funding to help ensure universal access to quality, state financed, early childhood education for 3- and 4-year-olds. Early learning standards for preschool age students are being developed and adopted to help alleviate discrepancies in schools across Missouri and to assure that all students are ready to learn when they enter kindergarten. Preschool programs that are intentional in their instructional strategies with quality amounts of time on key academic content areas, such as literacy, language, and mathematics provide students with an academic advantage over their peers who have not had a preschool experience. As reported in this study, the early childhood years, especially the years between 2 and 4, are a crucial time for children's cognitive and social development, and this age period is recognized as the most formative and fragile time for children (Swick, 2010).

The knowledge that children gain in early childhood is crucially important for their futures, with quality preschool experiences helping to lay the foundation for the kinds of skills, knowledge, and behaviors that children are expected to master during future years of schooling. Focused interventions that must be provided by kindergarten educators, to students who have not experienced an early learning opportunity, are much greater. The research presented in this study confirmed this was particularly true for children growing up in poverty.

High-quality, academically rich early learning preschool experiences are often unavailable to poor and under-resourced children. Sadly, this is the case when they are the very children who are likely to gain the most benefit from preschool. High-quality early learning preschool programs are promising avenues to close or significantly narrow these achievement gaps and address the educational challenges of today's society. Universal, free preschool education has the potential to impact the long term education and success of students' futures.

This research study did not delve into the wide debate surrounding whether or not early learning experiences should focus on academic disciplines or more solely on social sciences, as noted the debate between play verses instructional strategies still continues. In addition, the waters are deep when it comes to the debate on curricula and effective methods and instructional techniques that are age appropriate for preschool aged children. In a developmentally appropriate classroom, the curriculum strives to help children become lifelong learners, think critically and imaginatively, ask meaningful questions, formulate alternative solutions, appreciate diversity, and work collaboratively (Ferrandino, 2005). Important, high-quality teaching can help build a child's capacity to

form meaningful relationships with others. As noted in this study, students learn by making connections. Ultimately, the objective of high-quality teaching is to make learning meaningful for the individual child, using practices that reflect both the age and the needs of a student.

Author Bob Sornson (2001) wrote in, *Preventing Early Learning Failure,* that not all children are ready for instruction at the same level when they come to school. Therefore, all important basic skills should be learned completely until the concepts seem simple and easy to use (Sornson, 2001). If a child is to use a skill throughout life, it must be associated with joy. When educators work to ensure high-quality teaching and the love of learning in the preschool classroom, young children's eagerness to learn and develop early literacy and early numeracy skills grow.

It cannot be emphasized enough, that in the preschool years, literacy instruction for children between the ages of 3- and 4-years old should be integrated into language rich knowledge-building experiences. It cannot be emphasized enough that preschool educators should be highly qualified and prepared to meet the unique needs of these learners. Children of this age learn best when their literacy experiences are tied to interesting and engaging topics, whether in math, science, social studies, or the arts (Missouri Department of Elementary and Secondary Education, 2013a). As explained previously and succinctly by the Missouri Department of Elementary and Secondary Education (2013a), 50% of intelligence is formed by the age of four. The most productive years of learning occurs before the age of five. A child's brain reaches 95% of its maximum size by the age of 6 (Missouri Department of Elementary and Secondary Education, 2013a).

Overall, this study suggests that many of the factors impacting achievement in elementary and secondary education also impact literacy development in kindergarten children. These findings support the use of early intervention and preventative services for the preschool population as a means to promote kindergarten readiness and future success in academic achievement. As children enter kindergarten, they demonstrate variable levels of readiness that are dependent upon childhood experiences during the preschool years. As noted, some groups, such as under-resourced students, are more vulnerable. Early childhood educators are, therefore, under pressure to close the achievement gap.

Young children need rich language experiences to develop their vocabularies and to be ready to learn when they enter kindergarten. To address the impact of preschool attendance on kindergarten developmental reading assessments, one must be aware of the vast issues surrounding kindergarten readiness. District administration, community leaders, and classroom educators also need to be aware of the short term and long term benefits from an early learning experience. Taken collectively from this study, is the need for high-quality early learning experiences so students have a greater opportunity to be ready to learn when they enter kindergarten. Investing in an early learning experience provides dividends that will last for decades to come.

Appendix A

Survey

Directions: The intent of this survey is to help researchers better understand the benefits of an early learning preschool experience. Please rate your opinions on the scale provided. Your answers are confidential and anonymous. Use the following:

a) Strongly Agree b) Agree c) Undecided d) Disagree e) Strongly Disagree

1. An early learning preschool experience impacts students overall academic achievement.

a) Strongly agree b) Agree c) Undecided d) Disagree e) Strongly disagree

2. An early learning preschool experience impacts reading abilities.

a) Strongly agree b) Agree c) Undecided d) Disagree e) Strongly disagree

3. An early learning preschool experience impacts DRA2+ exit scores from kindergarten.

a) Strongly agree b) Agree c) Undecided d) Disagree e) Strongly disagree

4. An early learning preschool experience impacts and motivates students' attitudes.

a) Strongly agree b) Agree c) Undecided d) Disagree e) Strongly disagree

Please reflect in regards to your perception of the impact of preschool on kindergarten readiness.

1. Describe your perceptions from working with students who have received an early learning preschool experience.

2. Describe your perceptions from working with students who have not received an early learning experiences.

Appendix B

DRA2+ Data Report Form

Directions: After administration of the DRA2+, record the independent reading level and whether or not the student attended a center based preschool program.

Kindergarten Teacher A		
Kindergarten Student	**Student Independent Reading Level**	**Preschool Y or N**
A-1		
A-2		
A-3		
A-4		
A-5		
A-6		
A-7		
A-8		
A-9		
A-10		
A-11		
A-12		
A-13		
A-14		
A-15		
A-16		
A-17		
A-18		
A-19		
A-20		
A-21		
A-22		
A-23		
A-24		

Appendix C

Letter of Recruitment

October 10, 2013
Central Office Administration
Assistant Superintendent
Missouri School District

Assistant Superintendent,

I am writing to ask your permission to request faculty participation in my doctoral dissertation research project at Lindenwood University. I believe the information gathered through this case study will positively contribute to the body of knowledge regarding the impact of preschool and preparation for all children to be ready to learn when they enter kindergarten.

A great deal of research has supported the belief that early learning is highly correlated to kindergarten readiness. Connecting early literacy skills and the impact on later reading success, suggest a need for high-quality language environments starting from birth. The purpose of this case study will be to examine center based preschool and student achievement in reading at the end of kindergarten as recorded on the Developmental Reading Assessment 2+.

Attached is the document survey that will be presented to the kindergarten teachers as well as any interventionist who may administer the Developmental Reading Assessment. Participation in this research study is voluntary and may be withdrawn at any time. Confidentiality is assured. If you have any questions you may contact me at smoore@lebanon.k12.mo.us.

By completing this survey, faculty consent to participation in this study.

Thank you for your time,

Sheila Moore
Doctoral Candidate
Lindenwood University

Appendix D

LINDENWOOD

DATE:	February 28, 2014
TO:	Sheila Moore
FROM:	Lindenwood University Institutional Review Board
STUDY TITLE:	[555843-1] Case Study: The Impact of Preschool on Kindergarten Developmental Reading Assessments.
IRB REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	APPROVED
APPROVAL DATE:	February 28, 2014
EXPIRATION DATE:	February 28, 2015
REVIEW TYPE:	Expedited Review

Thank you for your submission of New Project materials for this research project. Lindenwood University Institutional Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this

procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to the IRB.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the completion/amendment form for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of February 19, 2015.

Please note that all research records must be retained for a minimum of three years.

If you have any questions, please contact Robyne Elder at (314) 566-4884 or relder@lindenwood.edu. Please include your study title and reference number in all correspondence with this office.

If you have any questions, please send them to IRB@lindenwood.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Lindenwood University Institutional Review Board's records.

Appendix E

LINDENWOOD

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

"A Case Study: The Impact of Preschool on Kindergarten

Developmental Reading Assessments."

Principal Investigator: Sheila Moore Telephone: 417-[redacted]
E-mail: smoore@lebanon.k12.mo.us
Participant _____ Contact info _____

1. You are invited to participate in a research study conducted by Sheila Moore under the guidance of Dr. Sherry DeVore. The purpose of this research study is to examine attendance in preschool and student achievement in reading at the end of kindergarten as recorded on the DRA2+. This researcher will examine DRA2+ scores from kindergarten students for academic years 2010-11, 2011-12, and 2012-13 to determine the difference between those who had participated in a preschool experience and those who did not. In addition, this study will collect teachers' perceptions of students' efficacy in reading. By doing so, one can learn more about successful reading readiness and the pre-literacy skills necessary to assist students in their formative years.

2. a) Your participation will involve:
Completing a survey via SurveyMonkey.
b) The amount of time involved in your participation will require approximately 10 minutes for the completion of a survey. Approximately 375 student scores for each of the three academic years will be involved in this research, with approximately 21 educators surveyed. There are no anticipated risks associated with this research.

3. There are no anticipated risks associated with this study.

4. There are no direct benefits for participating in this study. However, participants may gain a better understanding of the impact of preschool upon kindergarten students and literacy development, which may lead to better student performance throughout their educational journey and beyond.

5. Your participation is voluntary and you may choose not to participate in this research study or to withdraw your consent at any time. You may choose not to answer any questions that you do not want to answer. You will NOT be penalized in any way should you choose not to participate or to withdraw.

6. We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publication or presentation that may result from this study and the information collected will remain in the possession of the investigator in a safe location.

7. If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Sheila Moore @ 417-[redacted] or the Supervising Faculty, Dr. Rebecca Bernard @ 417-[redacted]. You may also ask questions of or state concerns regarding your participation to the Lindenwood Institutional Review Board (IRB) through contacting Dr. Jann Weitzel, Vice President for Academic Affairs, at 636-949-4846.

I have read this consent form and have been given the opportunity to ask questions.

I may retain a copy of this consent form for my records.

I consent to my participation in the research described above by completing the survey.

http://www.surveymonkey.com/s/L825LTH

Appendix F

DRA2+ Conversion Chart

DRA2+ Score	Conversion Score
A	1
1	2
2	3
3	4
4	5
6	6
8	7
10	8

Note. Conversion scores provided by participating school district.

Appendix G

Scholastic Guided Reading Leveling Chart

Use the grid below for Guided Reading, Developmental Reading Assessment (DRA2+), and Lexile ® Levels. This chart includes Common Core State Standards Lexile ® recommendations and may also be used as a general leveling guide.

	Scholastic Guided Reading Program Levels	Scholastic Guided Reading Lexile ® Ranges	CCSS Lexile ® Recommendations*	DRA2+ Level
Kindergarten	A	n/a	n/a	A-1
	B			2
	C			3-4
	D			6-
Grade 1	A	n/a	n/a	A-1
	B			2
	C			3 – 4
	D			6
	E			8
	F			10
	G			12
	H			14
	I			16
Grade 2	E	100-112	420-620	8
	F			10
	G			12
	H			14
	I			16
	J-K			16-18
	L-M			20-24
	N			28-30
Grade 3	J-K	100-1120	620-820	16-18
	L-M			20-24
	N			28-30
	O-P			34-38
	Q			40
Grade 4	M	180-1280	740-875	20-24
	N			28-30
	O-P			34-38
	Q-R			40
	S-T			40-50
Grade 5	Q-R	330-1280	875-1010	40
	S-V			40-50
	W			60
Grade 6	T-V	300-1340	925-1010	50
	W-Y			60
	Z			70

Note. Data provided by Scholastic (2014) Guided Reading Program.

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Vita

At the time of publication, Sheila Moore served as the principal at Joe D. Esther Elementary School in the Lebanon R-III School District in Lebanon, Missouri. Before serving as the lead principal of the Early Childhood Center, Sheila was an assistant principal and Title I director in the Lebanon R-III School District. Additionally, prior to administration, Sheila taught 3rd grade in the Lebanon R-III School District for 13 years, rounding out a total of 25 years served in the Lebanon R-III School District.

Sheila Moore graduated from Missouri State University in Springfield, Missouri, in 1987, with a Bachelor of Science degree in Elementary Education. Sheila attended Southwest Baptist University in Bolivar, Missouri, and obtained a Masters of Arts degree in School Administration in 2002. She also graduated from William Woods University in Fulton, Missouri, in 2005, with an Education Specialist degree in Educational Leadership, prior to attending Lindenwood University.