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# The Impact of a Nonpublic Schools Early Childhood Development Program on Readiness Achievement

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COLLEGE OF EDUCATION

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Catina Pierre Alexander

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Doctoral Study Submitted in Partial Fulfillment

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## Abstract

Researchers recognize that if certain academic skills are not present upon entrance into formal schooling, literacy achievement can be affected. The impact of a local early childhood program on student school readiness was unknown at the study elementary school. The purpose of this quantitative study was to compare the academic readiness between kindergarten students who participated in the Nonpublic School Early Childhood Development Program and those who did not. The theoretical framework was based on Bruner's constructivist theory of scaffolding, which highlights the importance of providing support to students in the initial stages of learning. Early achievement data from a sample of 42 students at a rural elementary school were examined to compare the Stanford Early School Achievement Test scores between students who attended the early childhood program ($n = 20$) and those who did not ($n = 22$). Analysis of variance indicated no statistically significant differences in scores between the groups. The current study was limited by a small sample size, and it is recommended that additional studies be conducted with larger samples in order to explore any impact early childhood education programs might have on kindergarten readiness. This study contributes to positive social change by informing school stakeholders on the impact of their early childhood program on school readiness. These findings may prompt additional study and discourse on the specific dimensions of early childhood programs that might improve school readiness.

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# Dedication

I dedicate this paper to my children, Michael, Jr., Taylor, Xavier, Heaven, and Tylan. You are the center of my world. I am so grateful God gave me a loving family.

# Acknowledgments

This doctoral study is dedicated to my loving parents, Mrs. Dianna Avery Pierre and Mr. Warren Joseph Pierre, who have always believed in education and have supported me throughout my academic endeavors.

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## Introduction

Early literacy brings together the complex components needed in order to accrue the knowledge and skills necessary for reading and writing in the primary grades. (Roskos, Christie, & Richgels, 2003). One way to promote early literacy skills is to help children's development of phonemic awareness which can be defined as the ability to hear and manipulate phonemes, the smallest units that make up the spoken language (Allor, Gansle, & Denny, 2006; Castles & Coltheart, 2004; Castles, Coltheart, Wilson, Valpied, & Wedgwood, 2009; Cheesman, McGuire, Shankweiler, & Coyne, 2009; Ehri et al., 2001; Flett & Conderman, 2002; Griffith & Olson, 1992; Gromko, 2005; Loeb, Gillam, Hoffman, Brandel, & Marquis, 2009; Wasik, 2001).

Developmental and educational researchers have examined the basic expectations and skills needed in order to prepare young children for academic success and the behavioral demands of school. For children to become literate at an early age, preliteracy skills, language skills, and quantitative skills are pre-K basics in today's preschool curricula (Christie & Roskos, 2006). For economically disadvantaged children, the focus has been on acquiring early language and quantitative skills in order to promote school readiness (Konold & Pianta, 2005). A child's ability to manipulate phonemes and recognize letters and letter sounds in preschool is a predictor of later reading achievement (Duncan et al., 2007). Similarly, a child's ability to count, know numbers and number patterns in preschool is a predictor of later mathematical competence when the child

reaches elementary school (Duncan et al., 2007; Jordan, Kaplan, Olah & Locuniak, 2006).

Attaining disparity among more advantaged students and less advantaged students have concerned educators (Bowman, Donovan, & Burns, 2001). A number of legislative measures, such as the Head Start for School Readiness Act of 2007 (Head Start for School Readiness Act, 2007) and the No Child Left Behind Act (NCLB, 2002), addressed education attainment for preschool, elementary, and secondary school students. The emphasis in NCLB (2002) is on accountability. As a result researchers are concerned with having an understanding of the skills and abilities that children need for academic success and, in particular, improving school readiness for children from impoverished environments. Lack of school readiness among children from these environments has led to wider achievement gaps between children from middle-income households and children from low-income households. Children from lower income households experience more learning difficulties, greater disparity in academic achievement, and poorer prospects long term for employment (Ryan, Fauth, & Brooks-Gunn, 2006).

In the United States learning for children between the ages of 4 and 6 at the prekindergarten and kindergarten grade level emerged from three trends: (a) an increase in the number of mothers entering the workforce and the accompanying increase in the demand for child care, (b) agreement among early childhood education professionals and parents educational experiences should be included in the child care environment, and (c) research that supports the notion that young children can learn during the preschool years

and that this learning has a positive effect as children proceed through the elementary and secondary grades (Bowman, Donovan, & Burns, 2001).

The objective of programs such as Head Start, public school prekindergarten, and the Nonpublic Schools Early Childhood Development (NSECD) program is to reduce disparities in academic achievement by improving school readiness. The NSECD program, a program within the Governor's Office of Community Programs, was established in 2001 to provide developmentally appropriate prekindergarten instruction at nonpublic schools for at-risk 4-year olds (University of Louisiana at Lafayette, 2008). Funding for NSECD comes from federal Temporary Assistance to Needy Families funds (TANF) and the program is administered through social services. An eligibility requirement for receiving NSECD TANF funds is that children must live in households with a household income less than 200% of the federal poverty level (University of Louisiana at Lafayette, 2008). Students eligible for prekindergarten can enroll either in the NSECD program or in the rural school prekindergarten program.

Essential components of the NSECD program are: parental involvement, appropriate curriculum, and quality staff. These components are necessary not only for the success of the program but also for academic success of the students. Students enrolled in the NSECD program have interactive experiences that improve social, emotional, and cognitive abilities necessary for future academic achievement in kindergarten and beyond (Walsh & Gardner, 2005).

Research showed that traditional direct instruction does not always improve students' knowledge (Proctor-Williams & Fey, 2007; Ukrainetz, Ross, & Harm, 2009). Therefore, the NSECD program is based on constructivist theories, such as Bruner's (1996), which emphasize developmentally-appropriate and hands-on learning activities (NAEYC, 2002), cooperative learning, scaffolding, project learning, and discovery learning (Bruner, 1996). In constructivist approaches student achievement is enhanced because instructors focus on guiding students to answers rather than giving answers.

According to a report from the National Research Council (Bowman, Donovan, & Burns, 2001), intervening during the first 5 years of a child's life is important because from birth to age 5 children quickly develop basic skills. These basic skills lead to children's acquiring oral language, socialization, and reading and math readiness skills that are an essential foundation for learning (NCES, 2003). Explicit print instruction shows a meaningful particular affiliation with children's print knowledge development and the effects of prior intervention work (Justice, Pullen & Pence, 2008; Lovelace & Stewart, 2007) and the precocious character of this classroom procedure to children's print knowledge development. Researchers who study adolescent children's unconstrained analysis of books show that children spend little time looking at the printed words on a page unless prompted by an adult or teacher (Evans & Saint-Aubin, 2005; Evans, Williamson, & Pursoo, 2008; Justice, Pullen, & Pence, 2008). Print referencing revealed that differences in the quantity of specific print instruction teachers provided, on average each lesson, related to the extent of children's print knowledge gains over the

preschool year (McGinty, Breit-Smith, Fan, Justice, & Kaderavek, 2011). Children of any economic status who enroll in prekindergarten can succeed academically (Ramsey & Ramsey, 1998).

Parental involvement is a requirement of the NSECD program. Parents are contacted directly by teachers by phone or in writing. Student progress is discussed between parents and teachers at conferences that are held at least twice a year. During the year children are taken on field trips and exposed to unique experiences and parents may attend. The NSECD program is based on valid research and developmentally appropriate practices outlined by the National Association of Education for Young Children (University of Louisiana at Lafayette, 2008) and operate according to the Louisiana Standards for Programs Serving Four-Year-Old Children.

The NSECD program's curriculum includes the High/Scope approach to learning and early literacy. Children are encouraged to choose materials and activities. Important skills and abilities are developed as children explore, question, solve problems, and interact with others (Graves, 2002).

Another component of an effective preschool program is quality staff. Teaching assistants in the NSECD program must be early childhood certified. Most NSECD teacher assistants (58.69%) in 2007-2008 were enrolled in an alternate certification program (University of Louisiana at Lafayette, 2008). Hindman and Wasik (2008) believe that a primary challenge facing the field of early childhood education is to ensure that the teachers of young children are knowledgeable about the current research on best

practices for language and literacy acquisition and the related instructional implications. More than 13% of the teacher assistants held a bachelor's degree, and approximately 25% of the teacher assistants completed either an associate's degree in early childhood education or received a child development associate's degree (University of Louisiana at Lafayette, 2008).

Parents, policymakers, business leaders, and the general public are more aware of how a child's early years shape healthy physical, emotional, social, and intellectual development (Karoly, Kilburn, & Cannon, 2005). Scientific and anecdotal research on child development showed that the years before a child enters kindergarten are the foundation for academic and life success (Karoly et al., 2005). Recent research revealed the interrelationship of genetics and the environment work and their influence on the developing brain and the resulting emotional, social, regulatory, moral, and intellectual capacities (Shonkoff & Phillips, 2000).

An unanswered question, however, is how prekindergarten school practices affect children from economically disadvantaged environments (Love, Tarullo, Raikes, & Chazan-Cohen, 2006). The focus of the present study will be on the effects of NSECD Program participation on reading readiness in the year prior to kindergarten on child outcomes from kindergarten. By comparing reading readiness scores on the (SESAT) of students who attended the Nonpublic School Early Childhood Development (NSECD) program to those of students who did not attend, the impact of the NSECD Program can be ascertained. Specifically, the effects, if any, of gains in reading of NSECD

kindergarteners in special education will be investigated. This study will compare the effectiveness of pre-kindergarten programs at providing an educational foundation for students by comparing the SESAT performance results as measured on the SESAT (Above Average, Average, Below Average) of students who participated in the NSECD Program to those who did not participate in the NSECD Program. A more detailed discussion can be found in Section 2.

## Definition of Problem

The problem that I investigated in this study was whether there are differences in reading performance in kindergarten between students who participated in the NSECD Program and those who did not. According to the National Institute for Early Education Research (NIEER, 2007), the NSECD program had a total enrollment of 1,153 students of which 5,348 were enrolled in special education. In 2008, the NIEER report had a total NSECD enrollment of 1,055 students of which 5,031 were enrolled in special education (NIEER, 2008). In 2009, the NIEER report had a total NSECD enrollment of 1,360 students of which 4,955 were enrolled in special education (NIEER, 2009).

The problem that I investigated in this study was whether there are differences in reading performance in kindergarten between students who participated in the NSECD Program and those who did not. The NSECD is designed to provide high-quality, developmentally appropriate preschool instruction to eligible 4-year old children at risk of failing in school residing in Louisiana. Originally established through 2001-02 legislative appropriations for the Governor's Office of Community Programs, the NSECD

Program operated in Orleans Parish before expanding to serve children who were at risk of failing in school who attended schools in nine designated parishes. The program is funded through Louisiana's Temporary Assistance for Needy Families (TANF) federal block grant funds to prevent poverty (University of Louisiana at Lafayette, 2008).

Developmentally appropriate reading instruction is vital for students' immediate and long term reading development. Learners in the formative years who struggle and resist reading frequently stay behind their peers during their school careers and all of their academic subject areas suffer (Hoerr, 2006; Welsch, 2006; Wiley, & Deno, 2005). At the school in which this study takes place, kindergarten students have scored below average on the Stanford Early School Achievement Test (SESAT) in the area of reading. Some teachers at the study school believe that the currently adopted reading series, ABeka, does not meet the needs of struggling readers who attended the NSECD program. The ABeka series provides phonics instruction to build word recognition skills that enable students to become more proficient decoders while at the same time championing echo reading, choral reading, repeated reading and readers' theatre to provide students several opportunities to become fluent readers.

Remediation in the number of learners with literacy limitations is sought by using developmental approaches such as Reading Recovery (Clay, 1993, 1998) and balanced literacy (Fountas & Pinnell, 1996). Reading Recovery (RR) is an intervention with low-achieving students to help them make accelerated gains toward average grade-level performance. Children receive individual tutorial instruction by specially trained

teachers to help them learn rapidly. Individual learning is emphasized over group learning so that children are not taught what they already know.

Where RR involves individual instruction, Fountas and Pinnell's (1996) balanced literacy approach is more small-group oriented. The balanced literacy approach contains four distinct levels of reading instruction: read aloud/think aloud, shared reading, guided reading, and independent reading. Each level requires varying amounts of teacher support. In the first level the teacher *"thinks aloud"* to show students strategies and thought processes of making meaning before, during, and after reading. In subsequent levels students have social support from the group. In the third level children are placed into guided reading groups of 4-6 children and receive instruction that addresses the needs of each small group.

Policies to promote developmentally appropriate quality education programs for young children are important (Stipek & Hakuta, 2007). NSECD may be an appropriate program to address the issue of reading readiness. The research facility is at a private, elementary school in the southwest region of the United States, which currently has an enrollment of approximately 337 students in prekindergarten through eighth grades. The socioeconomic status of preschoolers varies because of the NSECD program that was initiated in the fall of 2001. Therefore, in this study differences in reading readiness scores on the (SESAT) of students who attended the Nonpublic School Early Childhood Development (NSECD) program to those of students who did not attend, it will be

compared to whether or not there are differences in reading performance in kindergarten between students who participated in the NSECD Program and those who did not.

## Nature of the Study

A gap exists in the literature on early literacy skills and the quality of the prekindergarten classrooms among children living in poverty and their more economically advantaged peers. In this quantitative study, I compared the performance results of students who have participated in the NSECD program to those students who did not participate in the program in a rural school, as measured by the results from 2009 SESAT. Data were gathered to measure the effectiveness of the NSECD program in preparing students to meet the kindergarten performance level learning expectation of Proficient or Advanced as measured on the SESAT.

## Research Question

The research question that I examined in this study was:

1. What is the difference, if any, in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for gender, race, and socioeconomic status?

## Hypotheses

In these hypothesis tests, I tested for significance at the 0.05 level of significance. The study gathered information from a rural, private school to correlate as a single population forming an experimental group and control group. The experimental group

was comprised of 20 students who participated in the NSECD program. The control group was comprised of 22 students who did not participate in the NSECD program.

**Null /Alternative Hypothesis**

$H_{O1}$: There is no difference in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for gender.

$H_{a1}$: There is a difference in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for gender.

$H_{O2}$: There is no difference in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for race.

$Ha_2$: There is a difference in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for race.

$H_{O3}$: There is no difference in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for socioeconomic status.

$Ha_3$: There is a difference in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for socioeconomic status.

## Purpose of the Study

The purpose of this study was to determine whether there were differences in reading performance in kindergarten between students who participated in the NSECD Program and those who did not. In Louisiana, beginning in 2001, to be eligible for enrollment in the NSECD program, a child must be 4 years of age on September 30th of the current school year. Eligibility for the NSECD program includes families with an income below 200% of the federal poverty level (University of Louisiana at Lafayette, 2008).

I selected the central phenomenon of the level of education of at-risk, preschool-age children in the NSECD program who reside in the southeasten United States for exploration in this study because little is known about effective early intervention childhood programs that can help children learn appropriate reading readiness skills. The NSECD program is unique because, unlike other preschool programs, children in this program are from households of low socioeconomic status.

The findings of this study will add to the body of knowledge because of the gains or no gains from children of low socioeconomic status from the NSECD program. Perhaps the findings of this study will encourage school districts to support NSECD

programs by encouraging all who are eligible to attend or by expanding such programs to include all students. Determining the effects of prekindergarten on potential success will allow lawmaking decisions to expand or reduce funding based on the long-term educational benefits when focusing on closing the achievement gap. In this paper, I will focus on the goal of informing the dialogue about supporting the development of children in low-income families as they enter school.

## Theoretical Base

In constructivist theory, the emphasis is on the student, and teachers are viewed as facilitators or coaches who help students construct their own conceptualizations of learning and solutions to problems (Fosnot, 2005). There are two schools of thought within constructivist theory: social constructivism and cognitive constructivism. Social constructivism gains knowledge based on culture and considers contextual understanding of societal occurrences (Fosnot, 2005). Social constructivist theorists include Vygotsky (1962, 1978) and Bruner (1966, 1996). Cognitive constructivist theories are about how individual learners understand knowledge based on their development stage and learning style (Fosnot, 2005). Theorists associated with cognitive constructivism include Piaget (1970) and Dewey (1938, 1910, 1961).

The NESCD program is based on the constructivist theory. Bruner's theoretical framework incorporates learning as an active activity and students portray their own ideas from their present or past knowledge (Bruner, 1966). Interconnectivity exists between how learners construct ideas and learning domains that impact learning. These principles

are all at play in the NSECD program. In particular, the influence of different domains on development is viewed as multi-layered. The social engagement domain may be adversely impacted by the language domain. With developmental domains so closely interwoven, none can be considered independently. A child may encounter problems interacting socially because of language impediments for example. Developing learning programs tailored to the needs of a particular child helps to ensure success. Expectations must be set with the belief that all children are capable of positive developmental outcomes. Cultural competency is a core factor that also must be considered (Hollyman, 2009). A child's culture is a major factor in his/her ability to acquire certain skills and competencies (Mashburn, 2008). Prekindergarten age children master a range of skills and competencies in different areas of development at different times. There is not a standard expectation for proficiency for all children within a certain age group because of the individual nature of learning. The NSECD education program staff must tailor their expectations to the individual child and agree on what each child should be acquainted with the given the context of that particular child's augmentation and progress. NSECD employees can make sound judgments about suitable core curriculum for the cluster and for individual kids. People should be conscious of objectives and practices that should be afforded for children and opportunities for children's performance by the end of the prekindergarten year. NSECD employees and families should work as a team to guarantee that children are provided the best possible learning experiences. The NSECD program must offer families with the information they may need to maintain children's

education and progress. The NSECD program provides prospects for children to discover resources and take on tangible actions and to intermingle with colleagues and adults in order to build their own thoughts about the world around them (Louisiana Department of Education, 2010).

Learning is a social development activity and children actively in their own learning environment. Vygotsky (1978) emphasized that each child should be viewed child as an individual with a distinct learning style. As children interact with other children and with their teachers, they construct knowledge, skills, and attitudes through books, toys, and culturally specific practices of the home (Leong & Bodrova, 2001). In the classroom, students are active and continually communicate with the teacher. According to John-Steiner and Mahn (as cited in Chang-Wells & Wells, 1993), "There needs to be extended opportunity for discussion and problem-solving in the context of shared activities, in which meaning and action are collaboratively constructed and negotiated" (p. 59).

Bruner's (1966) cognitive approach to childhood learning differs from the behaviorist theories that were advocated in education, and child psychology in the first half of the 20th century. Bruner (1966) suggested that people remember facts "with a view towards meaning and signification, not toward the end of somehow preserving the facts themselves" (p. 58). Thus, Bruner's (1966) constructivist theory is based on cognition. The child development theories of Piaget (1970) and cultural-historical theorist Vygotsky (1978) are similar to Bruner's (1966; Hollyman, 2009). Bruner's

(1966) theory of instruction consisted of four major aspects: (a) predisposition towards learning, (b) structuring knowledge in ways that learners can best learn, (c) effective sequencing of material to be learned, and (d) appropriate rewards and punishments and appropriate pacing of rewards and punishments. According to Bruner, structuring knowledge should result in simplifying, generating new propositions, and increasing the manipulation of information.

Vygotsky (1978) theorized that education should facilitate development. Students' development and social learning occur when they internalize culture and social relationships. Therefore, culture and especially the family environment influence students' new knowledge and newly acquired skills. Because the primary tools for cognitive development are speech and thought, students must have language skills that shape and connect meaning to new ideas based on past experiences and prior knowledge. According to Vygotsky (1978), behavior and cognition are guided by students' internalized skills and psychological tools (Hamilton & Ghatala, 1994).

In order to learn, according to Vygotsky (1978), a student must transform external experience into internal processes through language because the words that comprise a language communicate concepts (Feden & Vogel, 1993). Thus, speech and language promote learning because speech and language are the primary means of communicating with others. Vygotsky (1978) suggested in developing higher-level thinking and problem-solving skills to help students gain new knowledge (Goldfarb, 1934). Vygotsky (1978) repeatedly emphasized the importance of the learner's past experiences and prior

knowledge when learning new situations or understanding present experiences (Feden & Vogel, 1993; Silverman, 1992).

Vygotsky's (1978) submission supported those of Bruner (1966). Bruner (1966) theorized that there should be a two-way active dialogue between the instructor and the student during the lesson or task. The instructor's role is to convey that which is to be learned in a way that is consistent with the learner's current state of understanding (Hollyman, 2009). Bruner (1966) theorized that learning is an active process in which the learner, relying on a cognitive structure, constructs hypotheses and makes decisions based upon their current or past knowledge. According to Hollyman (2009), Bruner (1966) theorized that knowledge is best acquired through active learning that comes from personal discovery and that the instructor help students to discover principles on their own. Instructors should provide children with study materials, activities, and tools that enhance their developing cognitive capabilities (Hollyman, 2009). Bruner (1966) stated, "Curriculum should be organized in a spiral manner so that the student continually builds upon what they have already learned" (p. 60).

Bruner's (1966) theory of how children construct knowledge is based on three basic modes of instruction: (a) inactive, (b) iconic, and (c) symbolic (Hollyman, 2009). Children develop as they progress through each of the increasingly complex modes. Infants learn from inactive models. As they learn to roll over, sit up, and walk, they learn based on their own actions. As children grow, they enter the mode of iconic representation and begin to understand what pictures and diagrams are and how solve

mathematical equations without counting objects. When children reach adolescence, they begin to think and act in the abstract, and the symbolic mode of learning becomes dominant.

According to Dewey (1938), students are actively engaged in a search for meaning through learning. Learning occurs through experience and interaction with others: "All human experience is ultimately social: that it involves contact and communication" (Dewey, 1910, p. 38). Dewey theorized that educators are responsible for providing active learning experiences for students and those encounters should be based on issues and material that are relevant to students. To Dewey, physical actions and hands-on experiences that engage the mind and the hands enable students to construct systems of meaning and make connections from the various parts of learning to form a meaningful whole (Johnston, 2006).

Cognitive constructivism is based on the work of Piaget (1970). According to Piaget (1970), immediate assimilation and application of new information is not a part of human cognition; rather, experience allows humans to build knowledge and apply meaning to new information. Experiences help establish schemas which are enhanced through the processes of assimilation and accommodation (Piaget, 1970). Four developmental stages are complimented by a set of processes for each stage based on the theory by Piaget (1970).

In the first, the *sensori-motor stage* (birth to age 2) the child, through physical interaction with the environment, builds a set of concepts about reality and how it works.

In the second stage, the *preoperational stage* (age 2-7) abstract conceptualization is not possible and the child needs real physical situations to learn. The third stage, the *concrete operational* (age 7-11) stage, abstract problems solving begins with the child creating logical structures for physical experiences and is able to conceptualize. By the fourth stage, *formal operations* (age 11-15), conceptual reasoning takes form and the child's reasoning configuration is related to an adult's (Pass, 2004).

Hermans (2008) investigated the beliefs (constructivist vs. traditional) of classroom teachers as antecedents to motivational determinants for instructional use of computers while controlling for previous knowledge and experience, sex and age. Next to the impact of computer experiences, the results showed that those teachers with constructivist beliefs had a positive effect on their use of computers for instruction, while those with traditional views of teaching had a negative impact on the classroom use of computers.

Approximately 25 % of children live in single-parent home in contrast to 30 years ago when traditional families were more prominent (Anderson, 1999; Armor, 2003). The percentage of children born into and living in poverty decreased but remains high in certain subgroups. Children living in adverse environments are in danger for societal and monetary disappointment (Barnett, 2004). Policymakers sought fairness and justice in assisting children from impoverished families.

Over the long term investment in young children from impoverished or disadvantaged environments increases the productivity of society as a whole (Heckman

& Masterov, 2007). Many of the negative effects of children born in poverty or in disadvantaged environments can be ameliorated with early childhood interventions. The likelihood of committing a crime, having an out-of-wedlock birth, and dropping out of school decreases and produces a high economic return for the children and society (Heckman & Masterov, 2007).

While there is promising evidence that proves that early childhood involvements for underprivileged young children are more successful than involvements later in life, more research about the benefits and costs of early intervention programs and their effect on the academic success and quality of life of children are needed. Remediating the effects of a disadvantaged environment when the child is older rather than at an early age is costly and ineffective (Carneiro, Cunha & Heckman, 2006). Numerous studies show that post-school remediation programs like public job training and General Educational Development (GED) certification do not make up for childhood neglect.

A stronger emphasis has been placed on analysis of prevention in helping to decrease high rates of reading dysfunction in the United States (Bradley, Danielson, & Hallahan, 2002; Donovan & Cross, 2002; Snow, Burns, & Griffin, 1998). Two recent meta-analyses show that pre-school and kindergarten literacy levels are strong predictors of a child's literacy level later in life (Duncan et al., 2007; National Early Literacy Panel [NELP], 2008).

Most current policies for improving children's skills focus on the intervention role of schools. NCLB holds schools accountable for ensuring that children from

disadvantaged environments achieve and mandates schools to remediate their educational deficits. Schools who fail to do so will be punished. While the intent behind NCLB is laudable, the premise is unsound. The Coleman's 1966 Report on school achievement inequality noted that variation in academic performance for U.S. children is more influenced by family environment and parental supervision than variations across schools in per-student expenditure or student-to-teacher ratios. Thus, schools that are successful work with successful families (Heckman et al., 2007).

Likewise, schools that are failures work with dysfunctional families in which students received no support in the home. These families tend to be in a lower socioeconomic status and do not afford the supportive homes that are more characteristic of middle class and upper middle class households. Social policy has been unable to adequately specify how to ameliorate the effects of unfavorable family surroundings on children in their early developmental years. A number of approaches have been taken, including state monetary support to provide for material needs, family support programs outside the home, and removing children from their biological families (Barnett & Masse, 2002). Emerging research proposes that there is a suitable way to recover the prospects for children from disadvantaged environments in their early years. Enriched preschool centers for disadvantaged children and home visitation programs, have shown positive results in promoting academic success and high economic returns.

However, clarifying the best evidence-based practice is difficult given that language and literacy module assessments generally measure a combination of factors

and tools. Because assessments fail to dissect which instructional practices are most impactful, establishing best practices is complicated. When the influence of the classroom environment is factored, module assessment becomes more difficult (Assel, Landry, Swank, & Gunnewig, 2007; Fischel et al., 2007). Therefore, it is problematic to determine what aspects of language and literacy programs yield the strongest benefits. Further, the interwoven educational system includes influences from the teacher, the teaching environment and the child. All work intricately together creating a challenge in distinguishing an independent targeted literacy instructional module that promotes literacy achievement.

In order to prepare for an ever-changing, information saturated society, NSECD students must develop agility in processing information. Higher order thinking can be influence by a worldwide classroom feature. Additionally, behavioral regulation is impacted by students observing how teachers communicate across multiple frameworks. Productivity, emotional security and connection are also affected. Behavioral engagement is impacted by the adult's level of emotional and behavioral support with ramifications on targeted literacy activities and the classroom environment according to several studies (Bus, Belsky, van Ijzendoorn, & Crnic, 1997; Sonnenschein & Munsterman, 2002) and (Bulotsky,-Shearer, Fantuzzo, & McDermott, 2008; McWilliam, Scarborough, & Kim, 2003; Rimm-Kaufman et al., 2009).

The current technology based era has forced literacy education to further evolve. Vast amounts of information are constantly accessible and the demand to input and apply

information at an accelerated level continues to grow. Teachers must adapt teaching environments to help with more diverse and integrated learning rather than focusing on a specific subject area. Students must enter the workforce equipped to rapidly access and apply information to solve problems and make decisions. Information literacy allows students to seek additional knowledge as needed working as self-directed learners. Social skills must be adopted that allow students to work collaboratively as a team or independently; therefore, reading skills must not be taught in seclusion. All available resources must be utilized in order to simulate the real-world need for integrated learning across multiple learning platforms. Although an emerging approach to classroom ecology, focusing on multiple components of development meshes with long standing developmental ecological theory (Mashburn et al., 2008); Rimm-Kaufman, Curby, Grimm, Nathanson & Brock, 2009) and (Bronfenbrenner & Morris, 2006). Adult stimulation may assist children administer diverse learning framework to expedite their learning (Cameron, Connor, Morrison, & Jewkes, 2008). Productivity in the workplace and in larger society requires education and human skills. The family is instrumental in helping children develop skills and motivating them for academic and work success. The most effective policy for improving the performance of schools and children from disadvantaged families is to provide is to help families by supplementing childrearing expenses.

## Operational Definitions

*At-risk children:* Children who are eligible for preschool programs as defined by age- and income-eligibility and eligible for free lunches. An at-risk student is defined as a student who meets one or more of the following criteria: (a) does not meet the requirements necessary for promotion to the next grade level or graduation from high school; (b) has an education attainment level below other students of their age or grade level; (c) may potentially drop out of school; (d) is failing two or more courses of study; (d) has been retained; and (e) is not reading on grade level (Barnett & Yarosz, 2004, pp. 84-85).

*Developmentally appropriate learning activities:* "Activities that offer age-appropriate activities based on the developmental stage of students" (Lesiak, 1997, p.58). "The 1996 NAEYC position statement has expanded this term to include a child's culture in developmental learning" (Bredekamp & Copple, 1997, p.128).

*Early literacy:* The basic skill-set and range of knowledge necessary for the foundational level prior to actual reading and writing in primary grades that are part of a complex process of learning to read. Early literacy is associated with children's cognition in which the construction of literacy knowledge occurs through developmental stages and is acquired through active engagement with language experiences (Roskos, Christie, & Richgels, 2003, pp. 104-105).

*Emergent literacy:* The skills and processes through which children learn to read by understanding oral language, the sounds of words, phonemes, and print (Lonigan, 2004).

*8(g) Program:* A program offered in public schools and supported by the Student Enhancement Block Grant. The program operates on a school calendar year basis, and there is no income eligibility requirement. Teachers are required to have a bachelor degree and certification in N (nursery) or Kindergarten. The program operates on a school calendar year basis and hours of operations are locally determined (Christina & Nicholson-Goodman, 2005, pp. 1-2).

*Head Start: "* A federally funded program for children under five years old from low-income families focused on the development of early learning skills necessary for academic success" (Vinovskis, 2005, p. 5).

*iLEAP:* English Language Arts and Math tests consisting of norm-referenced test (NRT) components and items developed to align with the Louisiana Grade-Level Expectations (GLEs). The additional GLE-based items combine with the Iowa Test items that align with GLEs to form the criterion-referenced test (CRT) component of *i*LEAP. The *i*LEAP English Language Arts and Math tests are administered at grades 3, 5, 6, 7, and 9 (*i*LEAP, 2007, p. 1).

*Information literacy:* "The ability to recognize an information need and then locate, evaluate, and effectively use the needed information which is a basic skill

essential to the 21st century workplace and home" (Louisiana Department of Education, 2010, p. 7).

*LA4*: "A public school program that serves 4-year-olds from households at or fewer than 185% of the federal poverty level (FPL). LA4 provides 6 hours of daily instruction and requires that before- and after-school programs be offered, for a total of 10 hours per day" (Christina & Nicholson-Goodman, 2005, p.3).

*Market-based early care and education settings*: "Care settings established as a result of consumer demand as opposed to settings established by a public program or initiative. Settings include most family childcare and childcare centers that do not receive public funds" (Zaslow & Tout, 2006, p.18).

*No Child Left Behind Act (NCLB):* A law enacted on January 8, 2002, as the reauthorization of Elementary and Secondary Education Act (ESEA). The purpose of this title 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 (Public Law 107-110 sec1001, 2002)

*Nonpublic Schools Early Childhood Development Program (NSECD):* A program begun in 2001 with legislative appropriation through Louisiana's Temporary Assistance for Needy Families, a federal block grant designed to foster interest in learning, increase literacy skills, prevent poverty, and promote development of responsible behavior. The program's goal is to provide at-risk four-year-old children

access to high quality, developmentally appropriate prekindergarten classes and before-and-after school enrichment activities, in a nonpublic school and Class A daycare setting. (University of Louisiana at Lafayette, 2008, p. 2)

*Parent involvement:* "The relationship parents have with schools which benefit themselves, their children, and the school" (Edwards, 2004, p. 3).

*Prekindergarten (PreK):* "A child's first formal academic classroom learning environment Pre-K, formerly known as nursery school, prepares children aged 4 or 5 years for the more academically rigorous kindergarten environment" (National Center for Education Statistics, 2005, p. 2).

*Preschool:* "A formal academic environment that prepares children between the ages of 2 and 5 for elementary school" (Schulman & Barnett, 2005, p. 7). Preschool is also known as nursery school, day care, or kindergarten.

*Program-based early care and education settings:* "Include those settings or classrooms that meet the criteria of, and are largely funded by, federal or state programs such as Head Start and state prekindergarten"(Zaslow & Tout, 2006, p.11).

*Retention:* "Holding back students from advancing to the next grade level who do not demonstrate mastery of the academic and social skills appropriate for their grade" (Institute for Education Research, 1995, p. 28).

*Special education:* "Specialized learning programs for students as designed by the students Individualized Education Plan (IEP) to help students make grade level performance" (Institute for Education Research, 1995, p. 58).

*Stanford Nine Early School Achievement Test (SESAT):* "A standardized achievement test used by U.S. school districts to assess academic knowledge of elementary and secondary school students in subjects such as reading, mathematics, and science" (Harcourt Educational Measurement, 1996, p. 2).

*Starting Points (SP):* "A program similar to LA4 that provides services for 6 hours per day and is funded through Temporary Assistance for Needy Families (TANF) and tobacco settlement funds" (Christina & Nicholson-Goodman, 2005, p. 3).

*Structural quality:* "Measures frequently regulated by state licensing requirements that specify the teacher-child ratios, class size, qualifications and compensation of teachers and staff, and classroom square footage" (Vandell & Wolf, 2002, p. 67).

*Targeted preschool:* "Preschool programs for at-risk preschool children in school districts other than those school districts required to provide universal preschool" (Barnett & Yarosz, 2004, p 17).

*Universal preschool:* "Preschool programs for all age-eligible resident 3- and 4-year-old children"(Barnett & Yarosz, 2004, p. 17).

*Zone of proximal development (ZPD):* Refers to a child's level of cognitive preparation that allows a child to perform a specific task with or without help (Chaiklin, 2003, p. 37). The concept of ZPG represented Vygotsky's argument against standardized testing to measure students' intelligence (Berk & Winsler, 1995, p. 28 ).

## Assumptions, Limitations, Scope, and Delimitations

In this study, I assumed that appropriate authorities for the school at which this study took place would grant me permission to collect data. I also assumed that patterns that emerged from the data during analysis would be consistent with the focus of the research question.

Data that I used in this study was gathered from students at a rural school. It will be assumed that students within each classroom received comparable instruction at the rural school. I assumed that each pre-kindergarten class aligned instruction to the state standards. The instructional presentation and methodologies was different but the content was consistent for all students at each of the schools. It will also be assumed that student performance for the reading levels was consistent with future and previous student performance. Through participation in a pre-kindergarten program students will less likely be placed in special education classes or retained. Pre-kindergarten will provide students with an educational foundation to address learning deficits early in a child's educational experience.

In this quantitative research study, I focused on student performance gains and deficiencies. A quantitative analysis did not provide an in-depth understanding as to the surrounding issues that may affect a student's performance. A quantitative study did not provide an interpretation of various curricular approaches that were used by teachers to address individual student's needs. Quantitative study reviewed information from a

general perspective by providing analysis based upon performance by the two groups, participants and non participants.

This study was limited by population size and time. The limited population size impacted the power of the statistical analysis in determining the significance of the study. This information formed a foundation for providing points of discussion to implement further studies to conduct longitudinal analysis of the effects of pre-kindergarten programs on student performance for a multiyear period in a rural area.

## Significance of the Study

Researchers who study high-quality preschool programs showed that these programs contribute to America's economic and social well-being in three ways. First, the program's positive influence on students' lives increases the likelihood of students' suitable employment that uses the talents of the students and helps to contributes to society as a whole. Second, federal, state, and local budgets can increase if governments use available resources for productive endeavors diminishing the need to heavily fund remedial, punitive and welfare based programs. Third, consistent investment in preschool is a cost-effective way to ensure a better educated workforce and long-term economic growth.

## Contribution to Social Change

With a greater demand for quality preschool education, the focus on universal preschool and targeted preschool in this study measured the impact of different preschools in effectively reaching preschool aged students. The expansion of the early

learning population forces the establishment of techniques necessary to meet the needs of a diverse population. In addition, considering the shift from child care providers as caregivers to the emergent comprehensive role of early learning educators, educational techniques must contemplate the learning readiness of the child and demands of the educator. Each classroom, and each child impacted by that classroom, has a greater reach on society at large because studies verify that children exposed to early learning perform better when exposed to formal learning. This study displayed: (a) that early learning in fact, does lay a foundation for ongoing learning; and (b) that better educated individuals have a better quality of life. By monitoring reading and measuring development when exposed to differing social environments, this study contributes to positive social change by establishing different studies that encourage societal impact of better-educated and diversely exposed learners.

## Organization of the Study

Inclusion of preliteracy skills, including language and quantitative skills, are viewed as pre-K basics in modern curricula (Christie & Roskso, 2006). Most current efforts to enhance school readiness for children from economically disadvantaged environments have focused on improvement of early language and quantitative skills (Konold & Pianta, 2005). However, educators are concerned about success between underprivileged students and privileged students (Bowman, Donovan, & Burns, 2001). The purpose of this study was to determine whether there were differences in reading

performance in kindergarten between students who participated in the NSECD Program and those who did not.

In Section 2 the literature relevant to the effectiveness of early learning programs on student learning will be reviewed. In Section 2, I will discuss the current status of early childhood education and review the literature related to the Head Start program, early learning, early learning studies, and the NSECD program. In section 3, I will describe the research design, data-gathering tools, and methodology that I used in this study. In section 4, the results of the data collection and analysis will be presented. Section 5 will consist of a summary of the research, discussion of the findings, presentation of conclusions, implications for teachers and teacher educators as it relates to social change, and recommendations for further studies pertaining to the NSECD program.

Section 2: Literature Review

## Introduction

The purpose of this study was to test constructivist theory of Jerome Bruner by comparing students who attended the NSECD program with those who did not attend in terms of reading readiness achievement for kindergarteners at a rural elementary school. In this study, I compared the performance results of students who have participated in the NSECD program to those students who did not participate in the program in this same rural school using the results from 2009 Stanford Early School Achievement Test (SESAT). Quantitative data were gathered to measure the effectiveness of the NSECD program in preparing students to meet the kindergarten performance level learning expectation of Proficient or Advanced as measured on the SESAT.

Reading failure comes at a high cost to individuals, our educational system, and society at large (Chambers et al., 2011). A strong correlation relationship exists among illiteracy, unemployment, poverty, and crime (National Institute for Literacy, 1998). That is, individuals with reading difficulties are less likely to be employed compared to more literate individuals (Snyder, Dillow, & Hoffman, 2008); 43% of people with the lowest levels of literacy skills live in poverty (National Institute for Literacy, (1998); and at least half of adolescents and young adults with criminal records have reading difficulties (Lyon, 2001). These data are especially disheartening given that 21% of America's children live below the federal poverty level, and 42% live in low-income homes (White, Chau, &Aratani, 2010). Being raised in poverty puts children at increased

risk not only in reading, but for a wide range of problems, such as lower achievement, repeating a grade, eligibility for special education, and dropping out of high school (Herring, McGrath, & Buckley, 2007; Oh & Reynolds, 2008). Children who experience reading difficulties early in their school career continue to struggle as they advance in grade (Catts et al., 2008; Young et al., 2002) resulting in an increasing gap in skills between successful and struggling readers (Francis et al., 1996; Juel, 1988; Torgeson & Burgess, 1998). Murphy (2009) stated that in order to tackle the achievement gap researchers must look at both out-of-school factors and in-school variables. Further, children who do not learn to read are more likely to require special education services, have low self-esteem, engage in delinquent behavior, and drop out of school before graduating (Chambers et al., 2011).

The problem with prekindergarten students entering school without a strong command over literacy skills is that this leads to an increased chance of them experiencing difficulties in reading throughout their school years (Barnett, 2008; Gewertz, 2009; Pressley, 2002). Reading is the most important skill required for students to have academic success (Brice & Brice, 2009). Early literacy intervention programs are predicated on empirical evidence illustrating that children's early literacy performance in preschool is one of the most important early predictors of subsequent school success. A growing body of research supports this belief and suggests that children who begin school with limited early literacy skills often do not catch up to children who begin school with stronger early literacy skills (Alexander & Entwisle, 1988; Juel, 1988;

National Early Literacy Panel [NELP], 2008). The earlier in life literacy skills are learned, the more successful students learn additional skills necessary for reading (Burke, Hagan-Burke, Yuanyuan, & Kwok, 2010). According to Finn (2010), children's acquisition of literacy skills correlates strongly skills such as recognizing the letters of the alphabet and their sounds. Meanwhile, researchers have found that variability in children's literacy skills when they enter kindergarten tends to either remain the same or increase through the elementary years (Snow, Burns, & Griffin, 1998).

Further, recent research documents that early patterns of children's performance are relatively stable even in preschool (Cabell, Justice, Konold, & McGinty, 2011). Hence, the *"reading gap"* between children who are at risk for early reading challenges and their more advantaged peers appears to be the smallest at the beginning of preschool or kindergarten (Alexander, Entwisle, & Olsen, 2001; Burkham, Reading, Lee, & LoGerfo, 2004; Cabell et al., 2011). With life experiences, children are equipped to better understand the text they read (Arya, Wilson, & Martens, 2009).

Several intervention studies have demonstrated that young children can experience significant early literacy success when they receive comprehensive language and literacy instruction in the prekindergarten and kindergarten years (Bingham, Hall-Kenyon, & Culatta, 2010; Dickinson, McCabe, Anastasopoulos, Peisner-Feinberg, & Poe, 2003; Farver, Lonigan, & Eppe, 2009; Fey, Catts, & Larrivee, 1995; Justice, Kaderavek, Fan, Sofka, & Hunt, 2009; Lonigan, Farver, Phillips, & Clancy-Menchetti, 2011; Vellutino & Zhang, 2008). School officials historically have found that many

children enter school already behind their counterparts and have become concerned with children having a good foundation in reading (Conradi, McKenna, & Walpole, 2010). For example, children from low socioeconomic homes who experience early literacy instruction that provides instruction aimed at increasing children's oral language (e.g., phonological awareness, vocabulary) and print (e.g., alphabet knowledge) skills demonstrate significant growth in these skills in relation to their more advantaged peers (Bingham et al., 2010; Justice, Mashburn, Pence, & Wiggins, 2008; Richgels, Poremba, & McGee, 1996; Torgesen, 1998; Vellutino & Zhang, 2008). For reading success in the later years of school, students need to develop the emergent literacy skills at the preschool level (Fountas & Pinnell, 2011; O'Connor & Vadasy, 2011).

This chapter includes a review of research literature related to the educational program "Head Start." I reviewed four early learning studies including the Perry Program School Project, Abecedarian Project, Chicago Longitudinal Study and West Virginia Head Start Evaluation. This chapter provided specific information relating to early learning as established under Federally Legislated Programs, followed by Early Learning in Louisiana and information on Special Education and Retention, as they related to this study. I then conclude the chapter with summary of the literature as related to the NSECD program. The NSECD program is a unique prekindergarten program that offers schooling to Louisiana 4 year olds whose parents' incomes are 200% below the federal poverty level.

I conducted a methodical search of the content by using several different online databases as well as additional searches of selected bibliographies. Preliminary searches were conducted in ECONBASE using the keywords *"at-risk children and emergent literacy"* as well as the main words *"low income and reading readiness."* I also performed searches within *Academic Search Premier,* ERIC, EBSCO *Host Sociological Collection* and JSTOR using similar main words and then lessened to the main words *"preschool reading readiness."* A minor search was performed using the Powersearch trait within EBSCO which permitted synchronized searches of quite a few databases: Academic Search Premier, Medline, PsycArticles, PsycINFO, Social Sciences Abstracts, Econlit and Education Abstracts. Inquiries were made using 25 dissimilar patterns of the following keywords: *prekindergarten, preschool, at-risk children, emergent literacy, low-income, poverty, reading readiness, special education, retention, and academic achievement.* These similar combinations were also used to make further inquiries in the JSTOR and ERIC databases.

After assessing the synopsis returned by these searches, I selected 35 commentaries for a comprehensive methodological analysis. This compilation of lessons cover publication dates from 1962 to 2008, depicting landmark studies and the most current work from the disciplines of economics, psychology, sociology, and education.

Arnold, Gaddy, and Dean's (2005) literature review conducted for Mid-continent Research for Education and Learning (McREL) examined rural education research. Their review of 716 abstracts revealed "no truly experimental studies (p. 11) and "of the 106

articles that used some kind of comparative research design, only 10 were rated as higher-quality research, and 48 were considered to be of medium-quality" (p. 12). Eight articles referred to early childhood education and Arnold et al. rated these medium-quality. Only one article, Bickel and Spatig's review of the effects of a Head Start program in rural West Virginia, was rated as high quality (Arnold et al., 2005).

The review of related literature was built on the study's methodology by comparing students who attended the NSECD program with those who did not attend in terms of reading readiness achievement for kindergarteners at a rural elementary school. Enrollment in the prekindergarten program exposes students to experiences, which should lead to improve social, emotional, and cognitive abilities, with subsequent academic achievement in later kindergarten performance. Newer research also shows the importance of teacher-child relationships (Rudasill & Rimm-Kaufman, 2009). High-quality social interactions benefit all children, regardless of family or economic background, and they are associated with the positive development of literacy and other academic skills (Mashburn, 2008). Warm, supportive relationships encourage children's motivation, engagement, self-direction, cooperation, and positive attitudes toward school (Howes, Burchinal, Pianta, Bryant, Early, Clifford, et al., 2008). The literature review focused on the history and status of prekindergarten programs and studies about academic achievement in regard to prekindergarten students.

## Theoretical Bases of Preschool Education

The importance of preschool education programs is highly documented and supported by research. Although the United States has historically viewed and followed theories and beliefs of European leaders, philanthropists, and philosophers such as Piaget, Froeble, Emilia, Montessori, Vygotsky, Locke, Rousseau, and Freud, there continues to be no one theory on early childhood education (New, 2005). Based on the variations in theories, policymakers in the United States need to meet the challenge of selecting from an assortment of potential viewpoints to meet the individual cultural need of society (New, 2005). The importance and benefits of preschool programs is an area that has been researched and continues to be investigated.

Reading is an essential skill learned in the primary grades. Indigenous children tend to lag far behind their non-Indigenous counterparts (Department of Employment, Education and Training, 2006; Gray & Beresford, 2008; Masters & Forster, 1997). Tyner (2009) explained how early reading success is the foundation for future educational opportunities. Successful reading involves many different components, including phonemic awareness, phonics, fluency, vocabulary, and comprehension (Tyner, 2009). Good readers are able to take rules governing reading and make predictions about what they are reading (Clay, 1991). Martin, Pratt and Fraser (2000) found "in order to read, a person must be able to integrate information rapidly and efficiently from the printed page, using cognitive, visual, auditory, and linguistic processes" (p. 232). Also, proficient readers are able to divide their attention among different aspects of print (Pinnell &

Fountas, 2009). Struggling readers are unable to use this knowledge when they encounter unknown words (Horner & O'Conner, 2007). These differences in readers' ability lead to an achievement gap between proficient and struggling readers.

In keeping with the issue of phonemic awareness, Hoffman (2010) articulates that in order to support and to develop children's reading and literacy skills, teachers need to provide them with both constrained and unconstrained skills. Constrained skills include alphabet knowledge, print awareness, and phonemic awareness, while unconstrained skills are related to oral language, comprehension, critical thinking, and composition. "Constrained skills typically develop in a relatively short period of time, because there is a concrete limit to the understanding needed for mastery" (Hoffman, 2010, p. 11). Constrained skills (such as phonemic awareness) are essentially easy to teach, and for that reason, once a child develops phonological awareness, he/she has "no more skills to, learn in that area of literacy development" (Hoffman, 2010, p. 11). Strong language skills are essential for children's success in school and life (Jalongo, 2008; Kalmar, 2008). Positive language interactions with skillful English speakers are critical to helping them become proficient in English (Piker & Rex, 2008). Oral language, including grammar, the ability to define words, and listening comprehension, helps provide the foundation and is an ongoing support for literacy (National Early Literacy Panel, 2008).

Marie Clay's work originated in New Zealand, where children learn incidentally as they encounter reading materials (Tunmer & Chapman, 2003). With a background in cognitive and developmental psychology, Clay was one of the first to focus on emergent

literacy, or the years of literacy learning which occur before formal literacy instruction (Cox & Hopkins, 2006). Clay (1991) found research does not ask the questions teachers want answered, and therefore teachers rarely enact research findings. In her view, practice and theory should interact and inform each other. Given education's concern with change in the learning of individuals, educators need to document change over time in individuals (Clay, 2000). In conducting her own research, Clay (2005) observed this change over time, which occurs as students interact with their environment. This sociocultural form of research is at the heart of understanding how different literacy events impact struggling readers.

Clay (1982) found:

> Reading instruction regularly produces its failures. We blame the type of programs, the education system, the material resources, or the children; but almost never do we attribute the result to the sequence of instruction itself creating in the particular child a set of behaviors that are self-limiting rather than self-extending. (p. 66)

Following this finding, Clay created the Reading Recovery (RR) program to tutor the lowest performing students and keep them from falling further behind their peers. Clay's theory of learning to read is grounded in the idea that children construct their knowledge based on their world and the meaning they gain from print (Pinnell et al., 1994; Center, Wheldall, Freeman, Outhred, & McNaught, 1995). Clay believed reading is "a message-getting, problem-solving activity which increases in power and flexibility

the more it is practiced" (Clay, 1991, p. 6). In designing the procedures to use with students, Clay tailored the instruction to match the teachers' desire to gain more information about particular students (Clay, 1982). As conceptualized by Clay, Reading Recovery acknowledges the learning which occurs in these social contexts (Pinnell et al., 1994). Hurry and Sylva (2007) discovered a potent means of impacting comprehension and spelling in excess of a vast range of reading utilizing RR.

As a part of that research, Levine (2007) emphasized and supports the need and importance for high-quality early learning opportunities for young children since the areas of health, cognition, and emotion are strongly developed in the early years; therefore, interrupting or limiting this development could result in problems that will be costly in the future. There is evidence, both quantitative and qualitative, that these early learning opportunities would improve the functioning of the family and reap long-term benefits for society (Gormley, Gayer, Phillips, Dawson, 2005; U.S. Department of Education, 2007).

The American Federation of Teachers (2003) strongly emphasized the importance of early childhood education. Exposure to high-quality early childhood education produces meaningful benefits for lifelong learning and equips children for formal education. Early education has an extremely well-documented success rate producing a tremendous return on the time and funding invested for high-quality programs. Successful learning upon reaching a school environment is one of several exceptional benefits of early childhood education. Additional benefits include decreased drop-out

rates; less socially disruptive behavior; reduced grade retention; and, less need for special education services. Other positive benefits are found in higher long-term economic returns and higher graduation rates (Bogard & Takanishi, 2008).

The impact reaches beyond the individual children receiving high quality early education. Research indicates sweeping societal benefits including crime reduction and increased tax revenue. Tax revenue increases, in many cases, covers the total cost of the governmental investment in high quality child care and then some (Ackerman & Barnett, 2006; Stipek & Hakuta, 2007). Both short-term and long-term cognitive, social and emotional benefits improve the quality of life for a child exposed to high-quality early care. Improved childhood development builds upon itself into adulthood (Barnett & Hustedt, 2003; Kagan & Kauerz, 2006).

Conversely, without the foundation of high quality early child care, children entering kindergarten lacking social and emotional competency often continue to struggle into adulthood (Cavanaugh, Lippitt, & Moyo, 2000; Huffman, Mehlinger, & Kerivan, 2000). In addition, there is a growing understanding of the importance of social and emotional school readiness as the solid foundation and framework for future academic and professional success.

Similarly, the National Institute for Early Education Research (NIEER) Policy Report titled, *Overlooked Benefits of Pre-kindergarten,* Schulman (2005) mentions additional benefits to attending pre-kindergarten: (a) start children on the path to financial stability and independence, (b) increase the likelihood that mothers of

participating children get good jobs, (c) enhance the parenting skills of participants' parents, (d) strengthen commitment to and attitude toward school, and (e) produce positive effects that extend into future generations. Directly teaching behavioral expectations is a universal prevention approach to minimizing the amount of disruptive classroom behavior and maximizing academic engagement and should involve posting, teaching, reviewing, monitoring and reinforcing classroom expectations (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). Students may not be responding to academic interventions because the intensity of intervention is mediated by levels of student engagement (Ponitz, Rimm-Kaufman, Grimm, & Curby, 2009). Children who regulate their emotions positively do better in school (Ponitz, McClelland, Jewkes, Conner, Farris, & Morrison, 2008). Academic interventions that do not occur in the context of good behavior management may not meet the needs of students with academic delays and behavior problems, and indeed may be the very cause of such problems.

Finally, growing school readiness and early childhood interest has amplified the call to find effective educational programs for young children (Reynolds et al., 2006). Programs that can yield measurable benefits as some of these benefits endure for some time after the program has ended (Greenwood, 2009). There are some early childhood programs that are landmark programs that have influenced our present early childhood philosophy and are paramount in establishing the positive impact of early childhood education.

## Current Status of Preschool Education

Young children develop numerous emergent literacy skills during the preschool years. Emergent literacy refers to basic reading and writing skills children develop before they receive formal reading instruction (Whitehurst & Lonigan, 1998). Literacy skills acquired before the first grade remain highly predictive of later school achievement and referral to special education (Duncan et al., 2007). Over the last decade researchers found that preschool children vary in the rate at which they develop key emergent literacy skills (Justice & Ezell, 2001; Welsch, Sullivan, & Justice, 2003), and that they develop higher levels of reading and spelling skills (Lonigan, 2006a; Storch & Whitehurst, 2002). As a result, more early childhood educators and interventionists, including speech-language pathologists (SLPs), are using direct assessments to identify children who are not developing emergent literacy skills as quickly as they should (Justice, Bowles, & Skibbe, 2006). Specifically targeted are educators who engage in teaching involving communications with children with deliberate focus on engaging, talking to, and building on children oral skills (Howes et al., 2008; Mashburn, 2008). Positive language interactions with skillful English speakers are critical to helping them become proficient in English (Piker & Rex, 2008). These children can then participate in interventions that have been tested empirically that will help them accelerate their development (DeBaryshe & Gorecki, 2007; Gillon, 2000; Justice, Chow, Capellini, Flanigan, & Colton, 2003; Van Kleeck, Vander Woude, & Hammett, 2006). Research has shown that some children with disabilities (even language impairment) can also learn more than one language

(Gutierrez-Clellen, Wagner, & Simon-Cereijido, 2008; Paradis, Crago, Genesee, & Rice, 2003). Learning a second language is cumulative and often uneven. Children may sound very sophisticated in situations where they know the vocabulary and the grammar that they need in order to be understood. In other situations, however, they might be unable to communicate because of emotional or linguistic constraints (Tabors, 2008).

Effective assessment of preschoolers' emergent literacy skills is controversial. Those who believe in an accountability perspective of assessment are concerned with using assessment tools to measure preschoolers' learning in specific programs (e.g., Head Start, state-funded preschool programs) and whether the curricula and instructional techniques are effective (Meisels, 2006). Those who take a developmentally appropriate practice perspective of assessment believe that children as young as 3 and 4 years of age cannot be reliably tested and that assessment may in actuality harm them (Shepard, 1994). Whether one holds an accountability perspective of developmentally appropriate perspective, the fact remains that educators and specialized interventionists need specific information about children's individual needs and strengths in emergent literacy to determine appropriate differentiated instruction with the general education curriculum and to develop effective literacy interventions.

Measurement tools that can reliably and validly assess young children's emergent literacy skills are in demand, especially tools to identify children who may be at risk for reading difficulties in the future (Schatschneider, Petscher, & Williams, 2008). Early identification of kids recognized as "at risk" helps the majority of children to reach

positive results from supplemental intervention (Simmons et al., 2008). Direct assessment that uses behavioral methods is a common approach to assessing young children's emergent literacy skills. The use of structured tasks (e.g., naming the letters of the alphabet, writing one's name) can reliably predict children's future academic performance, particularly in reading and spelling (Lonigan, 2006b). Standardized versions of these tasks are often used (Lonigan, 2006b). The top precision of the post-teaching than the preteaching exam has been authenticated in many direct assessment landmark studies (Guthke & Stein, 1996; Hessels, Berger, & Bosson, 2008; Tzuriel, 2000). Experts noted, concerns regarding the possible effects of children's language abilities (rapidly maturing during the preschool years, but not yet in a mature state) on their performance on measures requiring them to comprehend complex directions or produce verbal responses (Gray, Plante, Vance, Henrichsen, 1999). Some research findings suggested that using only one single assessment for preschoolers' abilities in language, literacy, and related skills may result in inaccurate predictions of future academic achievement (Konold & Pianta, 2005; La Paro & Pianta, 2000).

Other experts argued that indirect assessments should be more widely used to assess emergent literacy skills and obtain details on what children have learned in specific programs, particularly within the classroom where assessment findings guide instruction (Salinger, 2001). For instance, the Head Start National Reporting System was considered a "failed experiment" by some experts in the field (Meisels, 2006, p.11). This federal accountability initiative was designed to ensure that children in Head Start

develop key readiness skills in emergent literacy, such as letter knowledge. For several years, all Head Start participants age 4 years and older were assessed with direct behavioral measures two times a year. Although this assessment system has been widely used, this data has not been used for the original intended purposes because of concerns about measurement validity, particularly for making "conclusions about the effects of Head Start grantees on children's outcomes" (U. S. General Accountability Office [GAO], 2005 p. 26).

The GAO's comments are consistent with concerns of many child development experts about the validity of behavioral testing for preschool-aged children because of these children's developmental instability (La Paro & Pianta, 2000). Young children typically have a short attention span, high distractibility, and discomfort with strangers, who can make direct assessment challenging (Feldman et al., 2005; Vace & Ritter, 1995). The concerns expressed by the GAO and others are relevant today because of an increased interest in assessing children's emergent literacy skills and identifying children who may benefit from preventive interventions. Indirect assessments may be an alternative to or compliment of direct assessment (Feldman et al., 2005). Informal assessments typically involve rating of children's skills or behaviors by a teacher or parent or other individual who has frequently observed the children in various settings (Lonigan, 2006b).

Americans recognize the importance of raising scholastic attainment and improving communal dexterity of their children and the need for support for working

parents. As a result, demand for universal preschool is increasing. Evidence recognize the need for access to preschool education and the long-standing remuneration of and favorable economical ratios for preschool education is found in states' expansion of access to preschool programs in response to this demand. By 2005, 40 states funded some form of preschool for mainly low-income and at-risk children (Snell, 2005). A review of 2006 national statewide addresses and budget proposals found that 24 governors mentioned early education or prekindergarten as a priority. Proposed increases totaled a combined amount of $250 million in new funding (Governors & Pre-K, 2006). In 2005, eight states offered universal preschool, including Oklahoma, Georgia, and Florida (Snell, 2005). In 2006 Illinois was the first state to propose universal preschool to 2- and 4-year olds.

The educational value of a preschool educational program depends on the quality of the program. Many subpar preschools throughout the United States offered poor services (Barnett et al., 2006). However, there was no single agreed-upon definition of quality of preschool programs (Karoly et al., 2007). Karoly et al. (2007) identified structural and process characteristics as criteria for determining the quality of early childcare centers. The National Institute for Early Education Research (NIEER) developed 10 benchmarks for state standards relating to program quality (Barnett et al, 2006). The 10 benchmark standards are: (a) comprehensive early learning standards, (b) teacher with a bachelor of arts degree, (c) specialized training in prekindergarten, (d) assistant teacher with a child development associate credential, (e) at least 15 hours per

year of in-service for teachers, (f) maximum class size below 20, (g) staff-child ratio 1:10 or better, (h) vision, hearing, health, one support service, (i) at least one meal, and (j) site visits.

There are more than 24 million children under age 6 in the United States, which represents approximately 6.5% of the total U.S. population (U.S. Census Bureau, 2008). These children come from diverse racial, ethnic, socioeconomic, and family backgrounds. Approximately 55% are White, 14% are Black, 23% are Hispanic, 4% are Asian, and 1% are Native American (U.S. Census Bureau, 2008). Children come from families of varying financial means, with 20% are at or below the federal poverty limit (FPL), which is currently $35,200 for a family of three (National Center for Children in Poverty, 2008). Twenty-three percent are low-income (families earning between 100 and 200% of the FPL), and the remaining 57% come from families above low income. More than 43% of young children come from families with low income or families in poverty. These children experience greater risk factors in childhood. For example, they children are more likely to have parents with less than a high school education, are more likely to live with a single parent, and are more likely to move frequently because of displacement, eviction, and guardianship changes (NCCP, 2008).

**Early Literacy Measures**

The National Reading Panel classified precursor skills into five critical domains of reading to include: phonemic awareness, alphabetic principle, fluency, vocabulary and

comprehension (Pulpaff & Yssel, 2010; Rowe, 2005). Hsieh, Hemmeter, McCollum, and Ostrosky (2009) also include skills in listening, speaking, and writing in the foundations of emergent literacy. To ensure all children have the critical foundations in literacy prior to kindergarten, developers of preschool curricula are focusing their efforts on early learning standards, including emerging literacy outcomes (Hsieh et al., 2009). Teachers' descriptions of their instructional strategies also indicate concerns with explicit instruction for vocabulary knowledge (O'Leary, Cockburn, Powell, & Diamond, 2010). Several national reports have suggested the benefits of phonics instruction for the development of early reading skills; however the familiarity with concepts of linguistic features of the English language remain inconsistent across early childhood educators (Joshi et al., 2009).

Literacy assessments have reached a level of advancement that provides important information about students' capabilities as beginning readers (Good & Kaminski, 2003; Torgesen, 2002). Phonemic awareness (PA) has become an important measure of a student's success as a beginning reader. Measuring sound awareness in speech and knowledge of alphabet (PA) serves as a predictor of future development according to research (Good, Simmons, & Kame'enui, 2001; O'Connor & Jenkins, 1999; Torgesen et al., 1999; Vanderwood, Linklater & Healy, 2008). PA has become prominent in kindergarten (Wagner, Torgesen, Laughon, Simmons, & Rashotte, 1993). PA is important to developing later reading skills (O'Connor, Jenkins, & Slocum, 1995; Torgesen, Morgan & Davis, 1992). Because the assessment includes a finite number of

letters which are unique, measuring alphabetic knowledge can be relatively simple. PA assessment in early kindergarten is more complicated because of the array of sounds and sound combinations.

A challenging task for students is segmenting words into three phonemes, which requires them to vocally detach three separate sounds contained by a single word. The value of some of the learning mechanisms used in the learning intercession, such as including phonological awareness activities, is based on accomplished groundwork studies (Ziolkowski & Goldstein, 2008). Student may not perform well because they may not comprehend the instructions or because they lack the qualification skills or familiarity in word play. A computation of three-phoneme segmenting given in kindergarten may help identify children who will be meager readers later in school. The cognitive apparatus by which children construct innovative assumptions and decipher problems is analogical judgments (Gentner, 1977, 1983; Goswami, 1995; Tzuriel & George, 2009; Tzuriel & Klein, 1985). However, there is a danger of over identifying underprivileged readers because countless children with understanding and high-quality kindergarten lessons will discover to segment on time with their peers. Spector's assessment attended to this quandary by providing wide-ranging replica and scoring things erratically, depending on the rank of support needed. While this dynamic measure was superior to statistic measures given early in kindergarten, it required 15 to 20 minutes per child to manage and reliability was not firm (Catts, Petscher, Schatschneider, Bridges, & Mendoza, 2009).

Recent research supports the idea that curriculum-based measurement (CBM) can be utilized as one source or predictor of student success or failure on statewide measures (Goffreda, Diperna, & Pedersen, 2009; Keller-Margulis, Shapiro, & Hintze, 2008; Shapiro, Keller, Lutz, Santoro, & Hintze, 2006). The increase in screening and monitoring through data-based decision making has created a greater need to identify deficiencies in skills as early as possible to allow time for growth. Additionally, through the screening process, the prevention of deficits, versus the remediation of skills, is the ultimate goal. Screening for future reading success seems simple enough, but the determination of when the earliest future reading skills can be predicted from early literacy skills is under question in the research. Assessing too early may not be representative of true ability, and assessing too late does not provide time for the needed instruction prior to high-stakes assessments.

**Areas of Consensus**

A set of three studies of preschool programs – The High/Scope Perry Preschool study, the Carolina Abecedarian Project study, and the Chicago Child-Parent Centers study – are noted for their longevity, design quality, consistency, and validity about the short-term and the long-term effects of quality preschool programs. The commonality of the studies' findings is the finding that preschool programs have immediate and long term academic benefits to children (Schweinhart & Fulcher-Dawson, 2006). Participants in the studies showed significant gains in graduation rates, school achievement test scores, and decreases in special education placement, retention, and dropping out compared to

nonparticipants (Schweinhart & Fulcher-Dawson, 2006). In addition to educational benefits, these preschool programs affect future economic status (income) and may result in decreased criminal behavior.

Much attention has been paid to the economic impact of preschool programs because they served children from low-income families. The cost-benefit ratio for the Perry Program was $17 saved for each $1 spent, for the Chicago program $7 for each $1 spent, and approximately $4 for each $1 spent for the Abecedarian program (Schweinhart & Fulcher-Dawson, 2006). These calculations support the argument that evidence of the benefit of preschool programs is stronger than for most other public investments.

Several national and international organizations, including the National Research Council and Institute of Medicine (2001) and the National Research Council Committee on Early Childhood Pedagogy (2001) provided evidence-based research supporting early childhood education. The National Research Council Committee on Early Childhood Pedagogy published the book, *Eager to Learn: Educating our Preschoolers*, which "represents the first attempt at a comprehensive, cross-disciplinary synthesis of the theory, research, and evaluation literature relevant to early childhood education" (National Research Council, 2001, p. 112). The International Association for the Evaluation of Educational Achievement (IEA) examined various types of early childhood settings and their relationship to child outcomes in the United States and around the world. This project was coordinated by the High/Scope Educational Research Foundation (Montie, Xiang, & Schweinhart, 2006). The focus of the study was 1,300 to

1,897 children aged 4 ½ to 7 years in 10 countries. Researchers found that children's language skills at age 7 improved when children were able to choose their own activities using a variety of equipment and materials.

In addition to evidence from the research, there is consensus for preschool policy in the political arena. Head Start developed on a bipartisan basis, involving both Democrats and Republicans. Most presidents since Lyndon B. Johnson mentioned policy activity related to Head Start, preschool or childcare in their State of the Union addresses (Woolley & Peters, 2008). At the state level, more than 70 different preschool initiatives and laws have been enacted since 2000 (ECS, 2007). Governors have referred to preschool policy in their State of the State addresses. The National Governor's Association has articulated each state's responsibility for ensuring that citizens successfully progress through their educational process from early childhood on (NGA, 2007).

**Federally Legislated Programs**

The Elementary and Secondary Education Act (ESEA), currently known as NCLB, established the governing procedures for schools that receive federal funds and guidelines for early learning programs. Thirty-eight states actively participate in early learning programs and other states are in the process of implementing programs. In Oklahoma, over 70% of age-eligible 4-year-old students participated in state funded prekindergarten programs, representing the most supported program in the nation. Georgia's early learning program provided instruction for 51% of 4-year-olds. Vermont

and Florida implemented early learning programs with enrollment rates of 47% of 4-year-olds. Louisiana's state funded early learning program, the NSECD program, uses data analysis to assess the effectiveness of the program (NIEER, 2007).

The enactment of NCLB and the Individuals with Disabilities Education Act (IDEA) established prekindergarten programs as a fundamental component of the early schooling development. Under NCLB and IDEA guidelines schools can provide school- or community based-programs for early learning experiences and provide developmentally appropriate strategies and minimize special education placement. These guidelines apply to programs for children of all socioeconomic levels, with an emphasis on at-risk children from minority or low-income households. New knowledge that has come to light about education and child development and changes in community, state, and national priorities necessitate a regular re-examination of standards and development of a national curriculum that will result in a unified and coherent approach to early childhood education (NAEYC, 2002).

NCLB referred specifically to programs such as Even Start, Head Start, Reading First and Early Reading First for early childhood learning. NCLB allows schools to implement individualized programs; all programs should adhere to NCLB guidelines for providing research-based quality instruction and developmentally appropriate learning strategies and coordinate services with other agencies including Head Start, Early Intervention services and Office of Child Development and Learning (OCDEL). To help low-achieving children meet academic standards, each local educational agency plan

must include plans for a smooth transition of students in such programs to local elementary school programs (PL 107-110 sec1112, 2002).

## Preschool Programs

Preschool programs are funded and operate at all levels of government and in private for-profit and non-profit settings. Head Start is the largest program, serving more than 900,000 children aged 3 through 5 from families that are at or below the federal poverty level (FPL). Head Start's annual budget is over $6.8 billion, or approximately $6,900 per child (Head Start Bureau, 2006). Head Start agencies, sometimes called preschools, provide education, early childhood development, medical, dental, mental health, and nutrition services and encourages parent involvement.

Although Head Start is the dominant federal preschool program, the federal child-care programming serves more children than Head Start but with lower budgets. The Child Care Development Block Grant (CCDBG), enacted as part of the Omnibus Budget Reconciliation Act of 1990 (PL 101-508), established dedicated federal funding for child care (Butler & Gish, 2006). CCDBG serves children from low-income or welfare families who are under age 13. The CCDBG was amended as a part of the Welfare Reform laws enacted in 1996, particularly the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), which established the Temporary Assistance for Needy Families (TANF) to replace the existing welfare entitlement programs. The CCDBG is now a combination of discretionary and entitlement funds called the Child Care and Development Fund (CCDF). Over 1.8 million children ages 0

through 13 benefit from CCDF; approximately 1.1 million (60%) are under age 6 (Child Care Bureau, 2006).

NIEER publishes an annual preschool yearbook with evaluations of preschool commitments of all fifty states and has recently released it third such report (Barnett et al., 2006). As of 2004-2005, NIEER reported that more than 800,000 children are served in the United States by state-funded preschool programs. This represents 17% of all four-year-olds and 3% of all three-year-olds nationwide and it means that state preschools now serve almost the same number of children as Head Start.

## Head Start

The government's role in ECE grew along with women's workforce participation and preschool and child care enrollment. Head Start legislation enacted in 1965 was the beginning of government-based ECE policy. Head Start was initially passed as a summer-only program for 4-, 5-, and 6-year-olds from impoverished families (Vinovskis, 2005). Head Start funding (overall and per child) has increased roughly with inflation and while the number of children served has plateau around 900,000 over the last three or four years, other programs have been implemented and expanded during this time, such as Early Head Start and Even Start which were added as complimentary programs to Head Start serving children before they enter Head Start and families via adult and family literacy programming (U.S. Department of Health and Human Services, 2002).

As a part of welfare reform through PRWORA, child care funding saw its biggest jump in federal to state block funding because PRWORA repealed three older childcare

laws via the old AFDC welfare rules and combined all funding into the CCDF. In 1990, funding for these three programs and AFDC was around $1.5 billion, so that current CCDF funding still reflects a doubling of federal expenditures on childcare in the last fifteen years (Butler & Gish, 2003).

## West Virginia Head Start Evaluation

Bickel and Spatig (1999) studied the effects of Head Start as a program to maintain early achievement gains to alleviate poverty-linked social distress in a rural area. This study was listed as the only true rural preschool study by Arnold et al. (1994) in a review of educational research conducted by McREL. This early childhood rural study found that there was no link between Head Start programs and sustained academic achievement. This finding, though discouraging, was consistent with the findings from the Perry School Project and the Abecedarian Study in that student gains were equalized by third grade. Bickel and Spatig (1999) reviewed student performance in kindergarten and third grade utilizing the Peabody and Woodcock Johnson assessment. The performance gains for the West Virginia study were significantly higher than those in the Perry School Project. The kindergarten results for the experimental group using the Peabody pretest were 78.2 for the Perry School Project, compared to 57.2 for the West Virginia study. The significance of the gains occurred with third grade performance in which the Perry School Project 76.3 for the experimental group and 98.8 for the West Virginia group. In both cases the control group outperformed the experimental groups by at least three points.

Despite the fact that gains between kindergarten and third grade were minimal, thus indicating no significant benefits, the longitudinal effects could be significant, as shown by the Perry School Project on special education placement, retention and graduation rates. The Bickel and Spatig (1999) study did review student performance over a 4-year period but only compared the results for kindergarten and grade three not accounting for any gains that may have been realized through the Head Start program. This study could benefit from longitudinal information to ascertain any long-term effects from participation in a rural Head Start program. Notwithstanding, this study demonstrates the minimal amount of research available on the effects of early learning programs on students in rural areas.

One key concern identified in the Bickel and Spatig (1999) study was "alleviating poverty-linked social distress (p. 27)" which was not found to be significant in this study. The Perry School Project supported Bickel and Spatig's (1999) premise that early learning programs provide an alternative that could allow students to escape poverty. Students who participated in the Perry School Project were less likely to be enrolled in welfare. The control group experienced an 80% rate of welfare participation, while the experimental group showed only 59% (Schweinhart, 2002). This would indicate the need for additional longitudinal studies to follow students through their later educational experiences to measure the benefits of the Head Start program at addressing the "poverty-linked social distress" for students in rural areas (Bickel & Spatig, 1999, p. 138).

Home visits are a key component to ensure parent-child interaction and to promote the value of education. Home visitation opportunities are difficult to achieve in today's current work environment with single parents or through long unstructured work hours in low paying positions. Many parents have made a rational judgment, based on day-to-day experience, that education has little to offer them or their offspring in the face of pressing material need (Bickel & Spatig, 1999). Bickel and Spatig (1999) expressed a concern about the view of education by parents who cannot see measurable benefits of education. This means that the shift in focus to early childhood and elementary interventions for the poor is but another instance of mistakenly construing education as autonomous of its circumstances (Bickel & Spatig, 1999). Parents can have a significant benefit for early learning programs through the implementation of home/school development programs. This connection between the early learning programs and the home reflects the value for education. The benefits of a supportive home environment extend the students learning experience beyond the early learning program through the student's entire educational experience.

The parent needs to be an integral part of any early learning experience serving as an extension of the learning environment. Developmental achievements happen organically in early years through parental or caregiver interaction like talking, reading or playing with active and earnest engagement from the adult (Shonkoff & Phillips, 2000). The greatest gains were derived from a communication between the program and parents with reinforcement of skills provided at home. This communication supports and extends

the educational benefit that originated in the early learning programs within child care settings that offer stable, sensitive, and linguistically rich are giving that foster positive early childhood development (Shonkoff & Phillips, 2000). The development of prereading skills established a foundation to support the later learning environment experiences. Children who have a difficult time learning to read are more prone to develop negative feelings about themselves and are more likely to become frustrated and engage in aberrant behavior, and are at a greater danger of experiencing academic failure (Volpe, Burns, DuBois, & Zaslofsky, 2011).

## Early Learning in Louisiana

Currently, there are approximately 65,000 four-year-olds in Louisiana, and approximately 39,000 attend state and federally funded Pre-K programs (Blueprint Louisiana, 2006). The largest public Pre-K program is the Cecil J. Picard LA4 Early Childhood Program, which is operated by the Louisiana Department of Education through local school districts and charter schools. LA4 is serving approximately 13,500 low-income children in the 2007-08 school years (Blueprint Louisiana, 2008). LA4 is state-funded for children whose families qualify for free or reduced lunch (at or below 185% of the federal poverty level guideline).

Louisiana has four state prekindergarten programs. The first pre-K program, the Model Early Childhood program, began in 1988. In 1993 the state ceased annual appropriations to the program, and local school districts began providing pre-K for at-risk children using the 8(g) Student Enhancement Block Grant Program. Four-year-olds at

risk of being insufficiently ready for school are eligible for the 8(g) program, with priority given to children from low-income families.

Two other state pre-K programs, LA4 and Starting Points, are similar but have slight differences. LA4 and Starting Points are funded through state and TANF funds to serve 4-year-olds from low income families (i.e., who qualify for free or reduced-price lunch). Four-year olds from higher-income families may also participate through local funding or by paying tuition. Starting Points began in 1992 and funds a 6-hour program day. LA4 began in 2001, has a higher per-child funding level than Starting Points, and offers up to 4 hours of before- and after-school programming per day in addition to the 6 hours of regular instruction. Although Starting Points does not offer the additional wrap-around hours, some children enrolled in Starting Points may receive before- and after-school services supported by LA4. The programs are available in about three-fourths of Louisiana school districts, and currently all children are served in public or charter school settings. Districts may contract out services to Head Start or private providers.

Louisiana began offering a fourth prekindergarten initiative, the NSECD program, in August 2001. NSECD provides tuition reimbursements to private schools for services to children of parents who wish to send their 4-year-olds to state-approved private preschool. Approved programs must offer at least 6 hours of instruction and up to 4 hours of before- and after-school services per day. Families with income below 200% of the federal poverty level are eligible to register their 4-year-old child for pre-K in schools participating in the NSECD program.

Hurricanes Katrina and Rita caused major shifts in student populations across the state of Louisiana. Enrollment increased considerably in the LA4 and Starting Points programs, but decreased in both 8(g) and NSECD. NSECD program administrators noted that prior to the hurricanes, they had anticipated a 15% enrollment increase for 2005-2006 (Blueprint Louisiana, 2006).

**Special Education**

Based on the 2006-2007 data, there were 407,967 prekindergarteners enrolled in early learning programs that have some type of special education need (NIEER, 2007). In adherence to the requirements of IDEA states have implemented early learning programs through schools to address the needs of the prekindergarten students. Implementation of state-funded prekindergarten programs varies widely (ECS, 2007). The percentage of students requiring special education services continues to be an issue for schools across the nation. Through early intervention services provided under IDEA legislation schools must implement programs to meet the special needs of children with developmental disabilities or chronic health conditions are addressed (Shonkoff & Phillips, 2000, p. 396). This was a significant benefit for students enrolled in publicly sponsored prekindergarten programs; they were more likely to have their specialized needs met at an early age. Children living in poverty, compared to children from middle-class homes, are much more likely to be placed in special education, to be retained, and to drop out of school (McLoyd & Purtell, 2008). Children from low-income backgrounds

often come to school without the skills necessary to experience school success (Neuman, 2008).

Looking to attain superior success in enlightening the world adolescence, the Response to Intervention (RTI) loom is gradually being executed in US learning facilities (Berkeley, Bender, Peaster, & Saunders, 2009; Walker & Shinn, 2010). The approach is a model modify in K-12 education that is moving early education, early involvement, and early childhood special education as fit. The change moves practice away from the customary model of waiting for students to be eligible for special education by allocating them to one of intervening immediately to prevent developmental delays and disputes from becoming disabilities. For kids with learning disorders, the assistance of RTI is the possibility for enhanced effects consequential from its skill to afford flawless involvement for individual kids that result in advancement (Fletcher & Vaughn, 2009) and with a reduction of failure and defeat of purpose over a period of time that might otherwise be likely to take place lacking these premature and rigorous services. The RTI loom in upbringing series is promising (Buysee & Peisner-Feinberg, 2009; Fox, Carta, Strain, Dunlap, & Hemmeter, 2010; Linas, Greenwood, & Carta, 2009), and its exclusives should capture the version of distinctive disputes at hand in the early childhood system, not the slightest of which are the lack of worldwide admission to early education and the deficiencies of a incorporated early childhood education system (Greenwood, 2009). The Individual Growth and Development Indicators (IGDIs) are accessible dimension apparatus suitable for early childhood RTI purposes (Buzhardt et

al., 2010). IGDIs are a documented loom that early interventionist can use for selection choices and for scrutinizing the escalation and progress of young children (Priest et al., 2001; Snyder et al., 2008; VanDerHeyden & Snyder, 2006).

Special education students are at risk of not receiving an education that will provide the skills necessary for them to become gainfully employed after graduation. The limited literacy and language exposure that many children from low-income backgrounds experience often results in smaller vocabularies and weaker oral language skills (Greenwood, 2008). In-depth knowledge of the content of language and its elements (i.e., phonemes, graphemes, syllables, morphemes, and sentence structures) are necessary in order for teachers to teach reading well (Moats, 2009). Brownell, Bishop, Gersten, Klingner, Dimino, Haager, & Sindelar (2009) emphasize that literacy knowledge is especially critical for special education teachers because of the complex learning and behavioral needs of students with disabilities, variations in service delivery, and the diversity of instructional frameworks across special education curricula. Haring and Lovett's (1990) qualitative analysis of special education students' vocational and social adjustment evaluated the employment rates and living status (independent or living with a family member) of 129 students who graduated from high school. Haring and Lovett found that 70% of the participants were living with their families and only 12% were living independently. Sixty-seven percent of the sample was employed, which compared to the 1986 national employment rate of 87% for the 16-24 year-old population. The primary issue was that only 59% of the LD students were employed competitively.

The Perry School Project demonstrated the benefits of an early learning program where 17% of the students who participated were placed in special education compared to 38% of those students in the control group who did not have structured early learning experience. The high unemployment rate for LD students underscores the necessity to minimize the number of students placed in special education programs by providing students with a quality prekindergarten experience.

NCLB requires that schools reach 100% proficiency by 2014 under NCLB. Rural schools may not meet that requirement because of the high percentage of students placed in special education. A possible explanation that was offered for this high placement is that rural schools are generally smaller in size and may have a higher proportion of students with disabilities, thus skewing the percentages (Mitchem, Kossar, & Ludlow, 2006).

**Retention**

Retention can adversely affect some children and provide others with opportunity to develop skills that will help them be successful in the future. Repeating a grade allows slower students more time to acquire the necessary knowledge; however, the weaker students are usually those who repeat grades (Wils, 2004). Wils (2004) concluded that students who enter school early are likely to have lower drop-out rates. Owings and Magliaro (1998) established through their research that “more than two-thirds of all retentions take place between kindergarten and 3rd grade” (p. 87). Thus, it is important to establish a solid foundation for early in the education process. Implementing

prekindergarten programs in schools is one option. Students registered in prekindergarten curriculums were more favorable to achieve grade level success and avoid retention. Owings and Magliaro (1998) recognized "that early retention may produce a short-lived increase in achievement; however, this gain vanishes in two or three years" (p. 87). While didactic gains are apt to settle over time it is significant for schools to execute early learning programs to exploit on the educational prospects for students. With early involvement and quality teaching the effects of retention can be minimized.

**Universal Prekindergarten**

Universal prekindergarten programs, which are voluntary prekindergarten programs for all children, are growing but are constrained by lack of funding. Florida, Oklahoma, and Georgia provide free prekindergarten for all 4-year olds (Bassoff, Tatlow, Kuck, & Tucker-Tatlow, 2001). Politicians and businesspersons have joined the movement to expand free early childhood education programs for all students. For example, Hillary Rodham Clinton proposed spending $15 billion over 5 years on universal preschool funding (Soloman, 2007). Arthur Rolnick, Director of the Federal Reserve Bank of Minneapolis, stated, "Politicians have a choice to make. They can do things like build sports stadiums that offer virtually no economic return, or they can invest in early education programs with a 16% rate of return" (Solomon, 2007, p. A1).

Kaminski and Carta (2010) reviewed the instructional plan feature of 10 universal preschool language and early literacy curricula used in 67 preschool classrooms in

programs in 4 states assessing skills taught and the techniques of lessons used. They accounted for instructional design quality results in support of four fields: vocabulary and oral language, alphabet knowledge, phonological awareness, and listening comprehension. "The mean quality ratings were 63% (SD = 18), 63% (SD = 18), 64% (SD = 18), and 40% (SD = 18)" (Kaminski & Carta, 2010). Prospectus was more or less wide-ranging in their coverage of all areas.

Universal prekindergarten increases equality for children by eliminating labeling (Basoff et al., 2001). Edward Zigler encouraged states to expand Head Start programs to universal programs, reasoning that if programs were free to everyone, more poor students would be included. Head Start currently serves only 50% of eligible children (Perkins-Gough, 2007). Current prekindergarten programs segregate children by socioeconomic status, which Zigler has said is immoral (Perkins-Gough, 2007).

## Economically Disadvantaged Students

Nearly 13 million American children live in families with incomes below the federal poverty level, which is $20,650 a year for a family of four. The number of children living in poverty increased by 11% between 2000 and 2006 (Fass & Cauthen, 2007). Young children, especially children from low-income households and minority children are at greater risk for disparate outcomes than children from middle income environments (Douglas-Hall, Chau, & Koball, 2006; Farkas, 2003). Minority children typically begin school with lower levels of school readiness than White children (House & Williams, 2000). Other factors that may contribute to socioeconomic, racial, or ethnic

disparities in school readiness and academic achievement are discrimination by teachers (Shonkoff, 2007).

The achievement gap in early literacy skills exists due in part to socioeconomic levels (Ready, 2010). According to a survey by Phillips and Lonigan (2009), there are consistent differences in early literacy skills between children from low socioeconomic backgrounds and children from high socioeconomic backgrounds. These differences may exist due to "the frequency that parents engage in shared reading activities with their child" (Phillips & Lonigan, 2009, p. 3).

Another factor that may contribute to the achievement gap that exists in students from low socioeconomic backgrounds is the fact that neighborhoods with such a population tend to provide fewer and lower quality educational resources than neighborhoods of more affluence (Terry, Connor, Thomas-Tate, & Love, 2010). Ready (2010) found that students in "lower socioeconomic backgrounds are 25% more likely to miss 3 or more days of school per month" (p. 272) and are more likely to experience health problems. Students who have lower socioeconomic levels tend to have larger academic achievement gaps. These academic achievement gaps continue as the students proceed through school.

Many children who attend prekindergarten programs come to kindergarten lacking the early literacy skills necessary for success in kindergarten. The lack of understanding early literacy skills may be due to the fact that prekindergarten programs are not providing student with quality prekindergarten curriculums (Burke, Hagan-Burke,

Kwok, & Parker, 2009). The amount of time spent focusing on quality instruction is crucial for students in prekindergarten (MacDonald & Figueredo, 2010). Some researchers supported providing early intervention programs that target phonological awareness, phonemic awareness, and phonics instruction (Foster & Miller, 2007). There is no single factor that may contribute to the achievement gap. According to Sonnenschein, Stapleton, and Benson (2010), children from low socioeconomic backgrounds who entered kindergarten with early phonological skills show as much growth as students from higher socioeconomic backgrounds.

Providing students with quality learning opportunities prior to kindergarten can have a positive impact no matter what their socioeconomic level, race, or gender. Quality prekindergarten should be available to all students. However, MacDonald & Figueredo (2010) and Sonnenschein, Stapleton, and Benson (2010), showed that socioeconomic levels, race, gender and the type of prekindergarten program attended by the student all have some influence on early literacy skills and future school success. Below, Skinner, Fearrington, and Sorrell (2010) argued that there are large differences in early literacy skills and student gender in early grades too. This study will be focused on the influence of the type of local prekindergarten programs on kindergarten students early literacy skills.

Evidence of the importance of high quality preschool on children's later academic achievement has been growing in recent years (Snow et al., 1998). The urgency behind continued research on preschool's short and long term effects is driven

by alarming national reports (National Assessment of Educational Progress, 2007), that show current performance level for 4th and 8th graders in reading and math is disturbingly low especially for low income and English language learners (Roskos, 2007). Reading ability has been show to be especially problematic for high-risk groups of students or students growing up in low income/poverty homes. Given that remediation of reading problems is costly, time consuming, and complex (Justice, 2006), the field has undergone a shift towards prevention and early intervention.

In efforts to promote literacy prevention research, the government commissioned unprecedented initiatives through the No Child Left Behind (NCLB, 2001) Act. Among them, the *Early Reading First* (ERF) project, part of the *Good Start Grow Smart* plan, was specifically designed to target preschool-age children at high risk for developing reading difficulties by creating preschool centers of excellence (US Department of Education, 2008).

The development of literacy begins earlier in childhood than was previously understood (Snow et al., 1998). From the time they are born, children are acutely aware of their surroundings with the quality and amount of stimuli they receive having a lasting impact on their development. As they grow, everyday experiences come to determine downstream abilities such as reading. Limited exposure to literacy rich environments during optimal windows of sensitivity may result in later reading difficulties. The impact of learning that takes place in early years affects a young child's ability to learn throughout their lifetime (Barnett & Yarosz, 2007).

By the time they enter school, to be prepared to learn, a child needs to have acquired fundamental knowledge of the world (Snow et al., 1998). However, not all children begin kindergarten prepared to learn (Barnett & Yarosz, 2007). Children from socio-economically disadvantaged families or diverse backgrounds are at a high risk for starting school considerably behind their more socio-economically advantaged peers (Vernon-Feagans et al., 2001). This early gap predisposes them to long-term failure given that documented evidence show that children who begin school at a disadvantage typically continue to lag behind their peers throughout the remainder of their schooling (Snow et al., 1998). Studies consistently show that children's skills at entry to schooling are highly correlated with their skills in later years, especially in the area of literacy and reading (Snow et al., 1998). For example, in a longitudinal study, Juel (1991) found a high probability ($r = .88$) that children who were poor readers at the end of first grade would continue to read poorly by the end of fourth grade.

The NSECD program has great potential to address experiential deficits of disadvantaged or minority children by making sure that these children receive instruction in foundational emergent literacy and other skills that are needed for success at school entry. Indeed, the effects of a prekindergarten education can be enduring, even beyond improved school attainment (Schulman, 2005). The long-term positive effects that can result from high quality prekindergarten experiences include better employment prospects with decreased likelihood of a life of criminality and delinquency (Schulman, 2005). However, not just any program has the potential to produce these positive effects.

The impact of an early childhood instruction on language and preliteracy skills is largely determined by the program's overall quality (Barnett, 2004; Barnett et al., 2005). Unfortunately, the vast majority of children who receive early childhood instruction go to preschool and daycare centers where quality of education is at best mediocre (Barnett & Yarosz, 2007). Children from families with lower incomes who usually have the highest need for a high-quality prekindergarten instruction are, unfortunately, the most likely to be enrolled in a low-quality day-care facility (National Institute of Child Health and Human Development Early Child Care Research Network, 1997).

## Summary

In preschool children can develop learning skills early in life that will help them achieve greater academic success, a better quality of life, and will help them make a greater contribution to society later in life. Intervening early with intense and appropriate instruction can prevent problems with beginning stages of literacy acquisition (Moats & Foorman, 2008). A strong phonics base is essential to learning to read words in isolation as well as connected text (Bursack & Damer, 2011). In short, strong phonics skills are doundational for overall reading achievement and must be explicitly taught during beginning literacy instruction to help ensure future reading success (Bursack & Damer, 2011; Vadasy & Sanders, 2008). Preschool is an important educational investment for the U.S. to prepare future generations to compete in a global economic and social environment. Investment in early childhood education will also result in cost savings in the criminal justice and health and welfare systems. Investment in early childhood

education will also increase future employment and earnings prospects of individuals, states, and the nation.

Students who attend preschool tend to have more positive learning experiences in their elementary and secondary school years (Heckman, 2006). Students who attend preschool are 21% less likely to repeat a grade (Belfield, 2005) and are more likely to graduate from high school. Attendance at preschool has been shown to reduce special education use an average of 12% (Belfield, 2005). Educating a child in a special education class costs nearly twice as much as educating a child not enrolled in special education (Augenblick & Myers, 2002). Therefore, when special education enrollments are reduced, the costs of educating each child are reduced.

# Section 3: Research Method

## Introduction

The purpose of this study was to determine whether there were differences in reading performance in kindergarten between students who participated in the NSECD Program and those who did not. In this study, I investigated the effects of NSECD participation in the year prior to kindergarten on child outcomes from kindergarten. The outcome variable (i.e., dependent variable) was reading achievement as measured with the SESAT. In this study, I gathered information from a rural, private school to correlate as a single population forming an experimental group and control group. The experimental group was comprised of 20 students who participated in the NSECD program. The control group was comprised of 22 students who did not participate in the NSECD program. In addition, I used three control variables (gender, race, and socioeconomic status) in the statistical analyses. The results of these data were tabulated to compare the effectiveness of the NSECD program at providing students with the skills necessary to read.

Reading achievement scores from 2009 for this school's kindergarten class were examined using descriptive analysis. The combination of the students' social growth and adapting to the schedule and routine of kindergarten in conjunction with the academic growth of each participating student provided a snapshot of how each student had grown each year in reading. In this doctoral study, it was determined if their preschool setting provided a foundation that made the transition into kindergarten successful.

## Research Design and Approach

I selected a quantitative methodology utilizing to provide an analysis of the variance of student performance in reading on the 2009 SESAT (above average, average, below average) for students in kindergarten. The expected result was for 100% of the students to attain grade level average as measured by the state assessment. Students who score at the level of average have demonstrated grade level mastery as measure by the SESAT. Students who score above average have demonstrated a superior level of performance indicating above average ability. Scoring at the below average level indicates a deficit in the child's educational progress, which requires additional remediation services to assist the students in meeting the expected level of average.

In this study, I utilized a convenience sample to assess the effectiveness of prekindergarten. I chose the convenience sample for the availability of data from students within the rural school whose parents enrolled them in a school-based NSECD prekindergarten. The administration placed students into the NSECD prekindergarten program voluntarily by their parents only if they met certain income guidelines.

I used an analysis of variance (ANOVA) to compare the reading achievement of students who participated in NSECD prekindergarten programs to students who participated in a non-NSECD prekindergarten program. Analysis of variance is a statistical technique used to compare the means of more than two populations (Creswell, 2003). The independent variable in this study was which of the two prekindergarten programs the student was enrolled in: the NSECD prekindergarten program or the non-

NSECK prekindergarten program. The dependent variable was reading achievement. The control variables were gender, race, and socioeconomic status. A comparison was made of the 2009 SESAT results at kindergarten to measure the progress of students who participated in the NSECD prekindergarten program to those students who participated in a non-NSECD prekindergarten program. For the purpose of this study above average and average scores represent the expected performance for all students.

Creswell (2003) defined quantitative analysis as an approach "in which the investigator primarily uses postpositivist claims for developing knowledge, … employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data" (p. 18). Gall, Gall and Borg (2006) further defined quantitative research by stating that, "Positivist researchers develop knowledge by collecting numerical data on observable behaviors of samples and then subjecting these data to numerical analysis" (p. 23). In this study, I quantified reading achievement for kindergarten utilizing the 2009 SESAT scores by providing information on the NSECD prekindergarten programs in a rural setting to improve student achievement in reading.

The methodology provided the information necessary to compare the effectiveness of NSECD prekindergarten programs in providing students with foundational reading skills. The analysis compared performance rates for all students within the study. I collected all student data from archival sources. The list of names identifying those students who attended this school from kindergarten in 2009 was collected from the school's office records and kept confidential. Scale reading

achievement scores were retrieved from these students' permanent records which are locked in the school office file cabinet.

Once I collected the reading scores and matched to the targeted student population, the names were changed to numbers prior to entering site scores into the SPSS software for analysis. The list of student names was destroyed when no longer needed. If a student participant withdrew from the study, the researcher dispensed of the information without jeopardizing the study. Results of the study were made available to participants upon request. I provided the report to the school district's director for school improvement. In an effort to protect the rights of parents, students, and teacher participants, a family representative and teacher participants completed a consent form and receive a confidentiality agreement upon agreeing to participate in the study. There were no direct interactions with student participants. Participants were advised that they could opt out of the study at any time without penalty from the school or district office.

## Setting and Sample

I conducted the study in a rural school district in the Southern portion of the United States. The school is located in a rural area of the parish with an enrollment of 337 students in prekindergarten through sixth grade. Steady growth in the student population brought about demographic changes over the past 5 years. The student ratio in one subgroup of the population rose steadily. These included the percentage of students who are classified as economically disadvantaged. According to the school's

website, the number of students eligible for free or reduced meals climbed from 57% in 2007, 64% in 2008, and 79% in 2009.

The population of interest for this study includes students from the 2009 kindergarten class. The student population was limited to children from the 2009 kindergarten class who were continuously enrolled in this school through the Spring 2009 SESAT testing window. These students are important to this study because they were instructed through the NSECD program during prekindergarten and non-NSECD program at the rural, private school.

## Research Question and Strategy Clarification

I used a concurrent strategy in this study on the effectiveness of an early literacy program design. Data collection occurred in one phase of the study. By comparing reading readiness scores on the (SESAT) of students who attended the Nonpublic School Early Childhood Development (NSECD) program with those who did not attend, the impact of the NSECD program can be ascertained. The data was collected from students' permanent records and cumulative folders at the school. The following research question was addressed in this study.

1. What is the difference, if any, in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for gender, race, and socioeconomic status?

## Instrumentation

In this study, I utilized the 2009 kindergarten reading SESAT mean scale scores. The reading SESAT is a standardized test designed to measure how well students have met Louisiana educational performance standards. The test is administered each spring to Louisiana students in kindergarten as part of a battery of curriculum-based assessments in reading, mathematics, environment, and listening to words and stories. Louisiana school systems select a 5-day window for testing within the dates specified by the school. The reading test is given on the first testing day.

This multiple-choice, circle-choice assessment has three sections that last at least 80 minutes for all three sections. Sounds/letters and word reading are read aloud to the students by the teacher. Sentence reading is read and answered independently by the students. Student reading achievement is reported in overall scale scores. Students who score 533 or higher exceed the standard (above average), 463-532 meet the standard (average), and below 463 do not meet the standard (below average). Reliability and structure are provided through content domains in which standards with similar characteristics are categorized. The domains for kindergarten are sounds/letters, word reading, and sentence reading.

## Data Collection and Analysis

I gathered student performance results based on the kindergarten 2009 SESAT Reading test results. The SESAT student report provided a record for each student including performance level, percentile rank, and stanine. These results were based upon

the student's participation in the NSECD program given during April of 2009 school year. Confidential parent reporting occurred in May prior to the start of the subsequent school year. I tracked the results to compare performance rates for students who participated in the NSECD program compared to those students who did not have this learning experience.

I used stratification with the quantitative data collection as a one-stage sampling. The participants were identified by race, gender, and exposure to preschool settings of students who participated in the NSECD program and those who did not participate in the NSECD program. The administration of the SESAT assessment provided a summative assessment that showed the participants growth or non groh over one academic school year. Photocopies of assessment results were made.

I performed statistical analyses in SPSS (Version 22.0). Both descriptive and inferential statistical analyses were performed. Initially, descriptive statistics was computed for all study variables including the demographic and background variables (gender [male or female], race [Caucasian or other], and socio-economic status [received a free or reduced price lunch through the Title I program or not]) consisting of frequencies and percentages. Then, descriptive statistics were computed for the dependent variables in this study: SESAT Reading test scores. Ranges, means, and standard deviations were used for SESAT Reading test scores. All descriptive statistics was presented for the combined sample and separately for both the experimental and control groups.

Inferential analyses were then performed to answer the research question of this study. One-tailed tests and an alpha level of .05 were used for all inferential tests. For the research question, the dependent variable is SESAT Reading test scores. An analysis of variance was used to answer this research question. The independent variable was program group (NSECD or not) and gender, race, and socio-economic status will be used as control variables.

## Data Collection Procedures

The quantitative data collection instruments consisted of the SESAT standardized test, a validated collection tool that determined if students met the expected growth for reading in kindergarten. The test was administered by the kindergarten teachers in April of 2009 over a 1-week period. The test results were manually computed by kindergarten teachers. These results were computed using the SPSS for Windows version 15.0 for analysis. I compiled the information and entered into the SPSS Windows. Students' SESAT reading scores, which consist of sounds and letters, word reading and sentence reading for kindergarten, were analyzed.

## Validity and Reliability

Elements that affected the validity of the study were the health or temperament of the child or test administrator during the assessment. The appropriateness of the testing site (i.e., noise level, distractions, etc.), and the different teaching styles of participating teachers affected the results of a student's assessment. The maturation of the participants, attendance, and tardiness were other factors that threatened the validity of

the study. In order to control the quality of the study, the triangulation method was used to gather and interpret data from different sources. Reemerging patterns within the teacher participant and scores on the academic assessments were used to support the data provided in each method. A member-checking process was used to allow the teacher participants to analyze the data to determine if they agree with the results of the study. I used peer debriefing by including the administrative staff of the school (principal, assistant principal, and curriculum coordinator) to help maintain the quality of the study. The validity and reliability of the data were reinforced through triangulation of the quantitative data.

## Protection of Participant's Rights

All Walden Institutional Review Board (IRB) guidelines for informed consent and confidentiality were followed. Participant's rights were protected. There was no direct contact with the student population of this study. The researcher was the only person who had access to the data and the only person who understood the corresponding number sequence with students' names. All data was kept in a file cabinet when the study was being conducted. This researcher was the only one that had access to this cabinet. Data will be stored for 5 years; afterwards it will be shredded and discarded.

## The Role of the Researcher

The researcher worked at the school where the study was conducted from 2005 to 2013. The researcher was a kindergarten teacher from 2005 to 2010. There was daily contact between the researcher and the student participants in the classroom, lunchroom,

playground, hallways, and cafeteria. The administrator supervised the researcher in the workplace and had expressed an interest in this study. Teachers at the school had also expressed an interest in the study.

## Summary

In Section 3, I provided a detailed description of the research methodology and strategies that will be used to collect data. A quantitative approach was used to determine the effects, if any, vary gains in reading achievement of NSECD kindergarteners in special education. The participants of the study were kindergarten students of a rural, private school in the Southern portion of the United States. A quantitative methods strategy was used to collect data. In Section 4, I provided a correlation of the data and why they were analyzed. In Section 5, I identified the findings and provided conclusions and recommendations on how the study can benefit educators.

# Section 4: Results

## Introduction

The purpose of this study was to determine whether there were differences in reading performance in kindergarten between students who participated in the NSECD Program and those who did not. Based on this purpose, the research question of this study was: What is the difference, if any, in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for gender, race, and income? The current section contains the results of the statistical analyses performed to answer the research question of this study. Initially, descriptive statistical results are presented for the independent, control, and dependent variables. Then, the results from the ANOVA that I performed to answer the research question are discussed, and the section ends with a summary.

## Descriptive Analyses

Data for a total of 42 individuals were available for this study including descriptive statistics for the race and gender distribution of the participants (shown in Table 1). The descriptive statistics are presented for the combined sample and separately for both the experimental and control groups. The total sample was approximately evenly split between White (52.4%) and Black/Hispanic (47.6%) participants. However, most of the participants in the control group were White (77.3%) while most of the participants in the experimental group were Black/Hispanic (75.0%). The total sample

consisted of 47.6% females and 52.4% males. However, the gender distribution in the two groups was less equivalent, with 59.1% of the control group being male while 55.0% of the experimental group was female. Students in the control group tended to have higher annual household incomes (*M* = $58,000, *SD* = $22,044) than those in the experimental group (*M* = $14,995, *SD* = $5,812).

Table 1

*Descriptive Statistics for Participants' Demographic and Background Characteristics (N = 42)*

| | Control (*n* = 22) | | Experimental (*n*= 20) | | Total Sample (*N* = 42) | |
|---|---|---|---|---|---|---|
| Variable | *n* | *%* | *n* | *%* | *n* | % |
| Race | | | | | | |
| White | 17 | 77.3 | 5 | 25.0 | 22 | 52.4 |
| Black/Hispanic | 5 | 22.7 | 15 | 75.0 | 20 | 47.6 |
| Gender | | | | | | |
| Female | 9 | 40.9 | 11 | 55.0 | 20 | 47.6 |
| Male | 13 | 59.1 | 9 | 45.0 | 22 | 52.4 |
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Annual household income | $58,000.00 | $22,044.33 | $14,995.00 | $5,812.64 | $37,521.43 | $27,149.96 |

Descriptive statistics for the SESAT Reading test scores for each group are shown in Table 2. For the total sample, the scores ranged from 425 to 620 with a mean of 485.76 (*SD* = 40.22). Scores for the control group ranged from 425 to 570 with a mean

of 491.73 (*SD* = 39.23) while scores for the experimental group ranged from 430 to 620 with a mean of 479.20 (*SD* = 41.27). The statistical significance of these differences is discussed in the next section.

Table 2

*Descriptive Statistics for Reading Scores as a Function of Group (*N = *42)*

| Variable | Control (*n* = 20) | | Experimental (*n* = 20) | | Total Sample (*N* = 20) | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| SESAT Reading Test Scores | 491.73 | 39.23 | 479.20 | 41.27 | 485.76 | 40.22 |

Table 3 contains the average SESAT Reading test scores as a function of the control variables. White students tended to score slightly higher on the SESAT Reading test (*M* = 488.59, *SD* = 34.58) than Black/Hispanic students (*M* = 482.65, *SD* = 46.37). Males also had slightly higher scores (*M* = 490.64, *SD* = 50.27) than females (*M* = 480.40, *SD* = 25.30). Income was not significantly correlated with SESAT Reading test scores, *r* = .24, *p* = .237. The ethnicity and gender differences did not affect the results from the ANOVA analysis presented in the next section because both race and gender were used as control variables.

Table 3

*SESAT Reading Test Scores as a Function of the Control Variables (*N *= 42)*

| Variable | *M* | *SD* |
|---|---|---|
| Race | | |
| White | 488.59 | 34.58 |
| Black/Hispanic | 482.65 | 46.37 |
| Gender | | |
| Female | 480.40 | 25.30 |
| Male | 490.64 | 50.27 |

**Inferential Analyses**

The research question of this study was: What is the difference, if any, in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for gender, race and income? For the research question, the dependent variable was SESAT Reading test scores. An analysis of variance was used to answer this research question. The independent variable was program group (NSECD or not) and gender, race, and annual household income were used as control variables.

Table 4 shows the results from this analysis. None of the covariates had a statistically significant effect on SESAT Reading test scores. Specifically, the effect of race was not statistically significant, $F(1, 37) = .17$, $p = .685$, the effect of gender was not

statistically significant, $F(1, 37) = .14$, $p = .710$, and the effect of annual household income was not statistically significant, $F(1, 37) = 1.15$, $p = .291$. The main effect of interest in this study was the effect of group, which is the difference between the control group (who did not participate in the NSECD) and the experimental group (who did participate in the NSECD). This effect was not statistically significant, $F(1, 37) = .04$, $p = .843$. Therefore, the answer to the research question of this study was that there was no difference in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for gender and race.

Table 4

*Results from ANOVA with SESAT Reading Test Scores as the Dependent Variable (*N = *42)*

| Effect | Sum of squares | *df* | Mean squares | *F* | *p* |
|---|---|---|---|---|---|
| Race | 279.67 | 1 | 279.67 | .17 | .685 |
| Gender | 234.50 | 1 | 234.50 | .14 | .710 |
| Income | 1,918.51 | 1 | 1,918.51 | 1.15 | .291 |
| Group | 66.96 | 1 | 66.96 | .04 | .843 |
| Error | 61,935.34 | 37 | 1,673.93 | | |

## Summary

Section 4 contained the results from this study. The research question posed for this study was: What is the difference, if any, in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not at a rural elementary school when controlling for gender, race, and income? The results showed that there was no statistically significant difference between the SESAT scores of the kindergartners who participated in the NSECD program and those who did not. In addition, the results showed that there were no differences in SESAT scores based on the gender, race, or income of the participants. In the next section, I discussed in the context of past research in this area and recommendations are offered for educational practice and future research in this area.

Section 5: Discussions, Conclusions, and Recommendations

## Introduction

The constructivist theory of Jerome Bruner was the basis for this research study. I used a quantitative research approach to determine whether there were differences in reading performances in kindergarten between students who participated in the NSECD program and those who did not. Section 4 contained a summary of the results and interpretation of the study. Recommendations for further research, limitations of the study, and implications for social change are described in further detail in this chapter.

## Interpretation of Findings

The research question was: What is the difference, if any, in academic performance as measured with the SESAT between kindergartners who participated in the NSECD program and those who did not attend a rural elementary school when controlling for gender, race, and income? The results showed that there was no statistically significant difference between the SESAT scores of kindergartners who participated in the NSECD program and those who did not. In addition, the results showed that there were no differences in SESAT scores based on the gender, race, or income of the participants.

The difference between this study and previous research was that the population lived in a rural area. In this study, a trend similar to the urban students in the Perry School Project with substantial gains during their first four years of school was established (Wiltz, 2006). The main effect of interest in this study was the effect of

group, which is the difference between the control group (who did not participate in the NSECD) and the experimental group (who did participate in the NSECD).

The Perry School Project established that participants were more likely to graduate, less likely to be retained or placed in special education classes and were more likely to have a positive view on education. The reduction in crime was also a major factor in the cost benefit for participants in the program.

The reading performance of the students did not produce a statistically significant difference in comparing the performance level results between students who participated in the NSECD program compared to those students who did not have the NSECD experience. The students who participated in the NSECD program did perform at a level that was higher than the nonparticipating group, but not at the statistically significant level.

## Limitations of the Study

This study provides some of the strongest evidence to date of pre-K's effect; however, it is important to acknowledge the limitations of the approach. While the NSECD program is a rich resource of individual level data, the study relies on archival, administrative/teacher data for an analysis of variance procedure (ANOVA).

Our inability to interpret the effect of pre-K on placement in special education is a limitation of the study that demands further research. More specific measures of disability categories and length of placement could add to our understanding of which children benefitted from placement and how. This could include placement out of special

education as an outcome measure versus placement in special education. These refinements would allow us to better understand the relationship of the effect between pre-K and placement in special education.

Inadequate measures of pre-K quality also limit the interpretability of the study's findings with respect to structural quality measures. Lacking good measures for language instruction and length of day limited the scope of the inquiry into structural quality dimensions. Even the staff characteristics that were available limited the analysis to the effect at a campus level. The unexpected lack of variation in staff and program characteristics also restricted the study. Other than program duration, the study failed to provide evidence of the effect for pre-K quality, leaving open the question of which quality features have the greatest impact for program participants.

Lastly, the findings are only generalizable to state-funded preschool programs with characteristics similar to those in Louisiana. Since treatment varies greatly by program, the findings would not be applicable programs to programs with more comprehensive objectives and treatment like Head Start.

## Recommendations

Clearly, the most important recommendation to arise from this analysis is that Louisiana should keep offering pre-K to eligible students. There is abundant evidence in this study that pre-K is effective at raising students' reading test scores in kindergarten. Before the program is expanded beyond the targeted population, an intensive evaluation comparing state-funded pre-K to other programs needs to be implemented, similar to the

study of Georgia pre-K programs. Another recommendation supported by these analyses is to increase the duration of the program to 2-years for all eligible participants and continue to test the effects. In this study, I found a positive and significant effect that indicates the most educationally disadvantaged students in the state could benefit from another year of instruction.

A clearer understanding is needed of the specific dimensions of pre-K programs that make them effective. Louisiana would do well to improve the measurements of program intensity and structural quality to adequately assess what is working in the pre-K program. Without adequate measures of the length of day or language of instruction (ESL versus bilingual), it is impossible to understand the effect of program intensity. Identification of student teacher links in the data would provide superior insight into the effect of staff characteristics for pre-K participants. These should include information beyond the educational attainment of teachers that includes years teaching pre-K and certification area, i.e. bilingual instruction and/or early childhood.

## Recommendations for Further Research

While the study improves our understanding of the effects for a small scale state-funded pre-K program, there is much more to learn about the Louisiana program and preschool. Assuming availability of adequate measures, a comprehensive analysis of pre-K quality would be a logical next step. Additional cohorts should be studied to assess the fade-out effect. This analysis would be improved by including changing socioeconomic status as students' age through the private/public school system. The study could be

updated using later measure of academic success, i.e. high school graduation, college admissions test scores, degrees earned and even state wage data. This would be the first study of a state-funded program to investigate these measures.

## Implications for Social Change

This study added to the research literature on pre-kindergarten programs in a rural setting. The finding from this study further support the need for similar research studies study provided a consistent correlation to other studies showing an increase in reading readiness scores of pre-kindergarten students. With greater demand for quality preschool education, the focus on universal preschool and targeted preschool in this study measured the impact of different preschools in effectively reaching preschool aged students. This study displayed: (a) that early learning in fact, does lay a foundation for ongoing learning; and (b) that better educated individuals have a better quality of life. By monitoring children responsiveness to learning and measuring their development when exposed to differing social environments, this study established implications for positive social change by establishing duplicable methodologies that encourage the ultimate societal impact of better-educated and diversely exposed learners.

## Conclusion

In this study, I attempted to establish a correlation between the effectiveness of a pre-kindergarten program in a rural area and student performance in reading. The results indicated that there were no statistically significant differences between the SESAT scores of the kindergartners who participated in the NSECD program and those who did

not. Pre-kindergarten programs provide students with an educational foundation that continues beyond the entry into public/private school systems.

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# Appendix A: School Approval

Dear: Mrs. Linda Davis

I am completing a doctoral dissertation at Walden University entitled "High Quality Preschool: Nonpublic School Early Childhood Development Program." 1 would like you permission to reprint in my dissertation excerpts from the following:

Stanford Early School Achievement Deidentified Test Scores (SESAT) 2009 Total Reading Scores

The requested permission extends to any future revisions and editions of my dissertation, including non-exclusive world rights in all languages, and to the prospective publication of my dissertation by UMl. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter win also confirm that you own or you company owns the copyright to the above described material.

Sincerely.

Carina L Pierre

Teacher, Terrytown/Gretna Head Start

# C**urriculum Vitae**

**Catina Pierre Alexander**

**Objective**
Utilize my education and experience to obtain a position in education.

**Education**
*Walden University, Minneapolis, Minnesota (2006-2015)*
Ed.D. Candidate in Education: Teacher Leadership

*Southern University at New Orleans, New Orleans, LA (2002-2005)*
M. A. in Education: Urban Education

*Dillard University, New Orleans, LA (1990-1994)*
B.A. in Sociology and Criminal Justice

**Employment**

Teacher, (2013-Present)
Terrytown/Gretna Head Start, Gretna, LA
Responsible for planning, organizing and coordinating with staff, classroom activities to ensure the educational, social, medical and nutritional requirements of the Head Start Program provide for the comprehensive development of each child.
.
Teacher, (2005-2013)
Boutte Christian Academy, Boutte, LA
Responsible for planning and implementing the curriculum and working with Kindergarten students; serve as Preschool Chairperson and liaison advisor to the administrator and principal.

**Teacher and Research Philosophy**
My ultimate goal is to be an effective and reflective teacher to educate students. It is my duty to instill a sense of pride in my students in their own uniqueness as well as spurring them to be lifelong learners.

Dissertation Topic: The Impact of a Nonpublic Schools Early Childhood Development Program on Readiness Achievement

**Professional Development & Community Activities**

**Recent Courses & Workshops**
Dr. Jean Feldman Razzle Dazzle Workshop
Challenging Technology & Computers

**Community Activities**
Kindergarten Tutor (Kindergarten) (2 Years)
English Tutor/Editor (Grades 8 – Undergraduate Level) (5 Years)
Elementary Tutor (Grades 1-8) (2 Years)

**Professional Organizations**
International Reading Association
National Association for the Education of Young Children (NAEYC)
Sigma Gamma Rho Sorority, Inc.