

EARLY CHILDHOOD EDUCATION: UNDERSTANDING PRE-KINDERGARTEN AND  
KINDERGARTEN READINESS THROUGH SYSTEMS THEORY

By

JAMES G. WHITE

Bachelor of Science in Secondary Education  
Oklahoma State University  
Stillwater, OK  
1994

Master of Science in School Administration  
Northeastern State University  
Tahlequah, OK  
2000

Submitted to the Faculty of the  
Graduate College of the  
Oklahoma State University  
in partial fulfillment of  
the requirements for  
the Degree of  
DOCTOR OF EDUCATION  
December, 2013

EARLY CHILDHOOD EDUCATION: UNDERSTANDING PRE-KINDERGARTEN  
AND KINDERGARTEN READINESS THROUGH SYSTEMS THEORY

Dissertation Approved:

---

Dr. Ed Harris  
Committee Chair and Adviser

---

Dr. Bernita Krumm

---

Dr. Katherine Curry

---

Dr. Penny Thompson

## DEDICATION

This dissertation, as well as the completion of this difficult process is dedicated to my wonderful family.

My wife, Cammy White, a constant source of inspiration and reminder of the importance of never giving up. She is and always will be my best friend. Although I sometimes make it difficult, she has never wavered in her constant support and encouragement through the many years of our marriage. It is truly a partnership and I would not be where I am today without her.

My children, Bailey and Peyton White, for being patient and understanding when I spent many evenings away in class and at my computer. They can now stop asking me if I will ever be done with college! They are kind hearted, terrific children with unique personalities and I am very proud of them and everything they do. I cannot wait to see what they accomplish in life.

My parents, Katy and the late Jim White, the best parents anyone could ever hope to have. They were a constant reminder of the successful results of a strong work ethic. My mother is the most positive person I have ever known and has always provided encouragement throughout my life. She never once doubted that I could indeed finish this dissertation. My dad was my role model. He strongly encouraged me to start this degree program and I wish he could be here to see the finished product, but I know in my heart he would be proud!

Without my family's constant support, encouragement, and understanding, I would not have been able to accomplish this tremendous personal and professional goal. I am truly blessed beyond words to have them and I hope they each know how much I love them.

## ACKNOWLEDGEMENTS

It was only with the assistance and support of many people that I was able to complete this research project, and thus finish my degree. It is with sincerity that I express my appreciation to the following:

Don Raleigh, for being a great partner and friend throughout this process. He helped convince me to begin this program and I still owe him for it.

Tammy Kuchera, for being a great and loyal friend and supporter for many years. No matter what, she is always there to help and encourage me.

Dr. Courtney Lockridge, for all of the support, suggestions, and constant editing. She never got tired of answering my many, many questions.

Jacky Parish and Tom Ewing, for listening to my constant complaints about the completion of this process.

Dr. Angela Mills, for her advice and help at the beginning of this process.

Dr. Harris, my advisor, for his patience and assistance.

Dr. Krum, for being supportive during some difficult times as I progressed through the program.

Dr. Curry and Dr. Thompson, for being flexible and agreeing to serve on my committee.

Acknowledgements reflect the views of the author and are not endorsed by committee members or Oklahoma State University.

## TABLE OF CONTENTS

Chapter	Page
I. OVERVIEW OF STUDY .....	1
Problem Statement .....	4
Purpose of Study .....	6
Research Questions .....	6
Research Design.....	6
Significance of Study.....	7
To Research .....	7
To Practice .....	8
Researcher Bias.....	8
Definition of Terms.....	8
Summary .....	10
II. REVIEW OF LITERATURE.....	11
Pre-Kindergarten Programs .....	11
History of Pre-Kindergarten .....	11
Why Universal PK? .....	15
UPK in the United States .....	16
High-Quality PK Programs.....	20
Preparing Students .....	23
School Readiness .....	23
Arguments Against Pre-Kindergarten.....	27
Dynamics Outside of the School System.....	28
Socio-Economic Status of Students and Families .....	28
Parental Involvement and Home Environment.....	29
Early Childhood Educator Training and Development .....	31
General Systems Theory .....	33
Lack of Research .....	42
Summary .....	43
III. METHODOLOGY .....	44
Theoretical Framework.....	47
General Systems Theory .....	47
Participants.....	49

Data Collection .....	50
Interviews.....	51
Observations .....	52
Instrument .....	53
Data Analysis .....	55
Qualitative Research .....	55
Quantitative Research .....	58
 IV. PRESENTATION OF COLLECTED DATA .....	 60
Northern Oaks Elementary .....	61
Background .....	61
Participants.....	62
DIBELS Results.....	63
School and Reading Readiness .....	65
Benefits and Negative Aspects to PK .....	66
Central Elementary .....	67
Background .....	67
Participants.....	69
DIBELS Results.....	70
School and Reading Readiness .....	72
Benefits and Negative Aspects to PK .....	73
Eastern Ridge Elementary.....	75
Background .....	75
Participants.....	76
DIBELS Results.....	77
Parental Involvement .....	79
Benefits and Negative Aspects to PK .....	80
Central Primary .....	81
Background .....	81
Observations .....	82
Basic Skills.....	84
Summary .....	85
 V. DATA ANALYSIS.....	 86
Input .....	87
Process .....	89
Output .....	92
Goals .....	96
Feedback.. .....	98
Summary .....	100

VI. SUMMARY, FINDINGS, CONCLUSIONS, BENEFITS, AND RECOMMENDATIONS.....	102
Findings.....	106
Research Question One.....	106
Research Question Two .....	108
Research Question Three .....	110
Conclusions.....	113
Recommendations for Research .....	113
Recommendations for Practice .....	115
Significance to Theory .....	116
Summary .....	117
Researcher's Comments.....	118
REFERENCES .....	120
APPENDICES .....	133

## LIST OF TABLES

Table	Page
2x2 Contingency .....	92
Chi-Square .....	93
Results for Kindergarten Performance.....	94
Model Results for Pre-K .....	95



## LIST OF FIGURES

Figure	Page
Percent of National Population Enrolled .....	12
Percent of 4-Year-Olds Served in the United States.....	14
Education as a System .....	40
Cycle of Systems Theory .....	58
Photograph of Northern Oaks Elementary.....	61
Northern Oaks Elementary 2011-2012 and 2012-2013 DIBELS Composite Scores.....	65
Photograph of Central Elementary.....	68
Central Elementary 2011-2012 and 2012-2013 DIBELS Composite Scores.....	72
Photograph of Eastern Ridge Elementary.....	76
Eastern Ridge Elementary 2011-2012 and 2012-2013 DIBELS Composite Scores.....	79
Photograph of Central Primary .....	82

## CHAPTER I

### OVERVIEW OF STUDY

As educators, one of our most important objectives is to provide our students with the skills they will need to be successful both in school and in life. As more research has been conducted, we have become even more increasingly aware of the importance of beginning this skill development at an early age. In Oklahoma, for example, schools have embraced this need and become a national leader in early childhood education by establishing state funded pre-kindergarten in our public schools (Gormley Jr. & Phillips, 2005). During the 2011-2012 school year, pre-kindergarten students in Oklahoma numbered 38,441 and 98% of the state's school districts offered a program. Across the nation, other states have followed suit and well-organized early childhood programs are providing enhanced opportunities for over twenty-eight percent of the nation's 4-year-olds ("The National Institute," 2012).

The need for quality early childhood programs is becoming even more pressing with societal and familial changes, which now have a profound impact on the youngest of our students. For example, the number of single parents has continued to rise steadily over the last decade (Essa, 2010). Over two-thirds of single mothers, according the Women's Legal Defense & Education Fund, now work outside of the home (Legal Momentum, 2012). Increasing mobility among today's families is another trend that is becoming ever more prevalent. This mobility puts more emphasis on the need for organized early childhood programs, because the extended family is not readily available to meet the needs of the youngest family members (Essa,

2010). In past generations, the extended family, consisting for example of grandparents, aunts, and uncles provided the nurturing and many of the basic skills that have now become the schools' responsibility. As early childhood programs evolved over the years due to many of these changes, the learning environment moved away from a perception of daycare to a more structured framework. While this change began to take place, the debate escalated over the effectiveness of pre-kindergarten programs. Proponents of high-quality pre-kindergarten programs point out the experiences of early learning are necessary in preparing our young students for success in later years. The National Association for the Education of Young Children (NAEYC) is one of the largest organizations working on behalf of early childhood children in the world. This organization has published twelve principles of Child Development to guide educators in today's environment. According to Friedman (2012), some of the major points of these principles include the following:

- Early experiences of children have a profound effect on development and learning
- This development advances when children are challenged academically and socially
- These experiences play a major role in shaping motivation and approaches to learning
- Development and learning proceeds at varying rates depending on a number of factors

Conversely, there are those who believe the experiences a child needs to be successful can be found in the home and a structured school environment is not necessary. In order to investigate the merits of this belief, a study conducted by Hunter-Segree (2010) reported that positive parental involvement had a greater impact on learning. Prior to this finding, another study by Georgiou and Tourva (2007) sought to find if a relationship exists between parental involvement and school success. According to the study, a positive relationship did in fact exist.

These studies are two illustrations of the positive influence that home experiences can play in preparing young children for success at school.

“Ready to Learn” became a national mantra in 1991, when the National Education Goals Panel (1991), adopted as its first goal that “by the year 2000, all children will enter school ready to learn” (p. 3). Although many agree that school readiness is vital, not everyone is in agreement on what precisely school readiness entails. High (2008) combined many researchers’ definitions and identified characteristics of school readiness that include the following: 1) physical well-being and motor development, including health status, growth, and disability; 2) social and emotional development, including turn taking, cooperation, empathy, and the ability to express one’s own emotions; 3) approaches to learning, including enthusiasm, curiosity, temperament, culture, and values; 4) language development, including listening, speaking, and vocabulary, as well as literacy skills, including print awareness, story sense, and writing and drawing processes; and 5) general knowledge and cognition, including sound-letter association, spatial relations, and number concepts. As the emphasis in today’s educational system has shifted to high stakes testing, much more importance has been put on the idea of school readiness. Today’s children must be ready to keep pace with the increasingly rigorous curricula designed to bring all American students up to a targeted standard of education (Rosney, 2009).

The fact that greater attention is being paid to early childhood education is one of the most noticeable changes that has resulted from this newly placed emphasis. In particular, a steady increase in the number of pre-kindergarten programs across the United States has been observed. As of 2012, 38 states offer some type of state funded PK program and these programs serve over one million of our nations young children ("The National Institute," 2012).

The goal of these PK programs is to assist students in preparing for the increased expectations placed upon them in elementary schools (Rossney, 2009). Many recent studies have found a correlation between attendance in pre-kindergarten programs and the readiness for and the resulting academic success in later school years (Bailet, 2011; Curby et al., 2009; Gormley Jr. & Phillips, 2005; Rosney, 2009; Sims, 2010). Also, according to Rosney (2009), opinions tend to vary as to the magnitude and longevity of this relationship; however, the consensus within the field is that participation in quality early childhood programs benefits all preschoolers, especially children considered at-risk for academic failure (Burchinal et al., 2000).

### **Problem Statement**

Students who attend a pre-kindergarten program are exposed to an extended period of structured learning designed to promote academic and social student development. According to Ackerman, Barnett, Hawkinson, Brown, and McGonigle (2009), “Most Americans agree that children’s success is an important issue and support the idea of enhancing children’s outcomes through participation in preschool education” (p. 21).

Curby and his associates (2009) asserted, “Recent evidence suggests that children benefit from pre-k programs in terms of both academic and social skills” (p. 346). While this research advocates the idea that extended periods of structured learning environments can be beneficial, studies also indicate some students are more ready than others when starting kindergarten and pre-kindergarten programs are accomplishing their intended objectives in some cases, but are falling short of their purpose in other instances. A quantitative analysis conducted on language scores of kindergarten students from eight elementary schools in the state of Texas showed lower written language scores from children who attended a public pre-kindergarten program than from students with no formal early childhood education (Rebecca, 2009).

Thus, an anomaly exists. While pre-kindergarten programs are designed to prepare children for kindergarten, some students are ready while others are not. Several factors may be the cause of this. For example, dynamics completely outside the realm of control of the public school systems, such as socioeconomic status, parental involvement, and support from home, can also play a tremendous role in student development. Research is showing that socioeconomic status is related to proficiency across all reading tasks. Children from higher economic backgrounds are often more ready than those from lower backgrounds (Coley, 2002). Strickland and Riley-Ayers (2007) also note home activities such as dyadic shared reading are crucial to fostering early literacy skills. Also, according to the study by Curby et al., (2009), pre-kindergarten attendance for young children is not the sole indicator of future success; the nature and quality of the interactions between the teacher and the child is of the utmost importance.

General Systems Theory can be used to determine if these facets of early childhood education have an impact on the overall course of the education system as a whole. If each part of the system works together in a harmonious fashion, the school structure itself will flow successfully as students progress into kindergarten. However, impediments to this success can possibly arise, which would hinder the flow of the system. Brown (2009) explained the need for early childhood and elementary educators to work in harmony to integrate programs and practices. He explained, “Doing so can help them weave these early childhood programs into K-12 education systems in a manner that allows all children to gain the academic skills and knowledge needed to succeed in school through instructional experiences” (p. 222). General Systems Theory can provide a structure for analyzing the effect of the individual components on the pre-kindergarten program as a whole.

### **Purpose of Study**

The purpose of this study is to explore a selected pre-kindergarten program and the extent of their provision for school readiness through the lens of Systems Theory.

### **Research Questions**

1. How does pre-kindergarten prepare children for school readiness, as measured by specific literacy skills?
2. How do the basic literacy skills taught in pre-kindergarten align with those taught in kindergarten?
3. How does a school organization function as a system to support the goals of school readiness?

These three research questions served as a guide. My intent in studying this topic was to further the research in the field of early childhood education. This was accomplished by comparing the school readiness of those students that attended a pre-kindergarten program and those that did not begin formal schooling until their kindergarten year.

### **Research Design**

This research employs a case study design. The cases for study were selected based on the reason that they are information rich, and they offer useful demonstration of the phenomenon of interest (Patton, 2002). I chose this form of research to seek understanding of a selected pre-kindergarten program and the extent of their provision for school readiness. Two groups of students were studied. One group attended PK, and the other did not. The layers for this case study include a triangulation of the data collected during the examination. I used two years of data from a widely used and research-based kindergarten reading assessment tool. Next, I observed various pre-kindergarten classrooms in order to see firsthand the experiences the

students have an opportunity to benefit from. Finally, I conducted interviews with a select group of kindergarten teachers. These educators offered their professional opinions and attitudes toward the differences in reading levels they have been able to observe in students entering their particular kindergarten classrooms.

As the data were collected and analyzed, I developed a narrative that explained the phenomena. All of the data collected from the various sources were compared to determine what common subject matter existed and to recognize any anomalies that were evident. Once these were recognized, they were coded and grouped by themes or topics and a thick-rich description then began to take shape. The focus of this particular case study remained on how the individuals within a certain group were prepared to perform certain reading readiness skills.

In order to understand the importance of early childhood education and its long-term effect on a student, as well as on the school district, a General Theory Systems approach was utilized to further study the data. This systems approach allowed for a breakdown of the whole into individual parts, or building blocks. Shaw (2009) defined system as “a set of interrelated elements that form a unified whole to achieve some goals” (p. 852). The study of these elements allows for a holistic understanding of reading readiness.

### **Significance of Study**

#### **To Research**

While examining the various research projects that deal with early childhood education, it is apparent that a gap exists in the realm of pre-kindergarten. Much research has been conducted in relation to kindergarten and its effects on young children; however, pre-kindergarten is still a relatively new concept.



## **To Practice**

The research in this study can be beneficial to educational leaders. As school districts across the United States face unprecedented funding cuts, officials must make difficult decisions regarding programs, such as pre-kindergarten. I am optimistic these school officials can use this research to show whether or not expenditures for the expansion of pre-kindergarten programs is justified and warranted. Legislative officials may also use the information gleaned from this study to validate the need for added expenditures focused on early childhood education. If it is proven that pre-kindergarten does indeed improve reading readiness skills, then education officials will have a tremendous basis for lobbying for additional and continued funding for pre-kindergarten programs.

## **Researcher Bias**

For the purpose of this research project, a certain degree of bias had to be overcome. To begin with, I am very familiar with the school system that was central to this particular research project. I have attempted to put aside my opinion on the effectiveness of the pre-kindergarten program at Central Public Schools and focus on the data that has been garnered throughout the process. This study was also limited because one pre-kindergarten program at one particular school district was being examined in detail. However, this individual program consists of numerous classrooms, a variety of teachers, and students with varying backgrounds.

## **Definition of Terms**

1. Benchmark Assessment – Process of universally screening all students in a particular grade. Benchmarking serves two purposes: 1) Identifying students who may not be on track to reach important reading outcomes, and 2) Provide school-wide indices of progress.

2. Case Study – Focuses on individuals within a group and documents those individual’s experiences in a specific setting (Lodico, Spaulding, and Voegtle, 2010).
3. Dynamic Indicators of Basic Literacy Skills (DIBELS) – An assessment indicator of how well a child is doing in learning a particular reading skill.
4. First Sound Fluency (FNF) – Assesses a student’s fluency in identifying the initial sound(s) within a spoken word. This is the first skill measured in kindergarten and it can be a key indicator of early phonemic awareness (Kaminski and Good III, 2010).
5. Free/Reduced Meal – Students may receive free or reduced priced meals based on family income. This amount is set each year by the federal government.
6. Key Informants – “Persons who have some specific knowledge about the topic being investigated.” (Lodico, Spaulding, and Voegtle, 2010, p. 140).
7. Letter Naming Fluency (LNF) – A student’s ability to recognize individual letters and say the particular letters. Letter naming is a strong predictor of later reading performance and can also be used as an indicator of additional risk for the child (Kaminski and Good III, 2010).
8. Outcomes-Driven Model – Comprised of five steps intended to help identify, support, and evaluate students in need of additional instruction in order to become proficient readers.
9. Phonemic Awareness – Understanding that spoken words are made up of sequences of individual speech sounds (Peterson and Kaminski, 2008, p. 11).
10. Pre-Kindergarten (PK) – Programs that are state funded serving 4-year-old children. These programs are either located in a public school setting or in collaboration with a public school. These programs do not serve only children with disabilities.

11. Purposeful Sampling – Selecting participants based on those that will best help the researcher understand the problem and research question (Cresswell, 2002, p. 178).
12. School Readiness – For the purpose of this study, it is defined as pre-academic skills measured by the DIBELS Assessment tool.
13. Socioeconomic Status (SES) – A term based on the child’s family income. For this study, SES will be divided in those who qualify for free/reduced meals and those that do not qualify.
14. Systems Theory - Identification of elements and the discovery of the relations between them (Schaefer (1980).
15. Universal Pre-Kindergarten – PK programs that serve all children regardless of socioeconomic status. Oklahoma is one of the states that offer Universal Pre-Kindergarten programs.

### **Summary**

The sections in Chapter I provided a basis for the study into the effects of pre-kindergarten attendance on school readiness skills, as measured by early literacy ability. Chapter II consists of a review of literature on various subjects related to early childhood education, such as pre-kindergarten, parental involvement, and socio-economic factors, as well as other factors in Oklahoma and the United States. Chapter III is a description of the research methods I utilized as this particular study into the effects of pre-kindergarten attendance unfolded. Next, Chapter IV reveals the findings of the study based on a variety of data sources, later described in detail. Chapter V serves as an analysis of those findings using the lens of the General Systems Theory. Finally, Chapter VI summarizes and describes the conclusions of the study and offers any possible recommendations for future research and/or practice.

## CHAPTER II

### REVIEW OF LITERATURE

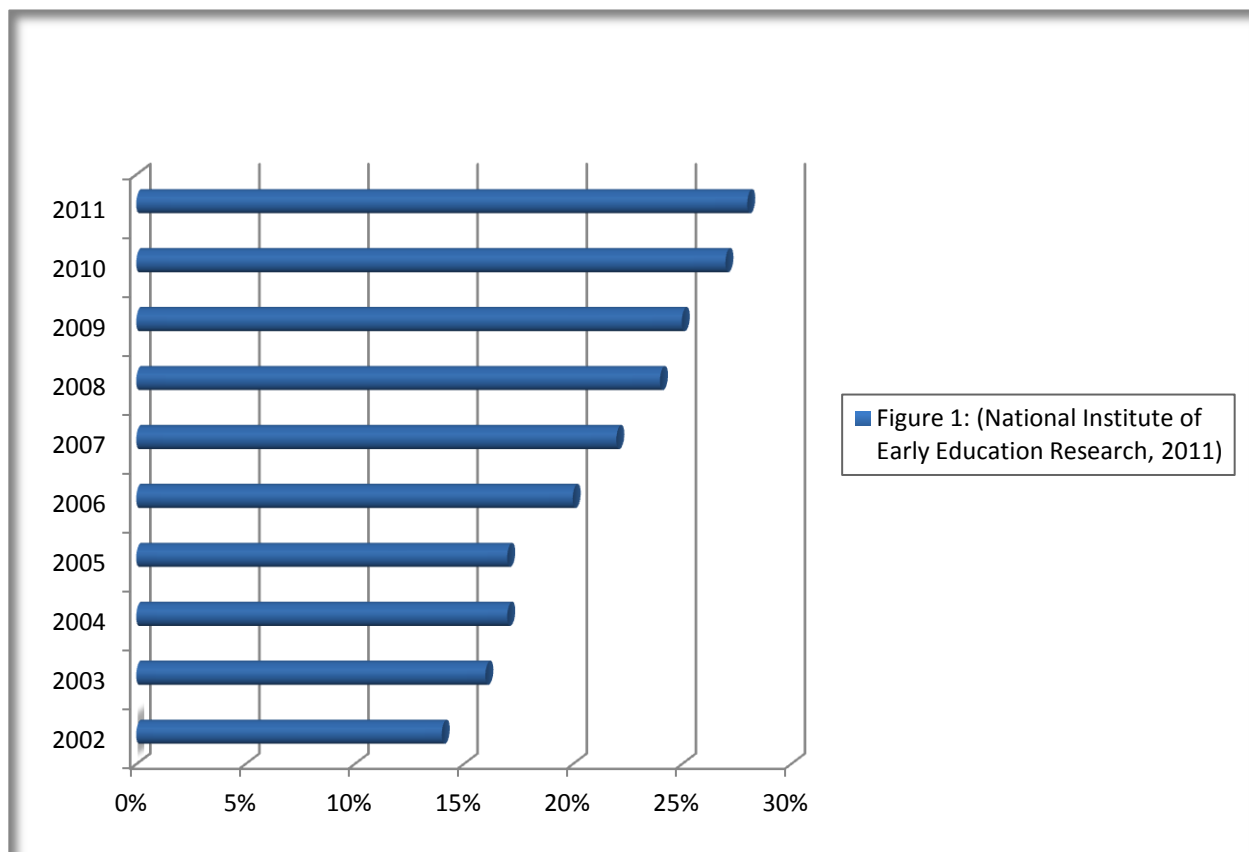
In recent years, there has been an ever-growing interest in early childhood education, particularly pre-kindergarten programs. Many variables affect a young person's ability to learn and achieve school success; however, early learning is at the center of these factors. As pre-kindergarten programs flourish and become even more prevalent in today's educational world, more studies and research will be done on the effectiveness and the value of formal early childhood education. For the purpose of this review of literature, the history and background of pre-kindergarten is discussed at length. Other important components of early learning, such as parental involvement, socio-economic factors, reading readiness, and the quality of instruction and leadership in pre-kindergarten programs are also examined. These areas of focus are germane to this particular study, because these are vital components that impact a young child's ability to be adequately prepared for formal education.

#### **Pre-Kindergarten Programs**

##### *History of Pre-Kindergarten*

There is overwhelming research that school readiness is a key to students' success in today's public schools, and this foundation must be laid at a very early age. Well-organized early childhood programs provide this opportunity for over 4 million youngsters across the United States each and every day (U.S. Census Bureau, 2000). This trend toward early

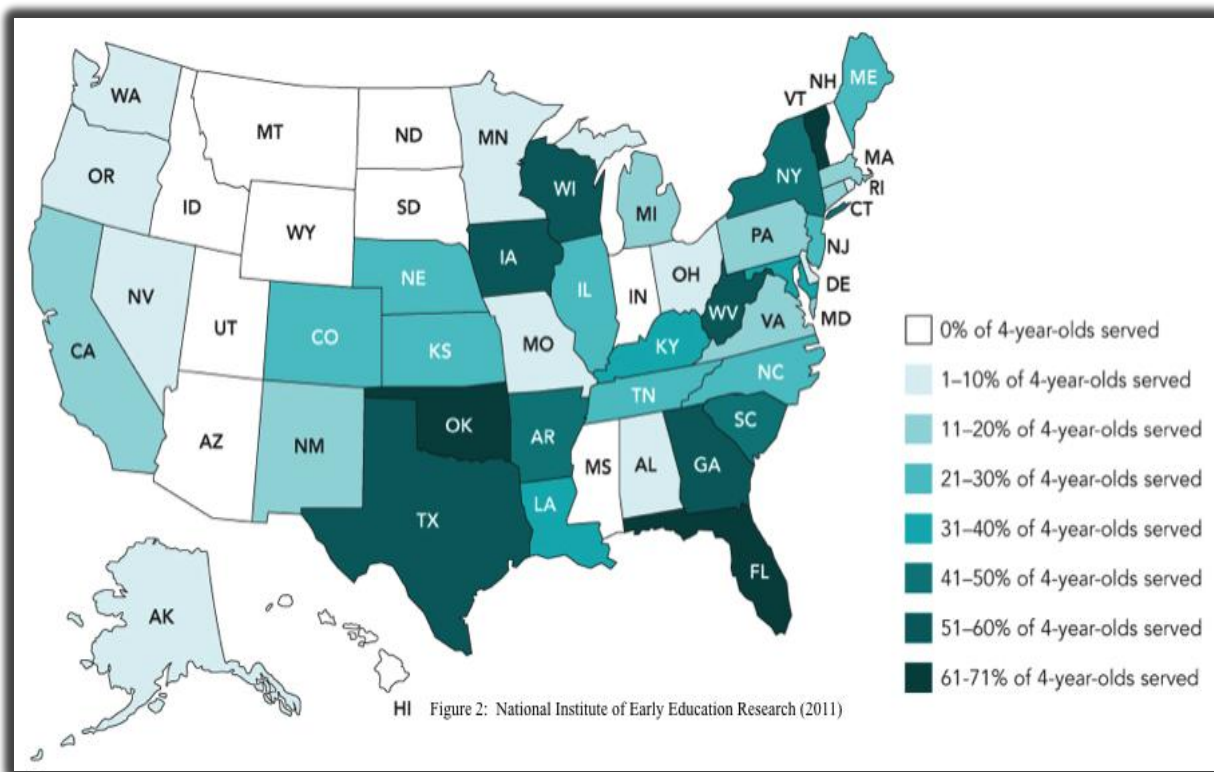
childhood education continues to grow as a result of both societal changes and educational concerns (Burris, 2000). Figure 2.1, adapted from the National Institute of Early Education Research (2011), demonstrates the growth in the number of four-year-olds enrolled in early childhood education programs. As shown in the graph, the percentage of the national population enrolled in some type of pre-kindergarten program has increased dramatically over the course of the last decade.



*Figure 2.1:* Percent of National Population Enrolled (National Institute of Early Education Research (2011).

The trend to early childhood education began in 1965 with the establishment of Head Start. From there, the idea of beginning the educational process at an earlier age has grown, and the process has evolved. In 2005, pre-kindergarten programs across the nation cost over \$2.8 billion (Barnett, Hustedt, Robin, & Schulman, 2005). Pre-kindergarten refers to center based programs for four-year-olds that are fully or partially sponsored and operated in schools or under the direction of state and local education agencies (Clifford et al., 2005). The role of pre-kindergarten is to ensure that children are prepared to meet the challenges they will face throughout their school years. Recent studies have cited the connection between a child's attendance in a high quality PK program with both their readiness for and later success in elementary school.

The combination of increased enrollment, expansion of publicly funded Pre-K programs, and recognition of the unique role of these early educational experiences have led society to where it is today. The majority of children in the United States, for all intents and purposes, now begin their formal education at age four (Pianta, 2005). The purpose of these programs is to expose four-year-old children to pre-academic material and school-like activities with the intention of increasing school related achievement skills and social-behavioral competence when children enter kindergarten (Clifford et al., 2005). Figure 2.2, taken from the National Institute for Early Education Research (2011), shows the areas of the United States where State PK programs exist, as well as the percentage of students enrolled in each state. As demonstrated in the map, Oklahoma has one of the highest concentrations of students enrolled in State sponsored pre-kindergarten programs in the United States.



*Figure 2.2: Percent of 4-year-olds served in the United States (National Institute of Early Education Research (2011)).*

According to Gormley, Gayer, Phillips, and Dawson (2005), much of the push toward increasing pre-kindergarten programs has been a result of certain recognized readiness goals. These goals are recognized as some of the most pressing for young children to have success in schools. Although some states have specific prerequisites on enrollment in early childhood programs, such as socio-economic status, six states have programs with no such requirements. Oklahoma is one of those states, along with Florida, Georgia, Massachusetts, New York, and West Virginia (Gormley, et al., 2005).

### *Why Universal PK?*

The idea of preschool is not a new idea; however, Universal Pre-Kindergarten (UPK) programs have continued to grow by leaps and bounds. Before 1995, no state had any type of universal program, and now they are becoming more and more popular. There is popular research today that the growth of UPK can be attributed to the public's dissatisfaction with our public school system in the United States (Gormley, 2005). Gormley (2005) points out "If our public schools were doing a better job, UPK would be far less popular than it is today. UPK is on the agenda because huge numbers of children are not performing at grade level, huge numbers of disadvantaged children lack basic skills, and huge numbers of advantaged children lack motivation" (p. 246).

However, UPK is an optimistic kind of reform movement. UPK does not give up on our public school system, which is unlike other popular education trends such as charter schools and vouchers. UPK assumes that public schools can be successful if given a proper chance. The key is that children must arrive at school ready to learn and pre-kindergarten programs will give them the best chance for this (Gormley, 2005).

The obvious goal of UPK is to meet the early education needs of children. However, UPK also meets the needs of working families. The social context for the design and implementation of pre-kindergarten is very different from that of the time kindergartens were established at the turn of the last century. Between 1970 and 2002, the percentage of working mothers with children from birth to age five grew from 32 to 64 percent. It is also noted that the percentage of single mothers in the work force is increasing rapidly each year (Shumacher, Ewen, Hart, & Lombardi, 2005). States must be responsive to this increasingly prevalent dynamic of society because children are no longer able to be home with a parent until they start



kindergarten. UPK programs must make up for the skills that were taught in days past by the parents.

Lazarus and Ortega (2007) contended, “The most effective way to prevent poor academic outcomes is to provide quality early intervention. High-quality universal pre-kindergarten programs have been shown to provide children with developmentally appropriate instruction that serves to build pre-reading, pre-numeracy, and pre-writing skills necessary for future school success” (p. 54). “Two important facts,” continued Lazarus and Ortega (2007), “have emerged in recent years from the research: children are cognitively ripe between the ages of zero and five and not all children are receiving the same quality of cognitive experiences during these years” (p. 54). Children everywhere must have the availability of similar opportunities for learning if we are going to have expectations of high levels of school readiness (Lazarus & Ortega, 2007).

In comparison to retention in later grades, availability of pre-k programs, without restrictions, has been proven to be more effective in helping young students to be successful. Bainbridge, Meyers, Tanaka, and Waldfogel (2003) stated the increasing access to public pre-k programs has been successful in reducing the achievement gap of students. A key to the success of these early childhood education programs will be access and the understanding of the correlation between PK programs and the school as a whole.

#### *UPK in the United States*

A study of Georgia’s universal pre-kindergarten program by Henry et al, (2003) found early childhood students in Georgia made gains in relation to national norms on standardized assessment. This analysis was based on a comparison of assessments at the beginning of pre-kindergarten and those at the beginning of kindergarten. Henry, Ponder, Rickman, Mashburn, Henderson, and Gordon (2004) also pointed out, “By the end of kindergarten, children who

attended the Georgia Pre-K Program had more than made up their below average performance on standardized assessments at the beginning of Pre-K” (p. v). Henry et al. (2004) also examined low socio-economic children in Georgia. They discovered that a large number of students enrolled from a disadvantaged background have the ability to reduce the positive effects of pre-kindergarten. However, pre-kindergarten attendance appeared to “improve children’s attitudes toward school and learning and classroom behavior” (p. 30).

A Study of Oklahoma’s universal pre-kindergarten by Gormely et al. (as cited by Lazarus and Ortega, 2007), found

Children who participated in the program scored significantly higher on the Letter-Word Identification at kindergarten entry than children who did not participate in the program. This subtest of the Woodcock-Johnson Achievement Test is designed to assess pre-reading skills. Significantly higher results were also found in the Spelling and Applied Problems subtest, indicating noteworthy differences between the kindergarten readiness of participating and non-participating children. Children from all racial and ethnic groups, as well as children from all socioeconomic levels were found to benefit from participating in the program. (p. 61)

In a study of state funded PK programs in five states, Barnett, Lamy, and Jung (2005) found that children who attended the programs showed 31% more gains in vocabulary than children who had not attended the programs. According to the authors, this finding is particularly significant because this measure is highly correlated with general cognitive abilities and future reading success.

The Michigan School Readiness Program is a state-funded preschool program, which targets at-risk children. A study of this program found significant outcomes in several academic

areas. A 21% increase in average math scores on the Woodcock-Johnson-III Applied Problems subtest was found in children who participated in the program (Barnett et al., 2005). This shows that students who had been exposed to this early education program were more skilled in basic number concepts, simple addition and subtraction, telling time, and counting money than were same aged peers who had not participated in the program.

Pre-kindergarten teachers in states such as Oklahoma and Georgia must meet the same standards as elementary and secondary teachers. In turn, they are compensated at the same level as their colleagues. Having these standards and competitive salaries, improves the school's ability to hire highly qualified individuals. The prerequisite for certain professional qualifications, as well as specific classroom requirements, significantly aids in reducing the gap between children who come from varied socio-economic backgrounds. In other states with less stringent requirements, the chances increase, for students from lower income levels to be in a classroom taught by less qualified instructors (Gormley et al., 2005).

According to the Oklahoma State Department of Education (2013), pre-kindergarten programs must meet specific rules and regulations in order to receive state funding. These particulars include the following:

- The number of children in a group shall not exceed twenty (20).
- The adult-child ratio shall not exceed 1:10.
- Any enrollment that exceeds ten (10) shall require the employment of a teacher assistant.
- The school district shall ensure the teacher assistant is provided professional development in early childhood education.
- The program shall encourage family involvement to support the child's education experience.

- The learning environment shall
  - Be arranged in centers to provide for the individual and group learning experiences.
  - Be equipped with movable furniture of the correct size.
  - Have adequate materials and supplies available in sufficient quantities to meet the needs of the children in the class.
  - Have restroom facilities that will accommodate four-year-olds.
  - Provide for a playground area that is accessible and safe.
  - It is recommended that space requirements be based on thirty-five (35) square feet per child, and that the classroom has a sink with running water.
- The curriculum shall be appropriate for the age and development level of the students. A process to provide continuity between the early childhood program and the kindergarten program shall be established.
- The program shall be directed toward developmentally appropriate objectives for such children, rather than toward academic objectives suitable for older children.
- The program shall accommodate the needs of all children and families regardless of socioeconomic circumstances.
- The program shall require that any teacher employed by a public school to teach in such early childhood program shall be certified in early childhood education.
- A vision and hearing screening shall be provided for all pre-kindergarten students. (p. 1)

Enrollment in Oklahoma's pre-kindergarten programs has steadily increased in recent years. In the 2011-2012 school year, 39,772 four-year-olds were enrolled across the state. Of these students, 26,390 attended an all-day program (Oklahoma State Department of Education, 2013).

### *High Quality PK Programs*

Neuman (2003) stated, "High-quality pre-kindergarten has been documented to be the single best investment for improving achievement" (p. 289). Neuman (2003) also pointed out that "to get the best investment, however, we need to think more strategically about the components of early intervention programs" (p. 289). Each and every year, public schools become more scrutinized on teaching effectiveness and student outcomes. This has resulted in the ever-pressing need for interventions to occur at a younger age. Young children must receive access to learning before the age of five if high academic achievement is to be expected. Studies have shown that access to pre-kindergarten programs will provide this much needed early cognitive development (Lazarus & Ortega, 2007).

Chien et al. (2010) cited a study dealing with early cognitive and language development of early childhood students. In the study, Burchinal et al, (2000) pointed out the findings of their study "provide further evidence that researchers and policymakers should strive to improve the quality of child care to enhance early development" (p. 339). High-quality pre-kindergarten programs must introduce children to critical pre-reading skills. This early exposure to the letters of the alphabet and other print concepts does not always occur in the home. Children who have been raised in poverty have lacked reading exposure or other stimulating experiences, or who possess certain cognitive deficits are often found to be below average in letter naming and phonological skills (Molfese et al., 2006). In addition, all children regardless of background or

cognitive level could potentially benefit from interventions designed and implemented based on data collected from assessments often used in high-quality PK programs.

Current research on pre-kindergarten programs, including Head Start, indicates the extensive quality variations between existing programs (Gormley et al., 2005). Additionally, the effects these programs have on children are closely tied to the quality of the education they provide. The programs that have yielded the greatest gains in student achievement are those that meet specific quality requirements, such as Oklahoma's Universal PK Program (Ackerman and Barnett, 2006). It is imperative that these programs be evaluated constantly to determine the quality in order to improve the academic outcomes of our young children.

Examining children's classroom engagement can provide valuable information that can be used to determine the quality of the PK program. The importance of focusing on child-level experiences is stressed in Howes's theoretical model for children's child-care experiences (Howes, 2000). In this model, children's experiences, such as play activities, peer play, and relationships, are embedded within the context of the classroom.

The National Association for the Education of Young Children created guidelines that many states use when designing or evaluating PK programs. These are professional classroom standards that are designed to promote children's learning. There are four core dimensions of practices: (1) implementation of a curriculum that is sensitive to the developmental capabilities and backgrounds of the children; (2) effective teaching characterized by coherent development of ideas, feedback, and multiple instructional approaches to optimize children's learning opportunities; (3) ongoing assessment of children's development for individualization of instruction; and (4) the positive teacher-child relationship is vital to children's school success (Bredekamp & Copple, 1997).

It is critical that pre-kindergarten programs be high quality to ensure positive outcomes in our young learners. Quality pre-kindergarten programs must provide sufficient time to teach readiness concepts meaningfully and effectively. One way to make certain that greater results are achieved is to offer these programs in a full-day setting. In a study by Robin, Frede, & Barnett (2006), children who participated in a half-day program improved six to seven standard score points on assessments of vocabulary and math. In contrast, those children who participated in a full-day program increased their vocabulary and math scores by 10 to 12 standard score points.

While reviewing the literature, research indicates that education policy makers, for the most part, identify access to quality PK programs as a critical step in early childhood development. Most parents do agree about access, however, the definition of quality does vary in their eyes. A study by the National Center for Early Development and Learning (NCEDL) made an attempt to determine how families define quality in PK programs. Participants in the study were randomly selected from PK programs in the following states: Georgia, Illinois, Kentucky, Ohio, California, and New York.

The data for this study was collected from 937 parents soon after their children entered PK in the fall of 2006. Interviews and questionnaires were both used in order to gather the data. Resulting findings in the study showed, overall, parents characterized quality care as providing an emotionally safe and responsive environment. In addition, parents also expected their students to be prepared academically for kindergarten. The teacher and curriculum were cited as the most commonly important criteria. Parents specifically pointed to teacher competence, experience, and attentiveness to their child, along with a curriculum that teaches the skills needed for kindergarten.

The parents involved in the study believed the essence of quality PK programs was the opportunity through play and structured learning activities to acquire a range of skills from the socio-emotional to the cognitive. Parents said that academically preparing children for kindergarten went beyond letters, numbers, and reading. School readiness, in the opinion of those surveyed and interviewed, included the development of social skills, ability to pay attention, and control of behavior and emotions (Barbarin et al., 2006).

### **Preparing Students**

#### *School Readiness*

In the last decade, our nation has focused on the need for children to be ready for school in order to keep pace with increasingly rigorous expectations designed to bring all students up to a targeted standard of education. Definitions of school readiness have been debated for years. In general, the most widely accepted idea of school readiness revolves around the demonstration of a child's skills, behaviors, or attributes in relation to the expectations of individual classrooms (Lin, Lawrence, & Gorrell, 2003).

As educators, our goal is to give each and every student the best education possible. Unfortunately, each and every year, this goal becomes harder to attain. One of the main reasons this has become such a struggle centers on the growing concern about children's lack of school readiness (Bowman, Donovan, & Burns, 2000). Evidence suggests that children's school readiness, especially children from disadvantaged backgrounds, is enhanced in pre-kindergarten programs (Magnuson, Meyers, Ruhm, & Waldfogel, 2004).

Common sense will tell one that any type of instructional activity would enhance school readiness to a certain degree. However, an organized program with a professional early childhood educator can do so much more to prepare our children for the success they deserve.



One model for early childhood education supports the idea that children learn most from teacher instructional support. This support is defined as large amounts of literacy instruction, high-quality teacher feedback, and teacher-led discussions that elicit cognitive skills (Hamre & Pianta, 2005). One study reported that more class time spent on direct and explicit instruction involving teacher feedback was linked to higher levels of student achievement (Pianta, La Paro, Payne, Cox, & Bradley, 2002). Another study looked at four main academic activities. These included letter-sound, oral language, being read to, and mathematics. The study found that increased instructional time in each area was directly associated with higher teacher ratings of children's language and literacy skills (Howes et al., 2008). One would expect to see most of the time in this model spent in teacher-directed instructional activities.

Students involved in these types of direct instructional activities will see greater gains in basic academic skills. These include knowing numbers and letters and how to write their names. These are skills that are more readily taught through teacher instruction and less likely learned through free play (Henderson et al., 2002). However, different types of children will benefit more from different classroom structure. According to the literature on free choice play, children who have the opportunity for more free play and exploration might have more developed language and advanced mathematics and spatial skills (Henderson et al., 2002). Gormley, Gayer, Phillips, & Dawson (2005) stated the following:

Preliminary results from a growing body of research on the effects of pre-kindergarten programs are encouraging, but not entirely convincing. A careful meta-analysis of state-funded preschool programs in 13 states found statistically significant positive impacts on some aspect of child development (cognitive, language, or social) in all of the states (p. 6).

Exposure to these very important child development skills is more vital today than ever. Today, the purpose of kindergarten has shifted from an atmosphere in which children could play and explore to one in which academic standards must be taught. Kindergarten has become less of a venue for creative thought, free exploration, and pretend play, and more of a structured setting with rigorous requirements to prepare children for future standardized assessments (Ray & Smith, 2010). This shift has put the pressure on pre-kindergarten to give young students the start they so desperately need.

Children who enter kindergarten with poor language and literacy skills tend to show poor reading achievement during the early grades, and this relatively poor reading performance tends to be maintained into early and late adolescence (Cunningham & Stanovich, 1997). In contrast, children who begin formal schooling with strong emergent literacy skills learn to read earlier and develop better reading skills, thus providing a foundation for later academic competence (Downer & Pianta, 2006). Phonological awareness has also been related to general reading ability, and there is an association between children's phonological awareness skills in kindergarten and their reading achievement in later years of school (Wagner, 1994).

A study conducted by Hall (2012) showed students who attended pre-kindergarten are more likely to have better reading skills by the third grade than those without formal schooling prior to kindergarten. The following are the details of the Hall (2012) examination of pre-kindergarten attendance:

- Students' chances of reaching the basic third-grade reading level, "Comprehension of words in context," increased 3 percent with PK attendance.
- Chances of a third-grader reaching the more advanced "Literal inference" reading level increased by 11 percent with PK attendance.

- Chances of a third-grader reaching the advanced “Extrapolation” reading level increased by 18 percent with PK attendance. (p. 1)

Early understanding of mathematical concepts is also a key component of school readiness. Recent research has revealed a relationship between the extent of pre-kindergarten students’ mathematical knowledge base and mathematics achievement in later school years (Duncan et al., 2006). Children from low-income families do not always receive the support needed at home to acquire these skills, thus making PK attendance that much more important. Children from lower income households perform below their middle-income peers on national and international mathematics assessments as early as the preschool years, and these gaps in performance can persist into the elementary school grades and into early and late adolescence (Duncan et al., 2006).

In addition to early language, literacy, and mathematical knowledge, children’s behavior and social skills are also associated with school readiness. These behavior and social skills can be another key to success in later school years (Downer & Pianta, 2006). For example, positive social behavior and competence is a predictor of successful academic performance in early grades, whereas childhood aggression is increasingly associated with school failure later in elementary school (Miles & Stipek, 2006). As Zins et al. (2004) noted, “Learning is a social process, and problems following directions, or difficulties getting along with others and controlling negative emotions, distract from learning” (p. 18).

Assessments used to gauge the readiness and the skill levels of young children are becoming much more common than in past years. However, assessing this age group of children proves difficult in many respects. Nevertheless, the data that are gathered throughout the various batteries of tests can be extremely valuable in determining the direction and the effectiveness of

early childhood education. These assessments can also be worthwhile in predicting future struggles for a certain segment of young students (High, 2008).

### *Arguments Against Pre-Kindergarten*

Like any educational movement, many arguments have been made against the idea of universal pre-kindergarten. For example, some argue that targeting pre-kindergarteners may be too early. However, No Child Left Behind (NCLB) expects proficiency for all students regardless of the variation in children's abilities as they enter kindergarten (Gormley, 2005). Neuman points out that a growing number of children across the United States are impoverished and many others struggle with the English language. These children from the lowest socioeconomic level have been read to an average of 25 hours prior to kindergarten. This is compared to 1,000 hours for children from higher socioeconomic backgrounds (as cited by Lazarus & Ortega, 2007).

Opposition exists, according to Andrews and Slate, when discussing universal pre-kindergarten programs, regarding the focus of these classrooms. These critics do not believe the focus should center on school readiness, but instead they insist the teachers should ensure age and developmentally appropriate learning (as cited by Lazarus & Ortega, 2007). However, Lazarus and Ortega (2007) explained the following:

These concepts are not mutually exclusive and children can participate in age-appropriate activities that teach them a variety of skills necessary for school success, such as social skill, emotion management, listening skills, and basic academic skills that will serve as a foundation for later skills. (p. 69)

Gormley Jr. (2005) also pointed out that another argument against Universal pre-kindergarten is its focus is solely on four-year-olds. Even though research indicates younger

children can reap benefits of formal schooling, the concentration has remained on the four-year-old age group. Universal pre-kindergarten programs also do not discriminate based on socioeconomic status. Critics of this form of early childhood interventions point out that disadvantaged children are the neediest and the funding and attention should be exclusively on this group (Gormley Jr.). However, Gormley Jr. also argued that disadvantaged students can also reap certain benefits from the presence of advantaged students in the classroom, based on studies of the effects of peers.

### **Dynamics Outside of the School System**

#### *Socio-Economic Status of Students and Families*

When discussing school readiness and its various components, one must factor in Socio-economic status (SES). “Although there is no one agreed upon definition of SES,” observed Dotterer, Iruka, & Pungello (2012), “scholars have conceptualized SES as income, education, occupation, welfare recipient, or some combination of these factors” (p. 658).

Socio-economic status of students is a factor in school readiness of early childhood students that must be considered. Dotterer et al. (2012) pointed out “Although, there is no one agreed upon definition of SES, scholars have conceptualized SES as income, education, occupation, welfare recipient, or some combination of these factors” (p. 658). There is a difference in kindergarten teachers’ beliefs of students’ knowledge of early literacy skills. These beliefs can hinge on whether they are teaching students from high-SES or low-SES families (Lynch, 2010). Lynch (2010) found “differences in the type of print literacy knowledge that teachers believed children had, both at the beginning and at the end of kindergarten based on SES” (p. 161). These literacy differences included the following: sounds of alphabetic letters

both at the beginning and end of kindergarten, knowledge that print is read from top to bottom, and ability to identify capital letters (Lynch, 2010).

Across the nation, the achievement gap between children from low-income families and those from higher income backgrounds continues to be a huge concern (Dotterer et al., 2012). Dotterer et al. (2012) stated, “The economic impact of the achievement gap is tremendous” (p. 657). According to Kruk, Prentice, & Moen (2013), “More experiences in early childhood education programs can expose children with SES risk to the kinds of enriched experiences that they need to support strong initial and later development of comprehension skills” (p. 60). Certain negative outcomes can be remedied at an early age with proper early childhood instruction. These negative outcomes can be a direct result of a household with a lower income. These could include a lack of resources and other possible learning opportunities that might not present themselves (Kruk et al., 2013).

#### *Parental Involvement and Home Environment*

Henderson and Mapp (as cited by Georgiou & Tourva, 2007) defined parental involvement as “representing many different behaviors and practices at home or at school, including parental aspirations, expectations, attitudes, and beliefs regarding their child’s education” (p. 473). Many educators and researchers have looked at the effect on early parental involvement in a child’s life and its impact on future school success. A study was conducted by Georgiou and Tourva (2007) to examine if a link does indeed exist between the two factors. The study found the connection was, in fact, present between parents’ beliefs that their involvement matters and is useful in their children’s future achievement.

Lynch (2010) made an interesting point on the influence of parental involvement by stating, “From an early age, children’s parents and early childhood educators play a crucial role

in their social, emotional, cognitive, and physical development” (p. 157). Parental involvement and the income level of the family are very closely related in many instances. Parents in better financial situations have the ability, in many instances, to provide their children with more stimulating and productive environments for learning (Dotterer et al., 2012). This is a link that cannot be ignored.

Studies have shown the correlation between parental education and the impact on early childhood students. For example, Bainbridge, Meyers, Tanaka, & Waldfogel (2003) found the following:

The link between higher parental education and higher demand for children’s education could be driven by parents’ desire to do as well or better by their children as was done for themselves, or a sense that the child will be able to take advantage of the potential returns (and as such may be an indicator of the child’s ability), or greater knowledge among more highly educated parents about the contribution of early education to future success. (p. 16)

Parental involvement in relation to reading activity also has the potential to increase the school readiness of young children. Baroody and Diamond (2010) found a link between parent and child reading and the development of receptive language and code-focused phonological awareness skills. These skills are crucial for a child’s future reading performance. Baroody and Diamond pointed out, “Caregivers can support the development of children’s early literacy skills by actively participating in literacy activities with the child (e.g., shared reading)” (p. 80). This activity at home will be likely to spark an interest in reading, which will result in better letter recognition, thus better preparing the child for future reading success (Baroody & Diamond, 2008).

### *Early Childhood Educator Training and Development*

When examining the benefits of early childhood education, I would be remiss if I did not account for the leadership involved in these programs. According to the National Association of Elementary School Principals, “Research has proven that effective pre-kindergarten programs increase students’ chances of graduating from high school and attending college...” (NAESP, 2010). “Unfortunately,” the article goes on to report, “Many principal preparation programs and school systems currently lack sufficient training to teach principals how to design and lead quality early childhood programs” (p. 1).

In many instances, the success of a school can be directly attributed to the leadership skills of the principal. Early childhood centers that contain pre-kindergarten are no different. Leaders of these buildings must have the skill set necessary to encourage and instruct teachers on what is instructionally and emotionally needed by this age group. The needs of this age group are not the same as those in an elementary school that houses older students, and the principal must be cognizant of this in order to be successful.

The academic achievement of students begins when they first enter school. In many cases around the nation, that beginning is now pre-kindergarten. Practitioners and researchers alike have known for decades that there is a link between what a principal does in his or her school and student scores on school-wide achievement tests (Lomotely, 1989). The setup of the early childhood center will be instrumental in encouraging the growth and development of early learners. Early childhood education will lay the foundation for the knowledge that will be needed to be successful in the testing grades. A principal who is knowledgeable of this will be able to design and lead a quality early childhood program that will eventually result in later student achievement (Muhammad, 2010).



Unfortunately, in many of today's schools, leaders of early childhood centers lack the necessary knowledge. According to Rodd (2006), "While high-quality services have been associated with experienced leaders, other evidence reveals that training, rather than work experience, is the best predictor of quality early childhood services" (p. 259). However, very little training is available for the specific needs of this age group. Administrators, in many instances, have to learn on the job in early childhood school sites. The result of this lack of availability of training is underdeveloped potential of many early childhood leaders.

Early childhood education is a continuously evolving field. As more research is done, better practices are developed that will enable educators to better prepare our pre-kindergarten students for a successful school career. Principals must also continue to evolve in order to facilitate this preparation. As Rodd (2006) pointed out, "It is essential that all members of the early childhood field embrace a life-long learning perspective towards their own development and regard leadership as a key aspect of this development" (pp. 259-260).

While researching the various aspects of pre-kindergarten, the professional development of teachers at this level must be explored. A tremendous need exists for teachers of four-year-olds to receive training specifically geared to address their needs. Many times, schools are not able to schedule professional development that will benefit these early childhood teachers in age appropriate methods. Today's economic times make resources scarce, and many schools choose to spend staff development dollars where they will reach the most teachers. Unfortunately, in many cases, this means teachers of the non testing grade levels and PK teachers are left to "train" themselves, which is not the best possible scenario.

Early childhood teachers must have access to the latest methods and curriculum if they are going to successfully engage our youngest learners. This age group has unique needs that

early childhood educators must address. Without these opportunities for professional development, our pre-kindergarten teachers cannot adequately prepare our children for future school success (Lazarus & Ortega, 2007).

### **General Systems Theory**

As previously described, research has indicated that educators must look at a comprehensive model in understanding why some activities are successful and others are not. For example, attendance in a public school pre-kindergarten program can possibly provide young children with a foundation that will provide for successful literacy skills. Also, active parental involvement may or may not aid children in the area of school and reading readiness. One such model that offers a comprehensive view of school organizations and their communities is General Systems Theory.

General Systems Theory was first developed by Ludwig Von Bertalanffy and according to Bertalanffy (1969), “It is a general science of wholeness” (p. 37). This particular theory is useful when certain concepts cannot be studied in isolation, but rather by looking at the sum of the parts (Bertalanffy, 1969). General Systems Theory was initially developed as a scientific theory, but over the years it has evolved into other fields, including mathematics, behavioral sciences, and social sciences. For the purpose of this particular research project, systems theory will be transferred to help explain the success, or lack thereof, of a particular aspect of public education.

Bertalanffy (1969) stated, “The practical application of systems theory to problems arising in business, government, and international politics, demonstrates that the approach works and leads to both understanding and prediction,” (p. 196). Human groups, which include students and teachers, are an outcome of social forces and combined, become a part of culture

that is man-made (Bertalanffy, 1969). According to Bertalanffy (1969), the “investigation of systems is a suitable unit to study human groups” (p. 198).

The concept of a system is a complex basic concept of scientific thinking that can be defined by various simple basic concepts (Strauss, 2002). The following are three significant statements by Strauss (2002) that are useful in assisting in the explanation of the meaning of systems theory:

1. Stability and change are frequently identified as the two most significant features organizations, communities and societies, and their environments.
2. Systems thinking promotes holism as its primary intellectual strategy for handling complexity.
3. Systems thinking has embraced a process philosophy in order to grasp the way systems develop over time (p. 163).

“General Systems Theory is a strategy of inquiry that integrates diverse areas of research and theory,” stated Ball (1978, p. 65). Wilsey (1969) posited “A system is a complex set of elements in regular mutual interaction directed toward reaching goals or outputs. Each component part must be in interaction with the others” (p. 7). Researchers utilizing this system theory see it as a powerful framework for applied research and theory construction. According to Ball (1978), “General Systems Theory is holistic; it begins with the concept of organization, not of parts which happen to be related, but of relationships which may be studied by examining relevant subfields” (p. 66). General Systems Theory begins with conceptualizing reality as consisting fundamentally of relationships among relationship (Ball, 1978).

A school itself can be viewed as a system consisting of many key components, each working together to achieve a desired output or goal. Kast and Rosenzweig (1972), list the following as key concepts with General Systems Theory:

1. Subsystems or components: A system by definition is composed of interrelated parts or elements. Every system has at least two elements and these elements are interconnected.
2. Open System View: Open systems exchange information, energy, or material with their environments.
3. Input-Transformation-Output Model: The open system can be viewed as a transformation model. In a dynamic relationship with its environment, it receives various inputs, transforms these inputs in some way, and exports outputs.
4. Feedback: The concept of feedback is important in understanding how a system maintains a steady state. Information concerning output is fed back into the system as an input.
5. Multiple Goal Seeking: Systems have multiple goals or purposes (p. 450).

General Systems Theory emphasizes the idea that all systems are organized and composed of interdependent components in some type of relationship. The key distinction to understanding this type of theory centers on this idea (Kast & Rosenzweig, 1972). For example, a school consists of many components. These include teachers, administrators, classroom structure, and parental involvement. Each of these must have an interdependent relationship in order to be successful. Kast and Rosenzweig (1972) contended strongly that General Systems Theory is vital in understanding organizations.

Zivi (1987) conducted a case study using the framework of General Systems Theory. This study utilizes qualitative data to analyze a recommended program proposal at a Technical University. Zivi (1987) reported the following:

General Systems Theory suggests that similar or like concepts from various disciplines, such as biology, chemistry, psychology, physics, and economics, may be useful in developing constructs that describe general relationships in the empirical or real world. Therefore, General Systems Theory is characterized as a general approach, as an interdisciplinary approach, and as a descriptive approach (p. 24).

A school system, such as the one being examined, relies heavily on a cycle of events to achieve the desired results. Zivi (1987) explained, “A system imports inputs from the environment, transforms them, and exports outputs back to the environment” (p. 25). Wilsey (1969) believed the input-output cycle is basic to systems operation. This allows the cycle to remain in a repetitive state. “Systems maintain a dynamic equilibrium such that the basic character of the organization is highly stable, even though the organization evolves over time in response to internal or environmental changes,” stated Zivi (1987, p. 25). This process is what enables systems to survive and adapt to various changing factors. Information processing is also a key ingredient to the functioning of the system. Without both positive and negative feedback, a determination of the success of the system cannot be properly achieved (Zivi, 1987).

Wilsey (1969) utilized system theory as a framework in the study of a public high school economic model. Cost categories were used as independent variables to determine the output using an open system aspect of the General Systems Theory. Wilsey (1969) felt the study held importance based on a “more restless and more dynamic society than that of even a few decades ago” (p. 4). Wilsey (1969) continued, “The possibility of the transformation of restlessness into

revolution has placed especially heavy responsibility for change on the entire field of education, more certainly on the leader who must decide on a course of action” (p. 4). Although these thoughts stem from many years ago, the premise behind them still hold true in today’s educational climate. The constant changes in our society, coupled with the ever-growing importance of early interventions, force educators to continually reevaluate our way of structuring our school systems.

Evaluating our school systems and the way in which we structure our curriculum and grade structure is a key component in meeting the needs of our students. Shaw (2009) concurred with this observation by stating the following:

The question of how efficiently a system performs has long been regarded as a central problem of research in the social sciences. It is a core issue because performing efficiently is critical to the survival and growth of operating systems at all levels – individuals, organizations, and societies. (p. 851)

The purpose of Shaw’s study in 2009 was to develop “a general theory of systems performance criteria to describe the scope of general systems research, and within this context to articulate the underlying theoretical model of process for any living system” (p. 852). Shaw (2009) first defined the term system as “a set of interrelated elements that form a unified whole to achieve some goals” (p. 852). This definition can easily be used in the study of the effects of pre-kindergarten attendance on reading readiness.

Next, Shaw (2009) described the basic elements of system theory that were key to the research. These include input, process, output, goals, and feedback. Before any system performance can be fully evaluated, these components must be fully realized (Shaw, 2009). Shaw (2009) explains each component as follows:

1. Inputs refer to the sacrifice of resources expended by the system in performing the set of activities, which constitutes the process.
2. Process is the operating mechanism of the system by which activity results in the transformation of inputs and outputs.
3. Outputs refer to the actual results produced by the process for achieving the system's goals.
4. Goals refer to the desired (planned or potential) results sought by the system.  
How well the process is working towards achieving the system's goal is evaluated through feedback.
5. Feedback is the control mechanism of the system for monitoring and correcting deviations in the input – output process and the achievement of system goals.  
Feedback provides information to evaluate the performance variables of inputs, outputs, and goals. (p. 861)

Continuing with the definition of systems as stated above, school systems consist of many interdependent components that add value to the school as a whole (Shaw, 1998). Since its inception, issues of design, goals, and purposes have been at the core of the General Systems Theory (Chen & Stroup, 1993). When explaining the belief that a total systems view of education is vital to understanding and possibly reforming schools, Sarason (1990) stated the following:

System is a concept we create to enable us to indicate that in order to understand a part we have to study it in relation to other parts. It would be more correct to say that when we use the concept system it refers to the existence of parts, that those parts stand in

diverse relationships to each other, and that between and among those parts are boundaries (another abstraction) of various strength and permeability. Between system and surround are also boundaries, and trying to change any part of the system requires knowledge and understanding of how parts are inter-related. At the very least, taking the concept of system seriously is a control against overly simple cause-and-effect explanations and interventions that are based on tunnel vision. (p. 15)

Molner (2009) studied the principals of social systems and the relation to school systems. Members of the organization, according to Molner (2009), “must work as a group in order to move their efforts toward a common goal” (p. 7). Molner (2009) continued by pointing out that a collaborative effort will help them continue on the path to reaching this goal. “In essence, organizations have many parts, and these parts must work together, be flexible, be adaptive, and be productive in order to achieve the shared vision” (p. 7). This research is a fitting depiction of our current public school settings.

A school district consists of many parts that must work together in harmony in order for students to be successful. Figure 2.3, adapted from Oyebade (2001), displays these different parts of the school working together as a system. As demonstrated in the illustration below, input from society includes certain human resources. Once these resources begin working together in a structured environment, the ultimate goal of educating our students can become a reality.





*Figure 2.3: Education as a System (Oyebade, 2001).*

Establishing systems theory as a framework for examining reform, Chen and Stroup (1993) declared, “If a democracy requires education for all, then science and technology education must have as core component a commitment to educating all citizens” (p. 447). Schaeffer (1980) listed the following reasons why General Systems Theory has relevance for educational institutions:

1. The need to deal with the increasing complexity of interrelationships between social institutions in a “shrinking” and changing world;
2. The need to facilitate the integration of information now being generated in order to give “meaning” to the total body of knowledge and to facilitate the process of cultural transmission of that knowledge;
3. The need to develop methodology to manage the pace of change and its accompanying technological developments as they impact social organization;

4. The need to more effectively process information in the quest for meaning and correspondingly, reduction of uncertainty;
5. The need to apply this synthesis of knowledge in the process of implementing education's socially defined goal (p. 3).

Banathy (1992) noted, "Systems view helps us to understand the true nature of education as a complex, open, and dynamic human activity system that operates in ever-changing multiple environments and interacts with a variety of societal systems" (p. 17). Banathy (1992) also considered public education to fall into the purposive systems based on having set goals, as well as having the freedom to select operational objectives and the methods to which accomplish them. Schools can also be considered open systems because they must react to changes in the environment and society in order to be successful. According to Banathy (1992), "Many times these types of systems are very complex" (p. 12).

Schaefer (1980) stated, "General Systems Theory is the identification of elements and the discovery of the relations between them" (p. 1). Schaefer (1980) added, "one significant relation concerns the whole as greater than the sum of the parts" (p. 1). General Systems Theory allows a description, explanation, and application to be placed on the school setting as a whole (Shaeffer, 1980). According to Waltner-Toews, Kay, and Lister (2008), "Underlying systems thinking is the premise that systems behave as a whole and that such behavior cannot be explained solely in terms that simply aggregate the individual elements" (p. 4). As we continue to study the pre-kindergarten program and its effect on the school as whole, the analogy between the two becomes stronger. The school is a large system with the PK programs acting as a subsystem.

The systems perspective has the potential to be immensely valuable when studying the effects of pre-kindergarten on the district as a whole. Muthalaly (1987) reported the following:

A system perspective shifts the focus from just the problem on hand and helps one to look at the wider context more closely and examine what is going on in terms of relationships. It takes the dynamics of the contextual framework seriously and states that every change in the context also affects the individual functioning organism. (p. 3)

In order to understand the importance of early childhood education and its long-term effect on a student, as well as the school district, a systems approach likely will be beneficial. “A system is an ensemble of interacting parts, the sum of which exhibits behavior not localized in its constituent parts. In other words, the whole is more than the sum of the parts,” state Chen and Stroup (1993, p. 448). This system is characterized by goal directed behavior that can be seen in the state of the system (Chen & Stroup).

Recent developments of the General Systems Theory have not occurred at the level of theory, but instead at the level of computational platforms. Improvements in the understanding of the various models of system theory have allowed the evolution of this theory into the school environment (Chen & Stroup, 1993). In essence, Chen and Stroup (1993) find, “General Systems Theory is about engaging the richness and dynamism of the world around us” (p. 456). Due to the nature of PK programs, the General Systems Theory provides a reasonable framework by which to analyze the context and effects of PK programs.

### **Lack of Research**

Currently, the research is somewhat lacking in study on the effects of pre-kindergarten attendance on kindergarten readiness. However, the research on kindergarten finds that attendance, particularly in structured all-day programs, does in fact matter. Children participating in full-day kindergarten classrooms experienced a more in-depth learning environment than those attending half-day programs. These experiences include more dramatic

play, science, art, music, social studies, and gross motor activities. The extended learning time allowed teachers to be more flexible with individualized instruction, which better met the children's needs and interests (Clifford et al., 2005). According to Gullo (2000), kindergarten children who attend full-day programs attain higher reading and math achievement scores than do children in part-day programs. This research indicates a correlation between pre-kindergarten attendance and school readiness, especially in the area of reading. However, more research specifically aimed at comparing young children who attended a Universal pre-kindergarten program and those who waited and began formal schooling with their kindergarten year, is necessary to ascertain the actual relationship between pre-kindergarten attendance and school and reading readiness.

### **Summary**

Over the course of Chapter II, literature was reviewed that pertains to the study of early childhood education and its effect on school readiness. The following topics were reviewed: 1) pre-kindergarten programs, including the history, types, and quality; 2) preparation of students, including school readiness and arguments against pre-kindergarten; and 3) dynamics outside of the school system, consisting of socio-economic status and parental involvement. Each of these components is essential in constructing a background for this particular study. The following Chapter III will delve into the methodology employed in this study. The theoretical framework with which the study will be viewed is General Systems Theory. The systems perspective will help look more closely at the wider context of early childhood education. It will also allow an examination of what transpires in the relationships of the pre-kindergarten setting (Muthalaly, 1987).

## CHAPTER III

### METHODOLOGY

The review of literature in Chapter II presented an overall description of early childhood education. Two key topics from the review have become pertinent in recent years. These issues, school readiness and high-quality pre-kindergarten programs, are the basis for this study (Lin, Lawrence, & Gorrell, 2003; Bowman, Donovan, & Burns, 2000; Magnuson, Meyers, Ruhm, & Woldfogel, 2004; Neuman, 2003; Lazarus & Ortega, 2007; Molfese et al., 2006; Burchinal et al., 2000). In this chapter, the research methodology chosen to study the following research questions is described in detail.

- 1) How does pre-kindergarten prepare children for school readiness, as measured by specific literacy skills?
- 2) How do the basic literacy skills taught in pre-kindergarten align with those taught in kindergarten?
- 3) How does a school organization function as a system to support the goals of school readiness?

In a comprehensive exploration of past and current research, it is apparent that little research has been done on the effects of attendance in a pre-kindergarten program as it relates to school readiness goals. Since pre-kindergarten is still a fairly new phenomenon, most of the research in relation to this topic centers around kindergarten enrollment. As a result, this

particular qualitative study is exploratory in nature. “In new fields of study,” according to Patton (2002), “where little work has been done, few definitive hypothesis exist and little is known about the nature of the phenomenon, qualitative inquiry is a reasonable beginning point for research” (p. 193).

Qualitative research approaches data collection through observations, interviews, and document analysis and summarizes the finding primarily in narrative form (Lodico, Spaulding, & Voegtler, 2010). Also, Lodico et al. (2010) described the case study as one of the most common qualitative approaches. Although they can be wide ranging in their scope and sequence, case studies typically focus on individuals within a group and document that group’s experiences in a particular situation. Gathering this information through multiple sources and perspectives is a key characteristic of this approach. According to Stake (1995), case studies are a strategy of inquiry in which the researcher explores in depth a program, event, activity, process, or one or more individuals. Cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time.

Cresswell (2009) asserted that qualitative researchers typically gather multiple forms of data, such as interviews, observations, and documents, rather than rely on a single data source. The researcher then reviews all of the data, makes sense of it, and organizes it into categories that incorporate all of the data sources (p. 175). For this particular case study, the following means of data collection have been utilized: 1) observation of classrooms, 2) interviews with teachers, and 3) reading assessment tool. After collecting the data from the multiple sources, I, as the researcher, formulated the information in a thick-rich description, without the reliance on instruments developed by other researchers (Cresswell, 2009).

Erlandson, Harris, Skipper, & Allen (1993) noted, “A naturalistic study involves an inseparable relationship between data collection and data analysis” (p. 114). “The principle of interaction between data collection and analysis,” continued Erlandson et al. (1993), “is one of the major features that distinguishes naturalistic research” (p. 114). Prolonged engagement added to the credibility of this type of study. This information has enabled me, as the researcher, to discover the culture of the school being studied over a period of time, as well as develop a trust and relationship with the respondents (Erlandson et al., 1993).

In addition to the qualitative analysis that was employed in this study, two quantitative tests were also conducted. These supplemental examinations provided additional statistical reasoning to the conclusions that were reached over the course of the research project. As Cresswell (2009) asserts, “Quantitative research is a means for testing objective theories by examining the relationship among variables” (p. 4). Cresswell (2009) continues by pointing out, “These variables can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures” (p. 4).

Both descriptive statistics and inferential statistics are considered in this study. According to Lomax (2007), “Descriptive statistics are defined as techniques which allow us to tabulate, summarize, and depict a collection of data in abbreviated fashion” (p. 6). In this study, the data obtained from DIBELS, which served as the indicator of kindergarten readiness, is summarized in various forms to provide a clear and concise way of examining the variables. In addition, Lomax (2007) explains, “Inferential statistics are defined as techniques which allow us to employ inductive reasoning to infer the properties of an entire group or collection of individuals, a population from a small number of those individuals, a sample” (p. 7). Within this study, descriptive and inferential statistics are examined in two different statistical analyses, chi-

square and simple regression. Although the outputs from these particular analyses are a smaller portion of the overall study, they are nonetheless vital in determining the impact of pre-kindergarten attendance on school and reading readiness.

## **Theoretical Framework**

### **General Systems Theory**

Anfara and Mertz (2006), described various types of theories, including organizational theories. Specifically, according to Anfara and Mertz (2006), “Organizational theories focus on bureaucracies, institutions, organizational structures and functions, and effectiveness or excellence in organizational performance” (p. xviii). One type of organizational theory, General Systems Theory, has been utilized in this particular study of the effects of pre-kindergarten attendance on reading readiness. The general systems theoretical concept has found its way into all fields of science, including the social sciences. Von Bertalanffy (1968) discussed how general aspects and viewpoints are alike in different sciences and formally identical or isomorphic laws are frequently found in different fields. He stated, “In many cases, isomorphic laws hold for certain classes or subclasses of systems, irrespective of the nature of the entities involved” (p. 37). Thus, general systems theory is a general science of “wholeness” that helps to explain the juxtaposition of individual organisms within a larger system (Sciaraffa, 2004). In essence, according to Shaefer (1980), “General Systems Theory is the identification of elements and the discovery of the relations between them” (p. 1).

Von Bertalanffy (1968) also claimed, “Every living organism is essentially an open system. It maintains itself in a continuous inflow and outflow, a building up and breaking down of components, never being, so long as it is alive, in a state of chemical and thermodynamic equilibrium but maintained in a so-called steady state which is distinct from the latter” (p. 39).



An example of this open system is a social system. Two major classes of social systems are institutions and individuals (Getzels & Guba, 1957). Getzels and Guba (1957) further explained:

Institutions have certain roles and expectations that form normative activity within a social system; while individuals with certain personalities and need-dispositions make up the personal activity within a social system. To understand the nature of the observed behavior and to be able to predict and control it, we must understand the nature and relationships of those elements. (p. 424)

In his study for Texas A&M University-Commerce, Shaw (1998) used General Systems Theory as a theoretical framework to 1) identify operational problems, 2) planning solutions to solve problems, and 3) executing solutions (p. 5). This study examined the relationships between administrators and students and the effects on the school system as a whole by conducting interviews and collecting data. The study revealed that certain factors operate within the school system and these include both teachers and students (Shaw). In essence, Shaw found “General Systems Theory is considered a theoretical framework which can provide an organized context for the educator” (p. 28).

Similarly, Systems Theory provided a context for the study into the influence of pre-kindergarten attendance on reading readiness. The former study by Shaw and the current study both take into account various factors within the school system. For the current study, parental involvement, teacher interaction, and socioeconomic situations comprise some of the key aspects that have been examined to determine a conclusion. Similar to the study at Texas A&M University-Commerce, the current study gleaned information through interviews and various data sources. Once the data were analyzed, a determination was made regarding the impact of pre-kindergarten on the school system as a whole. This was a key in determining the

effectiveness of the structure of the organization. Both research projects utilized the study of subsystems to draw conclusions on the system as a whole.

This particular study into the effects of pre-kindergarten on reading readiness used systems theory as a theoretical framework based on the information described in this chapter. Systems theory offers a powerful conceptual approach for grasping the interrelation of human beings, and the associated cognitive structures and processes specific to them, in both society and nature (Laszlo & Krippner, 1998). The school itself can be viewed as a social system that is characterized by social interactions within the given boundaries of the pre-kindergarten classroom. However, other variables, such as the students' socioeconomic status and curriculum, will also affect the individuals and the school as a whole.

### **Participants**

Beginning with the 2010-2011 school year, Central Public Schools began offering parents the option of enrolling their children in a full-day pre-kindergarten program. Many parents chose to take advantage of this opportunity. However, some families made the decision to keep their children at home or in daycare until it was time to begin kindergarten. All of Central pre-kindergarten students attend school in the same building, Central Primary. Once they have completed this grade level, these students attend one of three possible elementary schools based on the place of residency. I believe this is a sufficient pool to make up an acceptable sample for the purpose of this case study.

For the purpose of the study, I used assessment data from individuals from two years that fall into one of two categories. Those that attended pre-kindergarten prior to entering kindergarten and those that did not. Inside each category, the possibility to further examine other

demographic information will exist. Such examination can include socio-economic status, race, and gender, and a further analysis of each variable could extend to future studies.

Another group of participants in this case study is early childhood educators from the various Central Elementary Schools. The teachers that I observed and interviewed were limited to those in their current position each of the last two school years. These teachers hold an enormous depth of knowledge on the subject at hand. They have provided their professional opinions on both the ability of the students that have been in their classrooms, the existing curriculum alignment between pre-kindergarten and kindergarten, as well as their opinion on the assessment instrument in relation to actual reading readiness.

### **Data Collection**

In naturalistic inquiry, according to Erlandson et al. (1993), the purpose is to gain an understanding by experiencing events as the organization experiences them and to examine the organization from the view of its members. Purposive sampling is a must in this type of approach. Erlandson et al. (1993) pointed out that “purposive and directed sampling through human instrumentation increases the range of data exposed and maximizes the researcher’s ability to identify emerging themes that take adequate account of contextual conditions and cultural norms” (p. 82).

The three collection methods mentioned earlier allowed me the opportunity to gain knowledge on the experience the school provides to pre-kindergarten students. Direct observation of the pre-kindergarten classrooms at Central Primary provided a better understanding of the environment the students are in each and every day. By interviewing the select group of early childhood teachers, I was able to see the program from their professional viewpoint. I stressed to the selected teachers the importance of an honest evaluation to this study

and the future of this and other pre-kindergarten programs. Also, in order to have a complete triangulation of the data, the results of a reading assessment tool given to all incoming kindergarteners at Central Public Schools has been thoroughly analyzed to complete the case study.

## **Interviews**

Using interviews as a component of data collection has many advantages, and two of these have been particularly useful for this research project. The participants were able to provide historical information, and as the researcher, I was able to control the line of questioning (Cresswell, 2009). In support of the purpose of this case study, a select group of early childhood educators were interviewed in a controlled environment that was comfortable to the interviewees. According to Patton (2002), qualitative inquiry typically focuses in depth on relatively small samples. For this specific qualitative study, the teachers were purposively selected based on a given criteria. The criteria used for selection was as follows: 1) must have been in current position for a minimum of two years, 2) teachers were chosen from each of the three Central Elementary Schools, and 3) each teacher chosen had been adequately trained in various reading assessment tools. The teachers meeting these criteria were viewed as key informants. Lodico et al. (2010) described these persons as having some specific knowledge about the topic being investigated.

Harris (2005) explained that the role of teachers has changed radically in recent times. Teaching has expanded from not only classroom instruction, but also into school wide decision-making and curricula development. With this shift in mind, the teachers have been and will be playing an even larger role in the development of this and other early childhood programs. Thus, the insight of this purposeful sampling was extremely beneficial as I attempted to determine if

attendance in pre-kindergarten provides a benefit to the students in relation to school readiness goals. The interview questions incorporated to the study are listed in Appendix A.

## **Observations**

For the second component of data collection, I observed various literacy activities throughout the course of a day in a pre-kindergarten classroom. This provided an opportunity to see firsthand the interactions of early childhood teachers with the youngest students in their own environment. This firsthand experience, according to Patton (2002), allowed me, as the researcher, to be open, discovery oriented, and inductive because I had less need to rely on prior conceptualizations of the setting.

Patton (2002), pointed out that ethnography is the earliest distinct tradition of qualitative inquiry. The observation portion of this research project took on ethnological traits. One of the key components was the assessment of the information gathered through the setting and the recognition that the setting itself has a role and function in the study (Lodico et al., 2010).

An ethnographic study, according to Lodico et al. (2010), also requires the researcher to gain the perspective of the participants by immersing himself somewhat into the group being studied. Another major aspect of an ethnological study involves awareness that other issues must be considered. This could be accomplished by further examining the socio-economic status of the groups that are being studied.

I have taken detailed notes of the setting, participants, and the activities taking place. In order to have a successful observation that can add data to the study, Lodico et al. (2010), suggest recording descriptive field notes to include the following information:

- Time, date, location, and length of observations
- List of participants

- Detailed descriptions of persons, interactions, activities, and settings observed
- Verbatim conversations and direct quotes

Throughout the various observations, it was my hope that I would be able to correlate the pre-kindergarten curriculum with actual literacy lessons as the classroom instruction unfolds. I think it is imperative to see actual instruction firsthand, as opposed to seeing the plans simply on paper. In order for the pre-kindergarten students to receive the basic literacy skills necessary to be successful, they must be receiving quality instruction on a daily basis. As a public school superintendent, it is my belief that I possess the knowledge to recognize and monitor what is meant by “quality instruction.”

### **Instrument**

The instrument employed to complete the triangulation of data was the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) Next. DIBELS Next is comprised of seven measures to function as indicators of phonemic awareness, alphabetic principle, accuracy and fluency with connected text, reading comprehension, and vocabulary. DIBELS Next was developed to monitor growth in the acquisition of critical early literacy skills to (a) identify children in need of intervention and (b) evaluate the effectiveness of intervention strategies (Good III, Gruba, & Kaminski, 2001).

One of the tremendous benefits of this evaluation instrument is the reliability and validity when measuring literacy skills. This assessment is intended to be given and scored exactly the same way by each assessor, which allows for a more accurate depiction of children’s skill level (Kaminski & Good, 2010). This consistency allows educators to measure the same thing from child to child. The results of the instrument are valid and strong because it tests exactly the skills we desire and need it to assess. DIBELS Next is also standardized, which allows for comparison

across the many students being screened. This was extremely beneficial as this study moved forward.

Each student entering kindergarten at any of the three elementary schools at Central is given the DIBELS Next at the beginning of the school year in August. The initial DIBELS Next assessment can best be described as a tool that gives a picture of the literacy health of a child at that particular time. This initial assessment focuses on phonemic awareness. According to Kaminski and Good III (2010), “Phonemic awareness is the understanding of the sound structure of our language. It also includes the understanding that spoken words are made up of sequences of individual speech sounds” (p. 28).

Peterson and Kaminski (2008) stress that “phonemic awareness is essential to learning to read. All words are made up of sounds/phonemes and letters represent sounds/phonemes” (p. 12). Phonemic awareness is a strong predictor of children’s reading acquisition and achievement. It is very important to also mention that phonemic awareness can be taught and reading outcomes are drastically improved when children learn phonemic awareness skills (Peterson & Kaminski, 2008).

First Sound Fluency (FNF) is the first skill measured, and it can be a key indicator of early phonemic awareness. FNF assesses a student’s fluency in identifying the initial sound(s) within a spoken word. Initial sounds, or onsets, include the first group of sounds in the word. At the beginning of kindergarten, this does not necessarily include individual phonemes. For example, Kaminski and Good (2010) explained:

The initial sound in “crab” may be identified as either /kr/ or /k/. Developmentally it is easier for children to hear the onset, or initial group of sounds in the word, than to isolate

the initial phoneme. For example, it would be easier for a kindergarten student to hear /str/ at the beginning of “street” than /s/ (p. 30).

When scoring FSF, a student receives 2 points if he or she is able to say the correct initial phoneme in isolation and he or she will receive 1 point for saying the correct initial sound.

Letter Naming Fluency (LNF) is the other skill measured at the beginning of the kindergarten year. Letter naming is a strong and robust predictor of later reading performance. It is also used in the DIBELS Next assessment as an indicator of additional risk for the child. LNF is a brief and direct assessment that measures a student’s ability to recognize individual letters and say their letter names (Kaminski & Good III, 2010). This part of the assessment simply requires the assessor to show the students a page of letters and the student must say the names of the letters. Scoring is very basic. It is based on the number of letters a student can correctly name in one minute. Samples of a DIBELS Next scoring sheet, Composite Score worksheet, a list of kindergarten benchmark goals and cut points for risk, as well a summary of benchmark goals and cut points are included in Appendix B.

## **Data Analysis**

### **Qualitative Research**

In the data analysis portion of the case study, Cresswell (2009) explained that analyzing the data might have several components, which includes making sense out of text and image data. Once the data was generated from each of the three sources described in this chapter, the data triangulation process was able to begin. In order to have successful triangulation, all of the data had to be coded, which allowed for the identification of any themes and patterns that had emerged. Erlandson et al. (1993) explained that triangulation allows “the researcher to seek out several different types of sources that can provide insights about the same events or



relationships” (p. 115). This triangulation allowed me, as the researcher, to validate and crosscheck findings. Each type and source of data collected has strengths, as well as weaknesses. Using a combination, or a triangulation approach, I was able to increase validity as the strengths of one data source compensated for the weaknesses of another (Marshall & Rossman, 1989).

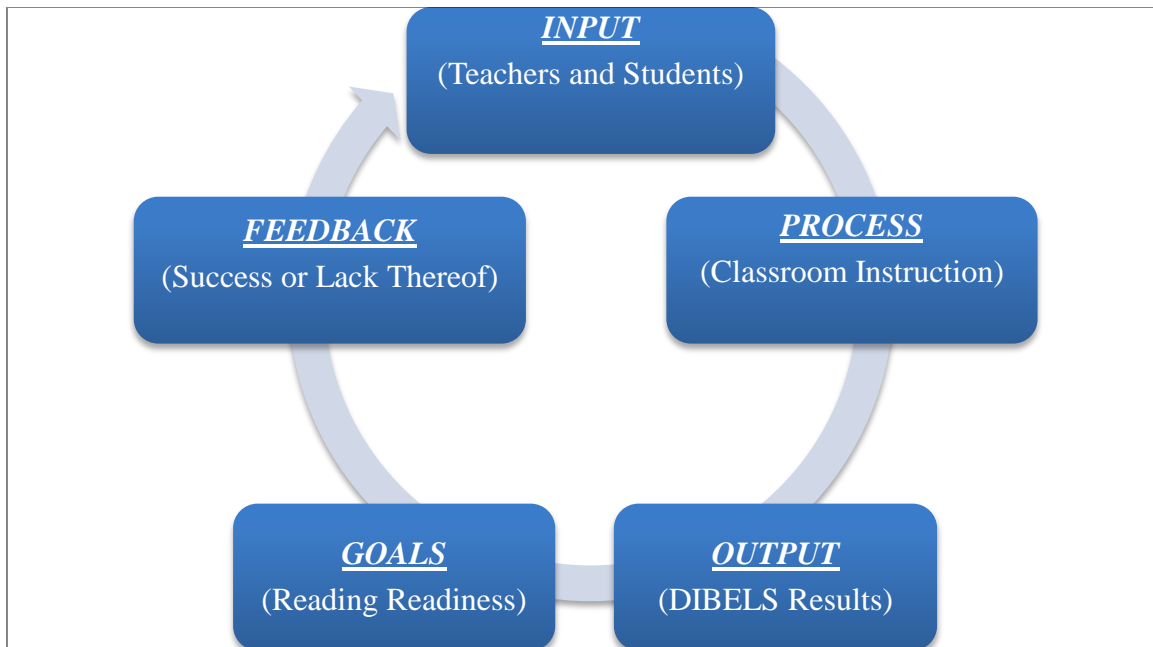
According to Harris (2006), “Theoretical frameworks help shape and direct a study as well as offers means to build upon and link a study to the broader body of literature” (p. 148). In discussing qualitative research, Harris (2006) reported the following:

Qualitative research asserts distinct paradigmatic assumptions regarding, among other things, the nature of reality, emergent design, transferability of findings, and holistic consideration of cause and effect relationships. Qualitative researchers embrace the notion that entities are in a continual state of mutual, simultaneous shaping (p. 140).

Kearney and Hyle (2006) remarked, “One of the greatest challenges in qualitative research is finding a starting place for sorting the masses of data that are collected” (p. 121). “Between periods of data collection and at the conclusion of data collection,” explained Erlandson et al. (1993), “analysis enables the formation of a gestalt from the seemingly isolated descriptions provided as well as from those that seem to have naturally emerged together” (p. 116). Pieces of the information gleaned from the data collection were coded in order to be readily available as part of the audit trail (Erlandson et al., 1993). These pieces of information, or concepts, enabled me, as the researcher, to relate past events to those in the present or future (Anfara & Mertz, 2006).

According to Anfara and Mertz (2006), “A useful theory is one that tells an enlightening story about some phenomenon. It is a story that gives you new insights and broadens understanding of the phenomon” (p. xvii). “When we develop theory,” continued Anfara and Mertz (2006), “we have completed a highly abstract thought process with ideas being removed in successive stages from the world of immediate experience and sensation. Even though abstract, theories are profoundly helpful for understanding the experienced world” (p. xv). General Systems Theory provided the structure for analyzing the individual components of the pre-kindergarten program on the school as an entire system. According to Shaeffer (1980), General Systems Theory allows a description, explanation, and application to be placed on the school setting as a whole. The data collected became the building blocks and the theory itself was utilized to connect this foundation in a way to describe the output.

The key components, or building blocks, of this research study followed the pattern on system theory as described by Shaw (2009). Simply put, I examined the inputs, outputs, goals, and feedback. Figure 3.1, adapted from Shaw (2009), displays the basic cycle that occurs in any system, which in this case, is a school district. Each of these components has been researched using the data gathering techniques described earlier. These concepts allowed me to make a determination on the impact of pre-kindergarten attendance on reading readiness.



*Figure 3.1: Cycle of Systems Theory (Shaw, 2009).*

### Quantitative Research

In order to further analyze the collected data, two separate, but related, quantitative analyses were also performed. These tests included both a chi-square and a simple regression test. The goal of these analyses was to further solidify any conclusions that were reached. In both instances, two variables were considered. According to Lodico, Spaulding, & Voegtle (2010), “The variables need to be specified in an experiment in so that it is clear to readers what groups are receiving the experimental treatment and what outcomes are being measured,” (p. 157). These two constants in this particular study consisted of pre-kindergarten attendance as the independent variable and the DIBELS assessment results as the dependent variable. “By definition,” states Bryant (2004), “an independent variable is one that varies independently of others and a dependent variable is presumed to be dependent on another variable” (p. 97).

“The researcher must select a statistical test that is appropriate for the level of measurement used in the study,” asserts Lodico, Spaulding, & Voegtler (2010, p. 187). A commonly used inferential statistical test that was chosen for this study was a chi-square. The chi-square test is an analysis of statistical significance performed on categorical data (Curtis & Youngquist, 2013). In essence, data that can be placed into nominal categories, such as pre-kindergarten attendance and DIBELS screening results which are included in this particular statistical test.

This study also incorporated a simple regression test in order to provide an additional mechanism for analyzing the relationship between the variable of PK attendance as a contributing factor to student readiness in kindergarten. Regression analysis provides a statistical tool to discover possible relationships between variables (Sykes, 1992). By utilizing this test, I was able to further determine the causal effect of pre-kindergarten attendance on school and reading readiness.

The simple regression analysis took into account the sample under study and also adjusted for a larger population of students. This adjustment allowed for a broader understanding of this particular issue. In reference to this type of research, Lodico, Spaulding, & Voegtler (2010) stated the following:

Quantitative studies generally want to know if the results obtained on the sample would also be true if the entire population was included in the study. In other words, are the results generalizable to the population from which the sample was selected? (p. 248-249)

## CHAPTER IV

### PRESENTATION OF COLLECTED DATA

The purpose of this study was to explore a selected pre-kindergarten program and the extent of its provision for school readiness using General Systems Theory. The information being presented was gleaned from a school district that has multiple elementary schools that receive students from a single pre-kindergarten program. Attendance in the district's pre-kindergarten program is not mandatory; therefore, the sample chosen to be involved in the study consisted of students that both attended pre-kindergarten and those that did not attend the selected pre-kindergarten program.

In this chapter is a presentation of data I collected from a variety of sources. Initially, two years of test results from the DIBELS Next assessment were reviewed to determine a possible differentiation between students that attended pre-kindergarten and those that did not. Next, interviews with highly-qualified early childhood teachers were conducted to get a first hand viewpoint of the differences seen in school readiness behaviors in those students that attended PK and those that did not. Finally, classroom observations are described in order to provide a backdrop for the activities that students in pre-kindergarten participate in on a daily basis. Throughout this chapter, the above-mentioned data is described in detail individually for each of the three elementary schools, as well as the primary school in the Central School District.

## Northern Oaks Elementary

### Background

Northern Oaks Elementary is the newest elementary in the Central School District. The doors to this elementary opened in August of 2010. Like the other two elementary sites, Northern Oaks houses students in kindergarten through fourth grade. For the first three years, enrollment at this site steadily remained at approximately 400 students. In 2013, enrollment has grown to almost 450 students, which made Northern Oaks the largest elementary in the district. The elementary schools in Central are divided into separate attendance boundaries and Northern Oaks serves the southwest corner of the district. This school site is located on the Northwest Expressway in Canadian County and has a Central mailing address, although it is officially located in the city limits of Oklahoma City. Figure 4.1 is a photograph of Northern Oaks Elementary.



*Figure 4.1:* Photograph of Northern Oaks Elementary

In the short time that Northern Oaks Elementary has been in existence, it has experienced excellent academic results. When Oklahoma's current standard for comparing and grading schools were rolled out in 2012, Northern Oaks Elementary achieved a grade of "A". This distinction put Northern Oaks in a very small percentage of high achieving schools. Northern Oaks is also fortunate to have the benefit of strong parental support. Many of the classrooms at this school are able to accomplish 100% attendance at all parent/teacher conferences. In addition, Northern Oaks has a high number of parent volunteers that assist in duties ranging from active roles in the PTO to spending time in the library reading to students. Northern Oaks Elementary has a school wide theme of "Team Northern Oaks". The educators at Northern Oaks truly believe that if they are able to come together with students, parents, partners in education, and the community, then "Team Work will make the Dream Work!"

## **Participants**

**Ms. Brown, Reading Specialist.** Ms. Brown has been teaching in her current position at Northern Oaks Elementary for four years. Before transitioning into her current position, Ms. Brown spent eighteen years teaching kindergarten and first grade. These various experiences has allowed Ms. Brown to become very knowledgeable in the areas of early childhood education and reading readiness.

As a reading specialist, she works with children on a daily basis that have reading abilities below grade level. When asked what factors led her to this type of career, she stated emphatically, "I had a real desire to explore the reading process more and to determine what and how I best can help struggling readers." In regard to school readiness, Ms. Brown believes that the process begins even before children come to school. She pointed out that, "Readiness to

learn comes through language and their interactions at home with the vocabulary that they get from their parents.”

**Ms. Gray, Kindergarten Teacher.** Ms. Gray began her career in education as a kindergarten teacher before moving to teach first grade. Subsequently, she made the decision to stay at home with her children until they reached school age. Once her children began their formal schooling, she was eager to return to the classroom and teach students in her current position. In discussing what factors were instrumental in choosing this career, Ms. Gray quickly pointed out, “I just get so excited about watching kids grow and learn, and they get so excited about learning different things, like learning to read.” She continued by saying, “It’s so exciting to watch them start from the beginning of just learning their letters and sounds to at the end of the year they’re reading and they’re writing complete sentences.”

### **DIBELS Results**

During her interview, Ms. Brown explained that Central Schools use the DIBELS Next assessment to determine the skill level of the students. She also further clarified that this particular assessment is done in an individual, one-on-one setting and it begins with letter naming. At the beginning of the 2011-2012 school year, kindergarten students at Northern Oaks Elementary participated in the initial DIBELS assessment. Seventy-seven students from four different classrooms were screened with this age appropriate assessment tool. Of the 77 kindergarteners, 67, or 87%, of the students scored at or above the benchmark on the DIBELS Composite Score. Of the remaining 10 students, 5 scored below the benchmark and 5 scored well below the benchmark.



For the purpose of this study, these results are disaggregated even further. In order to help understand the potential for pre-kindergarten to assist in the preparation of reading readiness, I also conducted an examination on which of these 77 students attended pre-kindergarten and then began analyzing their assessment results. In addition, the results of the students that did not participate in pre-kindergarten were also scrutinized. Of the 77 kindergarten students at Northern Oaks Elementary enrolled during the 2011-2012 school year, 56 attended pre-kindergarten at Central Primary. Of these students, 91% scored at or above the benchmark on the beginning of year assessment. The remaining 21 students that had not attended Central Primary did not fare as well on the initial assessment. Sixty-seven percent of these students fell into the below or well below benchmark category.

In a repeat of the previous year, 77 students from four classrooms were assessed using the DIBELS instrument at the beginning of the 2012-2013 school year. Once more, 87% of the kindergarteners scored at or above the benchmark on the DIBELS Composite Score. Six of the remaining ten students scored below the benchmark and additionally, four kindergarten students scored well below the benchmark.

During the 2012-2013 school year, 66 of the 77 Northern Oaks Elementary kindergarten students attended PK at Central Primary. This figure was an increase of ten students over the previous year. Of these students, 88% scored at or above the benchmark on the DIBELS Composite Score. However, unlike the year before, those students who did not attend Central Primary also fared well on the assessment tool. Nine of these remaining eleven students also fell into the group of at or above benchmark. The 2011-2012, as well as the 2012-2013 DIBELS beginning of the year results, for both groups of kindergarten students are illustrated in figure 4.2.

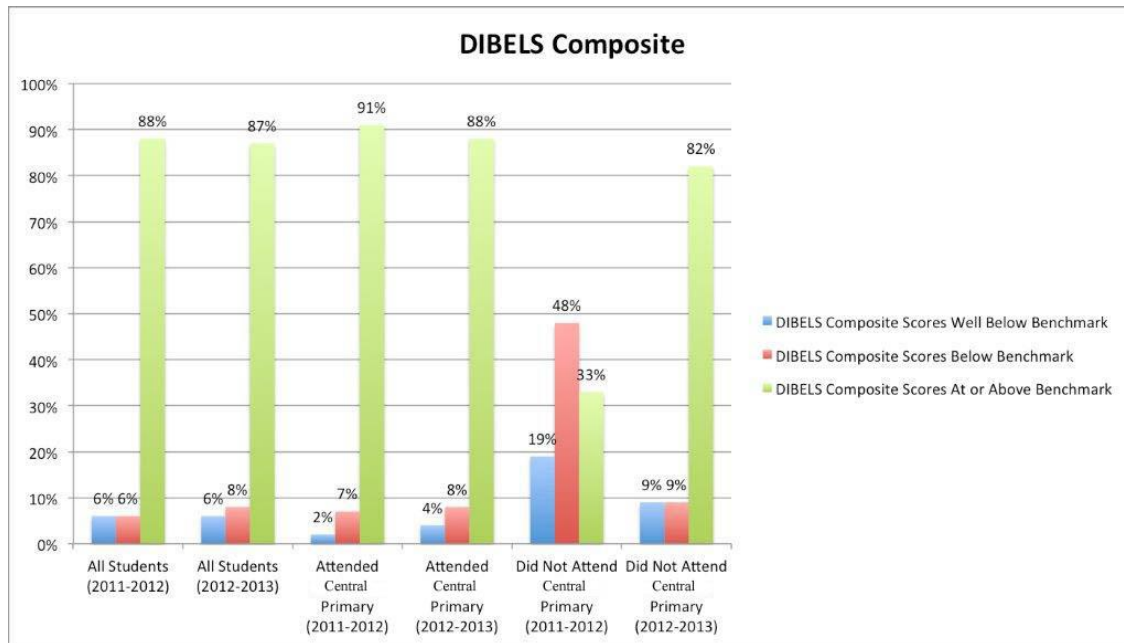


Figure 4.2: Northern Oaks Elementary 2011-2012 and 2012-2013 DIBELS Composite Scores.

### School and Reading Readiness

When a question was posed regarding school and reading readiness, Ms. Gray used her background in both pre-kindergarten and kindergarten to point out the following:

“When they go to pre-k, the majority of them learn all of their sounds, and all of their letters. And so, they do that, and they are prepared to come to kindergarten, and it helps us when they do know their letters and sounds. And then we can start reading once they get into kindergarten. So, I feel like they’re prepared in pre-k, then we can help them and just take off when they get to kindergarten.”

Ms. Brown, who works with students that are below grade level, also believes there is a distinct difference between the students that had an opportunity to attend pre-kindergarten and

those that did not. When asked why she believes these differences exist, her explanation consisted of the following:

“Well they’ve been in a school setting, and not only that, not only have they had the environment of working with other boys and girls and learning, the theorist all talk about how learning is best in a young child when they’re learning together. And they don’t have that opportunity at home when they’re just with mom, or possible one sibling. It’s different.”

In addition to young students having interaction with other children, Ms. Brown also specified other important aspects of PK attendance. She revealed the following in relation to language opportunities:

“I think that we know that letters and sounds of course are very important for children as they learn to read, but also I think the language piece is very important, and at home, they have opportunities for that, but there’s a totally different environment at school where they can make sure that conversations are about books and about learning. That really sets the stage for their ability to learn greater.”

### **Benefits and Negative Aspects to PK**

Ms. Gray also felt strongly that PK prepares young children for school. She articulated, “They learn all of their letters, most of their sounds. It prepares them socially, academically, in every area.” However, unlike the other interviewees, she also saw a negative aspect to pre-kindergarten.

“I think they’re very young. I think they’re too little to be going to school all day, and I think that a lot of parents do use it as a daycare. And so, I think that some of those little ones just cannot handle it. I mean, some of them can’t even handle coming to kindergarten full day.”

When asked if she has seen any negative aspects of pre-kindergarten education, Ms. Brown emphatically stated that she did not. “When I graduated from college in the early 1990s,” Ms. Brown described, “everything was to be developmentally appropriate.” She continued by saying, “I think there’s been a big shift that just because it may be a greater amount that we present to young children, it’s not necessarily inappropriate. It’s just they’re able to do those things.”

## **Central Elementary**

### **Background**

The motto for Central Elementary is “Learning Today, Leading Tomorrow”. This particular school has the distinction of being Central’s original elementary school and over the course of time; Central Elementary has seen a wide variance of grade configurations. With the opening of Central’s newest school site in 2012, Central Intermediate, which is home to the district’s fifth and sixth graders, the original elementary grade levels were adjusted to kindergarten through fourth grade. Located in the middle of Central’s city limits, this elementary serves students who live in town and those that reside in the northern portion of the district. Below, figure 4.3 shows a photograph of Central Elementary.



*Figure 4.3: Photograph of Central Elementary.*

Central Elementary has a current enrollment of 432 students. Working with these students on a daily basis is a terrific collection of professional educators. These educators include over thirty highly qualified early childhood, elementary, special education, music, and physical education teachers, a library media specialist, one counselor, a speech pathologist, principal, nurse's aide, and numerous invaluable support personnel.

Central Elementary, similar to the other school sites, also has a great deal of technology in order to enhance and facilitate learning. This technology includes an interactive SMART Board in every classroom; a mobile laptop cart; Google Chromebooks in the second, third and fourth grade classrooms; and Ipads in the kindergarten and first grade classes. The teachers receive constant professional development on these learning tools, in order to stay up-to-date.

## **Participants**

**Ms. Green, Kindergarten Teacher.** Ms. Green has been teaching at Central Public Schools for the past two years. Prior to this current teaching assignment, Ms. Green worked at the state level coordinating early childhood programs. Both of these experiences have given Ms. Green a vast background and knowledge in assisting children as they prepare for future school success.

During an interview session, I asked Ms. Green what led her to a career in early childhood education. Ms. Green responded very emphatically by stating, “I have known since I was in second grade that I wanted to be a teacher and work with kids in education.” She continued her answer by sharing, “An inspirational teacher was the main reason that led me into education.” This is a great example of the impact a single teacher can have on the lives of his/her students.

**Ms. Black, Kindergarten Teacher.** Ms. Black has been an early childhood educator for many years. In addition to her current position as a kindergarten teacher, she has also had the opportunity to teach pre-kindergarten and first grade. This vast experience has allowed Ms. Black to become extremely familiar with the various aspects early childhood education and the impact on school and reading readiness.

“I have always had a love for children,” acknowledged Ms. Black while discussing the factors that led her to a career in education. She continued by saying, “My father was a fourth grade teacher and a special education teacher for many years, and started the love for me.” Ms. Black made it very clear that education was a part of her life from an early age and she admired what a difference and impact her father had on the children he taught.

## **DIBELS Results**

During her interview, Ms. Green gave a good explanation of the phonemic awareness portion of the assessment. She explained, “I’ll give a word and then they have to tell me the first sound that they heard.” When asked if she believed this assessment is a good gauge of where kindergarten student performance, she replied, “Definitely.” She then added, “Children that have not been in more formal schooling, to the pre-k, they struggle a little bit with that assessment because the DIBELS is very scripted and there’s only certain things you are allowed to say to the student.”

Ms. Black also gave an explanation of the DIBELS assessment process for screening young students. When asked if teachers pulled out students individually for the assessment, she replied, “We do.” She also stated there are no distractions. During the assessment, it is just the teacher and the child in a room. When asked to give more details about the assessment, she stated the following:

“We have a list of all the letters and we point to them and they read back to us the letters that they see, and that gives us an idea of what letters they know. It can help us to know where to start them when the test is over.

Ms. Black also mentioned that she feels it is a good gauge to see what the young students know.

At the beginning of the 2011-2012 school year, students from Central Elementary joined Northern Oaks and Eastern Ridge Elementary by participating in the DIBELS Next screening. For this initial assessment, 71 students from four separate classrooms participated in an evaluation on First Sound Fluency and Letter Naming Fluency. The results of the assessment of each of these skills were used to determine a composite score. Fifty-five of these students scored

at or above the benchmark, while the remaining 16 were split evenly between the below benchmark and well below benchmark categories.

While breaking down these scores more in depth, I learned that 53 of the 71 Central Elementary kindergarteners attended PK at Central Primary. Of these students, 81% were considered at or above the benchmark on the initial DIBELS screening. The remaining 18 students did not attend pre-kindergarten in the Central School District and these students struggled on this assessment tool. Of the 18 students, 14 fell into the below benchmark or well below benchmark category.

Enrollment at Central Elementary increased during the 2012-2013 school year. Eighty-eight kindergarten students from four separate classroom participated in the beginning of year DIBELS screening. However, the number of students scoring at or above the benchmark decreased from 78% the previous year to 69%. Of the remaining students, 18% scored below the benchmark, while 13% were categorized as well below the benchmark.

Looking at the previous years' enrollment at Central Primary, I found that 68, or 77%, of the Central Elementary' kindergarten class had attended pre-kindergarten. This was an increase of 15 students from the previous school year. The 68 students did fairly well on the initial screening. Seventy-six percent of this group scored at or above the benchmark on the composite score. Only six of these students fell into the well below benchmark grouping. Twenty of the Central Elementary kindergarten students had not attended PK. Of these students, 55% scored below or well below the benchmark. Figure 4.4 illustrates the DIBELS results for both groups of kindergarten students for both the 2011-2012 and 2012-2013 school years.



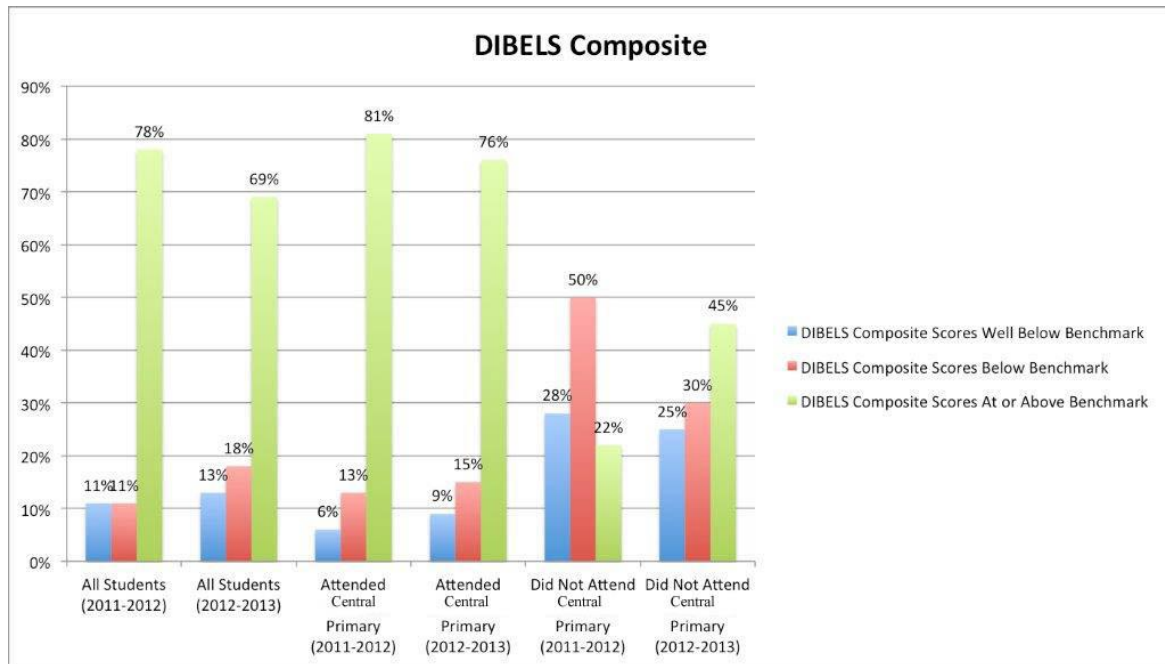


Figure 4.4: Central Elementary 2011-2012 and 2012-2013 DIBELS Composite Scores.

### School and Reading Readiness

A common theme among the interviewees centered on school and reading readiness. Each of the interviewees agreed they could see a definitive difference in those students that have attended PK and those that came to kindergarten with no formal schooling experience. Ms. Green pointed out, “Children who have not attended pre-k are not used to a formal school setting.” Ms. Black continued along these same lines by adding the following:

“I had a sweet boy last year that did not attend pre-k and came straight to kindergarten. They don’t know how to come into a classroom, they don’t know rules, they don’t know procedures, they’ve never been away from home. Especially from families that haven’t introduced or haven’t put any school into their child or they haven’t sat down with them and worked with them at home. He struggled all year long and he’s having to repeat kindergarten. I believe if he had attended pre-k, he could have moved on.”

Ms. Black spoke even further about the difficulties students have when they come from homes that do not stress early literacy skills. She pointed out the following:

They don't practice it, they don't use any of it at home, they're just sending their kids to school. When you have that and them coming from no educational background, where they don't know letters, they don't know number, and that make it so hard.

During her interview, Ms. Green, showed a different perspective. "As a school, we need to be ready for kids no matter how they come to us or what walk of life they're from," she pointed out before adding, "I need to be ready for them to enter my classroom." During our interview, Ms. Green also noted, "that we cannot control what happens at home and we can only hope that parents do their part to get their children ready." While discussing children that had not attended pre-kindergarten, Ms. Green pointed out, "The whole school situation is unfamiliar to them. I'm unfamiliar to them, and I'm asking them to name letters and so it can be an intimidating process."

### **Benefits and Negative Aspects to PK**

Each of the early childhood educators interviewed for this study were asked their opinions on the benefits or negative aspects of pre-kindergarten attendance. Ms. Black had the following response to the question:

They're able to come to kindergarten knowing all letter sounds or starting to know most letter sounds, they come knowing almost every letter of the alphabet, and I think when they can come to us knowing that we can jump ahead and start sight words easily, we can start teaching them how to read.

During the course of the conversation, Ms. Black also specifically pointed how important PK attendance is to building a foundation for reading.

I believe that all kids need to come to school ready to learn starting in preschool, building a foundation of learning letters, learning sounds, learning numbers and number sense. So when they go up from pre-kindergarten to kindergarten they are ready to start reading.

During her interview, Ms. Green stressed that she feels pre-kindergarten is critical to school and reading readiness.

I can tell within the first week which kiddos had gone to pre-kindergarten and which had stayed home or done another program. I think it's essential for kindergarten. I can't imagine not having it and I think that in Oklahoma, we're so lucky to have such an established pre-kindergarten program and in this district to have it be such a respected and valued grade level. I think that's really important because I could, without even formally assessing kids, I could tell you which ones had gone to pre-kindergarten and which ones had not. So, I think it's very important.

Ms. Green also shared that she does not really see any negative aspects to PK education. She acknowledged that the opponents of pre-kindergarten wish that mothers could stay home, and in an ideal world she felt that would be great for everybody. However, she does not feel that is realistic in today's world of mothers working outside of the home. She noted, "Pre-kindergarten, with a bachelor's degreed certified teacher and state standards, I think there's nothing better for kids."

## **Eastern Ridge Elementary**

### **Background**

Eastern Ridge Elementary was the second elementary to be built in the Central School District. In 2006, the construction of Eastern Ridge was complete and the building was first opened. Eastern Ridge is located in the eastern side of the Central School District. The location of this school is unique because it is a Central School in Oklahoma County and in the city limits of Oklahoma City, however it does have a Yukon address. Currently, the enrollment at Eastern Ridge is the smallest of the three elementary sites, although this area of the district is beginning to grow at a rapid pace.

Currently Eastern Ridge houses kindergarten through fourth grade students. Eastern Ridge Elementary has an instructional and support staff that is comprised of 25 certified employees and 16 non-certified individuals. Eastern Ridge lives by the motto, “We always expect the best and we always give the best.” The educational opportunities for the students at Eastern Ridge Elementary, similar to the other sites, are greatly enhanced with technology. This includes an interactive SMART Board in every classroom, thirty Apple Mac Air laptops on a portable cart, over 60 Ipads, and 48 Samsung Google Chromebooks. These learning tools are a significant advantage to the teachers and the students. Below, Figure 4.5 is a photograph of Eastern Ridge Elementary.



*Figure 4.5: Photograph of Eastern Ridge Elementary.*

## **Participants**

**Ms. White, Kindergarten Teacher.** Ms. White is a thirteen-year veteran in the area of early childhood education. Her background includes teaching experience in pre-kindergarten, kindergarten, and first grade. The knowledge that Ms. White has gained during these years gives her great insight into both the skills learned in pre-kindergarten and the effects this has on school and reading readiness.

When asked what led her into a career in teaching, Ms. White shared, “I have always loved working with children.” She continued by adding, “It is wonderful when you see one of your students grasp a new concept.” I think this statement sums up the feelings of quality educators. Excellent teachers truly do have a passion for working with children and judging by the interviews, each of these educators fall into this category.

## **DIBELS Results**

According to Ms. White, the DIBELS assessment is an age appropriate screening given three times a year to kindergarten students on an individual basis. “The initial assessment tests our kindergarten students on both letter naming fluency and phonemic awareness,” stated Ms. White. She continued by adding, “This gives us an opportunity very early in the year to see where our students are at and what skills need to be focused on in our small group activities.”

Of the three elementary schools in the Central District, Eastern Ridge had the lowest kindergarten enrollment for the 2011-2012 school year. The 63 students enrolled, however, had the highest percentage scoring at or above the benchmark on the beginning of the year assessment. 92%, or 58 students, achieved this top category. Of the remaining 8%, four students fell into the below benchmark range, while one student was considered well below the benchmark.

During the 2011-2012 school year, Eastern Ridge Elementary had 36 students who had attended Central Primary. When comparing the three elementary schools of Central, Eastern Ridge traditionally has the lowest number of students attending pre-kindergarten, which is largely due to the location being farther away from the Central Primary. These students that had the opportunity to participate in a pre-kindergarten program were very successful on the beginning of year DIBELS assessment. Each of these young learners scored in the at or above benchmark category in the composite score. On the other hand, those that entered kindergarten without the formal early childhood program also had achieved positive results. Twenty-two of these remaining kindergarten children at Eastern Ridge also were able to attain scores that placed

them in the top category. Only one child had a composite score that placed them into the well below group.

The 2012-2013 beginning of the year DIBELS assessment at Eastern Ridge Elementary showed a decline in scores from the previous year. Seventy-two students from four different kindergarten classrooms were screened in the same manner as both Northern Oaks and Central Elementary. Fifty-six of these students scored at or above the benchmark. Of the remaining sixteen kindergarteners, eleven students scored below the benchmark and five of the children scored well below the benchmark.

A larger portion of the 2012-2013 kindergarten class at Eastern Ridge Elementary attended pre-kindergarten at Central Primary. However, the composite scores for this group showed a significant decrease from 100% of the children scoring at or above the benchmark the previous year to 81% in 2012-2013. This equates to forty-three of the fifty-three students. During an examination of the children that did not attend PK, I discovered only six students scored below or well below the benchmark on the composite score portion of the assessment. The results of both the 2011-2012 and the 2012-2013 Eastern Ridge kindergarten students are illustrated in figures 4.6.

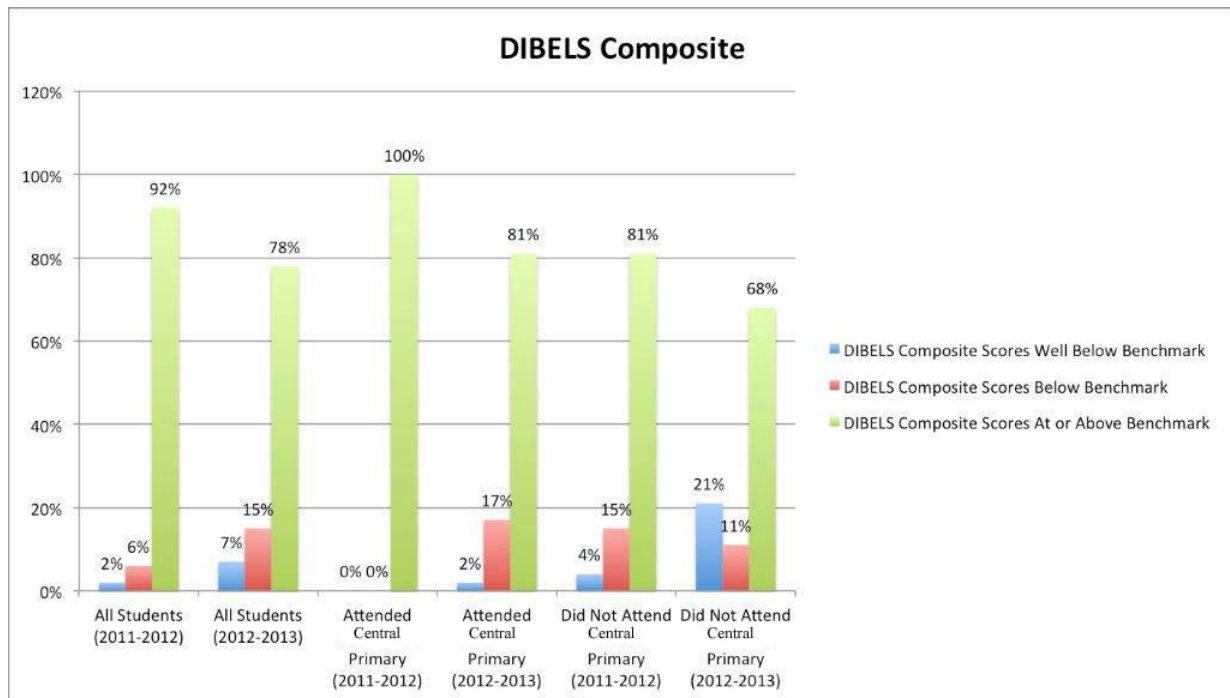


Figure 4.6: Eastern Ridge Elementary 2011-2012 and 2012-2013 DIBELS Composite Scores.

## Parental Involvement

During the course of the interviews, the effect of parental involvement became a common theme among the professional early childhood educators. In regard to this topic, Ms. White feels that early parental involvement is a key to school readiness. “When you start working with students on literacy activities, it is very clear which students are read to and exposed to books at home. Their understanding of certain necessary reading skills is much clearer.” She also believes the public library is a great opportunity for parents to get access and expose their children to books at an early age. She pointed out, “Our public library is a great resource for our parents to use.”



Active parental involvement and participation is strongly encouraged at Eastern Ridge Elementary. The school is constantly sending suggestions and reminders to the parents on the importance of reading to and with their children. Ms. White noted the following:

We try to always put in our weekly newsletters how important it is to read with your child. Twenty minutes a day can make a huge difference in the reading abilities of our kids. When we pull our students into our small groups of reading, I can tell which students have been reading at home and which ones haven't had that chance. We always try to stress how important it is.

### **Benefits and Negative Aspects to PK**

Over the course of the discussion with Ms. White, she indicated that she saw no negatives to PK attendance. She did however, echo many of the comments made by the other educators when describing the positive effects of PK attendance. Ms. White felt that students entering kindergarten benefited tremendously from knowing their letters and sounds. She said it is obvious at the beginning of the year, which students attended pre-kindergarten and which students did not.

Ms. White did acknowledge the concerns some have about four-year-olds not being completely ready to begin formal schooling at such a young age; however, she did share her belief that the PK teachers at the Primary School are using age appropriate methods and content, which will lead to greater student success. During her question and answer session, she communicated the following in relation to what she perceives as the positive aspects of pre-kindergarten attendance:

When we begin the school year, it doesn't take long to identify our kids that have gone to our PK program. The things like lining up to go to the bathroom or lunch or even recess are much easier with the students that have been in a formal school setting. Our PK does a good job of making sure our students have a handle on procedures which makes it easier to work with the kids.

## **Central Primary**

### **Background**

Central Primary opened its doors to students for the first time in 1997. Originally, the Primary school housed both pre-kindergarten and kindergarten children. In 2010, Central Public Schools made the difficult decision to divide and move the kindergarten students into each of the three elementary schools. This movement created the much needed space to accommodate the transition to full-day PK. Over the last few years, enrollment at Central Primary has steadily increased and is currently at 238 children. These students are spread evenly over eleven full-day classrooms, two half-day classes, and one developmentally delayed classroom.

Central Primary is fully staffed with dedicated and quality educators. Each class is taught by a certified and highly qualified early childhood teacher, and in addition to the teacher, each classroom has a full time teacher's assistant. This staffing makes a 10:1 child to teacher ratio possible. To support the teaching staff, Central Primary has a principal with a background teaching both early childhood and elementary aged children. Additionally, the principal is also a certified library media specialist. Three counselors from each of Central's elementary schools, spend one day a piece at the Primary working with the children on various skills and pertinent issues.

The motto of Central Primary, “Think you can, believe you can, do your very best,” is a principle that the faculty and staff of the school attempt to instill in their children each and every day. The early childhood educators in this school understand the importance of starting these young children on the path for school readiness and they take this responsibility extremely serious. Below, figure 4.7 is a photograph of Central Primary.



*Figure 4.7: Photograph of Central Primary.*

## **Observations**

Watching the interactions and daily routines of a pre-kindergarten classroom is truly a fascinating experience. Practically every morning at Central Primary, there is at least one student who would rather not be there. The administrators, teachers, and support staff do an excellent job of coaxing these students into school, while at the same time reassuring the parents that everything will be fine. The excitement and the energy surrounding this grade level can be

overwhelming to an observer, although to the trained eye of a pre-kindergarten educator, this is the epitome of early childhood education.

The classrooms of Central Primary are similar to other early childhood classrooms across the district. Many bright colors and pictures adorn the hallways and classroom walls. Also, in each pre-kindergarten classroom there is an enormous array of letters, sight words, word walls, numbers, number lines, and other items that are intended to stimulate learning and assist young children. Each classroom also has an assortment of technology in order to enhance the educational experience of the students. This includes Apple iPads and an Interactive SMART Boards.

Once the students arrive in the classroom, the daily routine begins. Routine is the one of, if not the most, important thing early in a school year. The first order of business is to unpack the backpacks, take attendance, see who has brought their lunch for the day, and take a count of those eating the cafeteria lunch. Next, the flag salute and the school creed are recited, and a moment of silence is observed. Subsequently, the next thirty minutes of class time is spent in “circle time” using the SMART Board for the calendar, weather, recitation of the days of the week and the months, as well as a number line, and familiar songs about letters, shapes, and colors.

The next hour is designated for literacy activities, and a portion of this time is set aside once a week for library book checkout. Before the small group center activities begin, the class as a group learns a new song. This particular week, it is the Y-E-L-L-O-W color song, and it is a tremendous hit among the students. The class is then divided into five “color” groups and each

has a center activity that they begin on a particular day. The center activities include writing, reading, listening, word work, and teacher time.

## **Basic Skills**

While observing a pre-kindergarten classroom, I was able to see exactly what Ms. Black was describing. Especially at the beginning of the year, procedures are greatly emphasized in the PK setting. Many aspects that are taken for granted are stressed and ingrained into pre-kindergarten students. These include lining up, sitting in a group, working quietly in a small group, going to the restroom, eating lunch in a controlled environment, sharing with other students, and a number of other important pieces that are vital to a successful school experience. Until a child is accustomed to these types of activities, it will be a struggle for the teacher to begin teaching any type of key literacy skills. This sounds rather simplistic until one considers that a pre-kindergarten teacher is attempting to train twenty four-year olds to adhere to these processes and procedures at the same time.

While observing pre-kindergarten classrooms, it was obvious that basic literacy skills were being introduced on a daily basis. PK teachers take every opportunity to embed these skills into every possible activity. Letter recognition and sound recognition are two key skills that are emphasized to the students. The singing of letter songs is a terrific and age appropriate exercise that students enjoy. Working on an Ipad is also a favorite activity among the students. There are numerous applications that PK students have at their fingertips that will enable them to better recognize both letters and sounds. This is a tremendous learning opportunity that was not accessible to earlier generations of students. Central Primary appears to be taking every

opportunity to use the latest technology to enhance the students' ability to achieve early literacy skills.

### **Summary**

The information presented in this chapter is a synopsis of the data gleaned from assessment results, teacher interviews, and classroom observations. The intent of this chapter was to provide a background and description of both the data, and the manner in which the data were gathered. The DIBELS test results allowed me, as the researcher, to have definitive data on the performance of both children that attended pre-kindergarten and those that did not. Interviews with early childhood educators provided a background to their respective experience, as well as the reasons they chose to work with children of this age. Observations were also presented in order to provide a portrait of the instruction that takes place in an early childhood classroom. In the next chapter, I have analyzed the above data in terms of the General Systems Theory.

## CHAPTER V

### DATA ANALYSIS

The previous chapter described the data collected from a variety of sources. These sources included teacher interviews and assessment results from the initial DIBELS screening at each of the three elementary schools of Central School District. In addition to this data, a description of classroom observations that took place at Central Primary was included. Having these various sources of information allowed for a triangulation and better understanding of the data.

Chapter V consists of an analysis of the above-mentioned data using General Systems Theory as the lens through which it is examined. The five aspects of the Cycles of the Systems Theory were useful in analyzing and explaining the data, categorizing emerging themes, and answering the aforementioned research questions. These components of the General Systems Theory consist of input, process, output, goals, and feedback. Each of these is described independently and in detail in order to better provide a clearer understanding of the effects of pre-kindergarten attendance on school and reading readiness.

## **Input**

The first component in the Cycle of the General Systems Theory is input. For the purpose of this research study, the input was the students and the teachers. Both of these groups obviously play an integral role in the education process. As presented in Chapter IV, I examined the performance and learning activities of 448 kindergarten students from three separate school sites. In addition to the students, I also conducted interviews with early childhood educators from Central Public Schools. The input of these particular teachers was vital as I attempted to answer the research questions set forth in an earlier chapter. Also, observations of pre-kindergarten classrooms provided valuable input into the acquisition of early literacy skills that will be necessary as these young children progress through school.

As mentioned earlier in Chapter IV, data from the elementary schools in the Central School District were collected in order to make a determination on the effects of PK attendance on school and reading readiness. These school sites include Central Primary, Northern Oaks Elementary, Central Elementary, and Eastern Ridge Elementary. The collected data included assessment results from the three sites housing kindergarten students, and observations from pre-kindergarten classrooms, as well as interviews with early childhood educators.

One of the integral inputs of this particular study that was analyzed was the DIBELS Next assessment results. As previously described in Chapter III, DIBELS Next is comprised of seven measures to function as indicators of phonemic awareness, alphabetic principle, accuracy and fluency with connected text, reading comprehension, and vocabulary. For the initial screening of kindergarten students, phonemic awareness, such as first sound fluency, is the main focus of the assessment. As one teacher observed in her interview, the first assessment is just



benchmark to examine the basic skills. This assessment allows kindergarten teachers an opportunity to see the needs of individual students, which in turn allows them to use prescriptive instructional activities to meet these needs. In essence, the data gleaned from this screening drives the necessary literacy instruction.

Ms. Green, during the interview portion of data collection, shared her belief that the DIBELS screening is definitely a good gauge to see where her students are starting out. Like the other interviewees, she sees students that have not had the formal pre-kindergarten experience, struggling during this assessment. Lack of experience with this type of formal testing is one reason she gave as a contributing factor to individuals struggling on this screening exercise. Ms. White also shared similar sentiments during her interview. She feels students coming to kindergarten after a year of PK have more of a confident attitude when it comes to this type of formal assessments and other literacy activities.

Observing classroom activities at Central Primary was an essential and vital activity for this study. The examination of the literacy activities taking place with pre-kindergarten between teachers and students certainly assisted in the understanding of the effect this instruction has on future reading success. The individual and small group instruction on sounds, letter recognition, and other essential skills seen in these specific classrooms had a positive effect on the knowledge acquisition of these young learners. While observing these particular classrooms, it became apparent the teachers at this grade level are well trained in age appropriate activities and classroom organization.

## **Process**

Process is the second component in the Cycle of the General Systems Theory. The process that I took into account for this study was classroom instruction, alignment between pre-kindergarten and kindergarten classrooms, as well as the teachers perception of what parents were doing to help prepare their children for school success. In order to determine the type and quality of classroom instruction, both the results of the teacher interviews and the classroom observations were analyzed.

One theme, which appeared in one form or another in every teacher discussion, was the importance of parental engagement. As described in the backgrounds of each of the school sites, Central is fortunate to have strong parental support. Each site has a robust parent organization and volunteer program. Many districts are not as fortunate and Northern Oaks, Eastern Ridge, and Central Elementary seem to take advantage of this opportunity to further the importance of literacy. Weekly newsletters, other correspondence, as well events such as parent night all have a component to promote reading and school success.

Each of the interviewees had strong views on the significance that parental participation has in school and reading readiness. Ms. Black, during her interview shared her belief on the importance of parents taking advantage of opportunities, such as the local library. This is an excellent resource for both the parents and the students. The public library in Central offers programs for children after school, as well as during the summer. These opportunities, in addition to the traditional services available at the library are tremendous free resources for parents to aid in the development of their children. All of the educators interviewed agreed that increased exposure to books in this fashion would obviously lead to an increase in literacy skills.

Another emerging theme resulting from the interviews was the importance and beneficial aspects of curriculum alignment among early childhood grade levels. However, the interviewees involved in this study feel this is something that can be improved upon. Ms. Black feels it is good to see what needs to be emphasized in greater detail, and this can be accomplished with better communication between the grade levels. She pointed out that meeting with the grade levels is important in getting feedback in order to build on and teach the students better. Ms. Black explained that she had taught at another school previously and the communication was vital to success. By meeting with the teachers in the grade level below, she shared, “We can get feedback from them, we can take off, and we can start the next year and teach better.” This feedback and collaboration can improve the quality of instruction, which has the potential to lead to greater student success.

Ms. Green believes alignment is important and there could be more. She noted, “We meet at the beginning of the year and then occasionally in professional development opportunities throughout the year, but there’s not a lot of specific alignment.” Ms. White also emphasized more continuity between the grade levels would be beneficial in helping students achieve greater and earlier school success. Proper alignment between grade levels is certainly a key element to a school functioning as a successful organization. By taking into account the data described earlier, this is undoubtedly an aspect of the district that can be improved upon in order to better facilitate the learning process.

Each of the pre-kindergarten classrooms in the Central School District is housed at Central Primary. This setup allows for better planning among this individual grade level, and instructional meetings among these teachers occur on a regular basis. However, collaboration between pre-kindergarten teachers and kindergarten teachers is more difficult logistically. The

kindergarten teachers and classes are spread out between each of the three elementary schools. Finding a common time and place for alignment meetings is problematic, yet not an impossibility. Central Public Schools has implemented six early release days for the 2013-2014 school year. These days will provide an opportunity for the early childhood educators to meet and discuss issues relevant to literacy and reading readiness.

Obviously, classroom instruction is a vital function to the process of increasing school and reading readiness in students. Earlier descriptions of observations of pre-kindergarten classrooms make it clear literacy is strongly emphasized in instructional activities on a daily basis. Each of the pre-kindergarten classes at Central Primary set aside over one hour per day for literacy activities. These activities consist of letter recognition, letter songs, and various center activities. Each of these age-appropriate activities last only a short period of time, in order to be mindful of the short attention span of these young learners. The ultimate goal of literacy lessons for pre-kindergarten students is to build the foundation that will be necessary for reading readiness and future school success.

Observations of pre-kindergarten classes allowed firsthand knowledge of the instructional activities taking place. The quality of the literacy lessons and procedures being taught and learned make it clear why the kindergarten teachers feel, as a group, their students are better prepared after a year in a PK classroom. Ms. White communicated during our conversation that she considers the pre-kindergarten teachers at Central Primary to be an exceptional group of educators. After having the opportunity to observe some of these individuals, I can certainly believe this assertion to be accurate.

## Output

When examining the success or failures of an organization, the output must be taken into consideration. Output is a main building block in General Systems Theory, and in this case the output is the DIBELS assessment results. As described earlier, the DIBELS results on the initial screening were compared using 2010-2011 and 2011-2012 data. The two groups involved in the comparison were those who attended Central Primary and those that did not.

In order to view the relationship between pre-kindergarten attendance and performance on DIBELS in kindergarten, two methods of analyzing the data quantitatively were included. Using regression analysis and the chi-square test, a more comprehensive examination of the relationship was possible. A chi-square is used to test whether the observed percentages demonstrate a true difference from the expected frequencies (Lodico, Spaulding, & Voegtler, 2010). In this case, the chi-square test provides a way to test that claim that there is an association between attendance in pre-kindergarten and performance on the DIBELS the following year in kindergarten. A 2 x 2 contingency table was included.

Table 5.1  
*2x2 Contingency Table*

Variable	Did not meet benchmark	Met benchmark	Total
Did not attend Pre-K	34	81	115
Attended Pre-K	50	283	333
Total	84	364	448

The initial analysis revealed that 70.4% of the students who did not attend pre-kindergarten met the benchmark on DIBELS, whereas 85% of students who attended pre-kindergarten met the benchmark. In other words, nearly one-third of students who did not attend pre-kindergarten did not meet the kindergarten readiness benchmark as determined by DIBELS.

That is twice the percentage of students who did attend pre-kindergarten and did not meet the benchmark. After further analysis, the Pearson chi-square was the default test. When the significance is less than  $\alpha = .05$ , the variables are related. In this case,  $p = .001$ , which is in fact less than  $\alpha = .05$ . The relationship between attendance in Pre-Kindergarten and performance on DIBELS is significant. The equation can be represented as

$$\chi^2(1) = 11.879, p < .05.$$

Table 5.2  
*Chi-Square*

	Value	Df	Asymp. Sig.
Pearson Chi-Square	11.879	1	.001

In order to determine the effect size, the Phi value, or correlation coefficient, was examined in the SPSS output. The value, or  $V = .163$ , indicates a small effect size (Cohen, 1988). Analyzing the entire results of the chi-square test reveals that attendance in pre-kindergarten had a significant, yet small effect on meeting the DIBELS benchmark in kindergarten. This relationship is supported in the regression analysis, which is described further in the following section.

When analyzing complex issues in education, it is often difficult to isolate a single variable as the cause of a phenomenon. Early childhood performance is one such issue that has many contributing factors. This study also included the use of regression analysis to provide a mechanism for analyzing the variable of student participation in pre-kindergarten as a contributor to student progress in kindergarten. “Regression analysis is a statistical tool for the investigation of relationships between variables. Usually, the investigator seeks to ascertain the causal effect of one variable upon another” (Sykes, 1992, p. 1). In addition, “The investigator also typically assesses the statistical significance of the estimated relationships, that is, the degree of

confidence that the true relationship is close to the estimated relationship” (p. 2). In this study, regression analysis was included to supplement the qualitative data within the study. The results of the linear regression test support the ideas illustrated by the qualitative analysis indicating that participation in pre-kindergarten contributes to an increase in performance as measured by the DIBELS assessment administered to kindergarten students.

Table 5.3 provides a summary of the unstandardized partial regression coefficients for the variable, pre-kindergarten participation, as it relates to performance on the DIBELS assessment. The equation showing this relationship is:

$$\hat{y} = .146X + .704$$

The regression coefficient with the variable, X, which is pre-kindergarten participation, illustrates the relationship between the variable and the dependent variable, DIBELS scores. The unstandardized coefficient equation shows that in cases where students attended pre-kindergarten, there was a predictive increase of .146 points on the DIBELS benchmark when students were assessed in kindergarten. This increase was statistically significant with the p-value = .001 as compared with  $\alpha = .05$ . The constant, .704, reflects the starting point for the benchmark values (Lockridge, 2012).

Table 5.3

*Results for Kindergarten Performance*

Variable	DIBELS	Significance
Pre-K Participation	.146	.001
Constant	.704	.000

Table 5.4 provides a view of the R-Square, R, and Adjusted R-Square values in the model for students participating in pre-kindergarten programs.

Table 5.4

*Model results for Pre-K*

	Pre-Kindergarten Participation
R-Square	.027
R	.163
Adjusted R-Square	.024

Looking at the model summary, the R-square value is the coefficient of determination and expresses the proportion of variance of DIBELS benchmark scores for kindergarten students explained by the predictor variable, which was participation in pre-kindergarten. In this case, R-square of .027 suggests that pre-kindergarten participation accounted for about 2.7% of the variance in kindergarten student performance on the DIBELS assessment. The R-value was .163, and the Adjusted R-square was .024. The R-value is the multiple correlations between the predictor, pre-kindergarten participation, and DIBELS performance, while the adjusted R-square adjusts the sample in accordance with the population. Adjusted R-square reveals that when considering the population and the sample itself, about 2.4% of the variance in the DIBELS score for kindergarten students was explained by participation in pre-kindergarten. The overall model was significant with the p-value = .001 as compared with  $\alpha = .05$  (Lockridge, 2012). While statistically the effect size is small, the analysis suggests that participation in pre-kindergarten is a significant variable in predicting performance in kindergarten as measured on the DIBELS assessment (Cohen, 1998).

The aforementioned chi-square and regression analysis provide statistical reasoning to coincide with the beliefs of the professional early childhood educators involved in this study. All of the teachers taking part in this study shared in one way or another, their certainty that pre-kindergarten is a determining factor in the early reading success of kindergarten students. The



statistical analyses afford credence to these opinions. In essence, the data presented thus far, lends credibility to the idea that taking advantage of the opportunity for PK attendance does and will continue to have a significant effect on the output of kindergarten students in relation to reading readiness and ability.

## **Goals**

When using the General Systems Theory, the goals of the organization must first be determined and continually analyzed. The organizational goal of the Central School District that was examined in relation to pre-kindergarten attendance was school and reading readiness. Even though early childhood educators have different descriptors they use when discussing school and reading readiness, there are common themes seen in each of their respective beliefs. During the teacher interview process, I posed the following question to each educator: In your opinion, what is the meaning of school and reading readiness? This question allowed me the opportunity to see what educators working with young children on a daily basis observe when they are taking into account if a particular child is school and reading ready. The data collected were vital in determining if the goal is being met.

The consensus among the early childhood educators is children must be ready to learn when they enter kindergarten. I realize this in itself sounds rather simple. It is an almost certainty that all educators want their students ready to learn when they come into the door of the classroom. However, these kindergarten teachers are teaching what can and should be considered perhaps the most important foundational skills for learning and acquiring knowledge. Sometimes in today's educational world of high stakes testing and the concern for students to become college and career ready, this simple concept is easily lost. We, as educators, can sometimes forget a quality early childhood experience can set the tone for future school success.

Nonetheless, the importance of early reading readiness is not lost on the teachers involved in this research project.

Throughout the interviews, these teachers made it very clear that they feel students who participated in pre-kindergarten are more ready to learn than those students that did not have the opportunity to attend PK. The major components of this readiness consisted of knowing letters and sounds, as well as procedures and routines. Having young learners accustomed to procedures and routines allows our kindergarten teachers to move at a quicker pace when facilitating literacy instruction. According to the teachers interviewed, this is something that cannot be taken for granted.

Pre-kindergarten, according to our interviewees, also exposes our students to more aspects of literacy than many get at home. Basic things such as how to hold a book and read from left to right are skills that many take for granted. Once again, they sound like simple concepts, but most young learners do not inherently understand this. Students that have not been introduced to concepts such as these will struggle at the beginning of kindergarten, and it will clearly take time before it becomes natural. This is one example of early literacy skills that are being introduced at the pre-kindergarten level. Ms. Brown pointed this out during her interview session by explaining this introduction of these skills sets the stage for greater learning in the future.

Knowledge of letters and sounds is another major component of school and reading readiness. Ms. Gray elucidated this point extremely well in her interview. She feels PK prepares our students by stressing the importance of these basic literacy skills. Having students enter kindergarten already possessing these skills, allows for a tremendous jump start on reading. Ms.

Black depicted a scenario of a former student that did not have the opportunity to attend pre-kindergarten. According to her, this particular student struggled throughout the year without ever being able to achieve the necessary skills to be promoted. She believes that PK would have given this student an opportunity to be successful.

By observing pre-kindergarten classrooms, I was able to see firsthand what Ms. Gray described in her interview. An emphasis on knowing letters and sounds is apparent when seeing the classroom instruction that takes place in PK. Students are taught these every important skills in a variety of methods that are age-appropriate. These instructional approaches include music, hands-on activities, such as the use of technology applications related to literacy, and small group literacy development.

In order to have a successful organization, a goal must be noted, and everyone must work toward that end. In this case, school and reading readiness is the goal, and everyone in the school system must recognize and understand this. While interviewing teachers and studying the DIBELS results data, it became clear that the goal of reading readiness has a better chance to be achieved with early literacy intervention. For the Central School District, attendance in the pre-kindergarten program provides this type of intervention. Each of our interviewees agreed that they are able to see a significant difference in the children that did attend and those that did not attend Central Primary.

### **Feedback**

Feedback is the final building block used to determine whether or not the organization, Central Public Schools, is functioning as a system. In this specific instance, I made this determination while considering if, in fact, pre-kindergarten attendance affects the school system

as a whole. While examining the importance of early childhood education, I would have been remiss if school and reading readiness was not the most critical facet of this determination. If students are struggling to read, it is a strong possibility that they will continue to labor for their entire school career in an effort to catch up to their peers. In some instances, students are eventually able to grasp the necessary skills, but unfortunately we see too many cases in our public schools systems where this did not happen.

Literacy is a key, if not the most vital, building block to school success. This point has become even more prevalent in Oklahoma schools, with the recent passage of the third grade retention law. In our state, students must now be at grade level at the conclusion of third grade in order to be promoted. This law has put even more emphasis on early reading readiness. Public schools are now being forced to analyze the literacy skills of young learners and find ways to adapt instructional strategies in a way that will lead to improvement of early literacy skills.

Oklahoma is one of the nation's leaders in both the number of pre-kindergarten programs and the amount of children enrolled in this grade level. This is an important detail that certainly cannot be taken lightly. As previously mentioned in this study, Oklahoma does not place limits on pre-kindergarten enrollment based on income level, as seen in many other states. It is considered a universal program. Central Schools, for example, takes any student that meets the age qualifications and resides within the school district's boundaries. This opportunity for early learning in the state is tremendous and we must make sure the parents of our children are taking advantage.

Ms. Green pointed out during her interview that we are lucky to have such an established PK program and she is pleased that it is a respected and valued grade level at Central Schools. This is a significant piece of the puzzle. An emphasis and importance must be placed on early childhood education and pre-kindergarten in particular. Without this, our students may not be provided with an exceptional opportunity to be prepared for school and reading success. Judging by the large number of students enrolled in PK at Central Primary in recent years, I was able to see this emphasis is beginning to pay dividends to the district.

Throughout the last decade, the emphasis placed in our public schools on early literacy skills has increased dramatically. In the past, these reading skills were developed and honed in first grade. Now, we have an expectation for our students to be proficient when they leave kindergarten. This has obviously put a greater importance on teaching these skills during the kindergarten year. The professional educators interviewed for this study made it perfectly clear that early literacy proficiency is more easily attained with the preparation and instruction students receive in pre-kindergarten. The data presented in Chapter IV of this study support the need for an emphasis being placed on pre-kindergarten attendance. The data that has been presented provides a detailed description of the importance of proper early childhood education in relation to a school district becoming a successful organization that is centered on student achievement.

### **Summary**

The information presented in this chapter is an analysis of the data collected using interviews with early childhood educators, results from the beginning of year DIBELS Next assessments for the 2011-2012 and the 2012-2013 school years, as well as observations of early

childhood classrooms. This information is described through the lens of the basic elements of the General Systems Theory. These critical elements include input, process, output, goals, and feedback. By considering the data using the structure of the General Systems Theory, I have been able to make a determination on the importance of student attendance in pre-kindergarten to school and reading readiness, as well as how it relates to the function and organization of the school system as a whole. Next, Chapter VI summarizes this particular study by answering the research questions in addition to explaining the benefits and making recommendations for future and further research.

## CHAPTER VI

### SUMMARY, FINDINGS, CONCLUSIONS BENEFITS, AND RECOMMENDATIONS

The previous chapter consisted of an analysis of the data presented in Chapter IV. The aforementioned data was closely scrutinized through the lens of the General Systems Theory. The data were separated into five sections that collectively make up the General Systems Theory. These components consist of input, process, output, goals, and feedback.

This final chapter includes an overview of the study, a discussion of findings and relevant literature, as well as a review of the research questions, followed by connections to the results provided in the previous chapter. Conclusions derived from these findings are included in this chapter, followed by recommendations for future research and policy considerations. The concluding summary encapsulates this chapter and the study as a whole.

The purpose of this study was to explore a selected pre-kindergarten program and the extent of its provision for school readiness. This study contributes to the research in the field of early childhood education, and it was accomplished by comparing the school readiness of those students who attended a pre-kindergarten program and those that did not begin formal

schooling until their kindergarten years. Analysis of the school success of those students who participated in an early childhood program and those who did not yielded significant findings.

A review of the literature revealed a need to further examine the unique nature of pre-kindergarten programs and effects on students. Much research has been conducted in relation to kindergarten and its effects on young children. However, pre-kindergarten is still a relatively new concept in comparison to kindergarten, and research is sparse. This study sought to fill this void and provide some practical solutions that should be considered by policy makers and school administrators.

There is overwhelming research that school readiness is a key to students' success in today's public schools and this foundation must be laid at a very early age. Well-organized early childhood programs are providing this opportunity for over 4 million youngsters across the United States each and every day (U.S. Census Bureau, 2000). Universal Pre-Kindergarten (UPK) programs have continued to grow by leaps and bounds. Before 1995, no state had any type of universal program, and now they are becoming more and more popular. Many states have seen increases in the numbers of students enrolling in pre-kindergarten programs. This recent trend has resulted in the majority of children now beginning their formal education at age four (Pianta, 2005). The purpose of these programs is to expose four-year-old children to pre-academic material and school like activities with the intention of increasing school related achievement skills and social-behavioral competence when children enter kindergarten (Clifford et al., 2005).

In a study of state funded PK programs in five states, Barnett, Lamy, and Jung (2005) found that children who attended the programs showed 31% more gains in vocabulary compared to children who had not attended the programs. According to the authors, this finding is



particularly significant because this measure is highly correlated with general cognitive abilities and future reading success. More specifically, a study of Oklahoma's universal pre-kindergarten by Gormely et al. (as cited by Lazarus & Ortega, 2007), found the following:

Children who participated in the program scored significantly higher on the Letter-Word Identification at kindergarten entry than children who did not participate in the program. This subtest of the Woodcock-Johnson Achievement Test is designed to assess pre-reading skills. Significantly higher results were also found in the Spelling and Applied Problems subtest, indicating noteworthy differences between the kindergarten readiness of participating and non-participating children. Children from all racial and ethnic groups, as well as children from all socioeconomic levels, were found to benefit from participating in the program. (p. 61)

Currently, the research is somewhat lacking in information regarding the effects of pre-kindergarten attendance on kindergarten readiness; however, the research on kindergarten finds that attendance, particularly in all-day programs, has an impact on student achievement. Children in full-day kindergarten classrooms experienced a more in-depth learning environment than those attending half-day programs. These experiences include more dramatic play, science, art, music, social studies, and gross motor activities. The extended learning time allowed teachers to be more flexible with individualized instruction, which better met the children's needs and interests (Clifford et al., 2005). According to Gullo (2000), kindergarten children who attend full-day programs attain higher reading and math achievement scores than children in part-day programs. This research would indicate a correlation between pre-kindergarten attendance and school readiness, especially in the area of reading. However, more research specifically aimed at comparing those young children who attended a Universal PK program and

those who first experienced formal schooling beginning with their kindergarten year, is needed to establish the relationship between pre-kindergarten attendance and school readiness.

The purpose of this study was to explore a selected pre-kindergarten program and the extent of the program's provision for school readiness through the lens of General Systems Theory. The following research questions guided the study:

1. How does pre-kindergarten prepare children for school readiness, as measured by specific literacy skills?
2. How do the basic literacy skills taught in pre-kindergarten align with those taught in kindergarten?
3. How does a school organization function as a system to support the goals of school readiness?

The data for this study were collected from a variety of sources. A major data source included interviews with a select group of early childhood educators from each of Central's three elementary schools. These participants were chosen based on experience working with early childhood students, as well as perceived knowledge literacy skills and instruction. The interviews were conducted in each teachers respective classroom in order achieve a comfortable environment conducive to an open dialogue. Each interview was recorded and transcribed for accuracy.

The next major data source was results from the DIBELS Next initial kindergarten assessment. These results were captured for the school years 2011-2012 and 2012-2013 using an anonymous student number. Once these results were collected, I disaggregated them further based on school sited and whether or not the child attended pre-kindergarten at Central Primary. In addition to charting and describing these results in narrative form, I performed a chi-square

analysis and a simple regression analysis to determine if pre-kindergarten participation was in fact a contributing factor in increased kindergarten reading readiness.

Finally, direct observations of pre-kindergarten classrooms at Central Primary were used to gain firsthand knowledge of learning activities taking place. Notes were taken during these observations allowing me an opportunity for further review. The data collected from these various sources were then analyzed using the lens of the General Systems Theory, while I kept in mind how school and reading readiness affect the school district as an entire organization. During the triangulation of the collected data, certain common themes emerged related to the purpose of the study, as well as the above mentioned research questions.

## **Findings**

Several key findings emerged from the data analysis according to each research question that guided the study.

### **Research Question One**

**How does pre-kindergarten prepare children for school readiness, as measured by specific literacy skills?** After analyzing the data, an interrelationship was evident between pre-kindergarten participation and school readiness as measured by specific literacy skills. The DIBELS Next assessment tool measured these specific skills at the beginning of the children's kindergarten year. The two skills measured during this initial assessment are First Sound Fluency and Letter Naming Fluency. As described earlier, both of these skills are vital components of early reading.

To prepare pre-kindergarten students to be school and reading ready, the aforementioned literacy skills must be taught. Lessons and activities for PK students are designed to accomplish these basic reading skills. For example, pre-kindergarten students are taught to demonstrate a

link between letters and sounds. This is accomplished in a number of ways, including songs, read alouds, as well as individual and small group reading activities. Students become accustomed to recognizing or “reading” familiar words or environmental print including one’s name, familiar logos, and everyday print such as stop signs. This type of letter recognition and awareness are the basis for the initial kindergarten screening.

An analysis of the initial DIBELS results examined two years of data, which included the 2011-2012 and 2012-2013 kindergarten classes from Northern Oaks Elementary, Eastern Ridge Elementary, and Central Elementary. In total, the results of 448 students’ assessments were scrutinized and of this group of kindergarteners, 332 had attended pre-kindergarten at Central Primary. These particular groups of young learners were chosen using a purposeful sampling design strategy. According to Patton (2002), the cases for study needed to be selected based on the reason that they are information rich and they offer useful demonstration of the phenomenon of interest.

The culmination of these two years of data produced definitive results on the effects of pre-kindergarten attendance. Of the 293 kindergarten students who had attended Central Primary, 88% scored at or well above the benchmark on the initial DIBELS assessment. In contrast, of the remaining 116 students who had not attended PK, only 61% met or scored above the DIBELS benchmark. These percentages provide statistical evidence of the positive results of early literacy instruction on school readiness.

To provide further statistical proof of the effects of pre-kindergarten attendance on specific literacy skills, a chi-square test and a simple regression test were conducted. Lomax (2007) explains that the chi-square test “is used to determine whether the observed proportions in two or more categories of a categorical variable differ what we would expect” (p. 152). A chi-

square test was included in this study to further clarify whether or not the variables of pre-kindergarten attendance and DIBELS performance in kindergarten were associated. In order to further examine in greater depth the relationship between these two variables, a simple regression test was performed. According to Sykes (1992), a regression analysis is a statistical tool for investigating the relationship between two variables. The analysis was performed using the DIBELS results from the 2011-2012 and 2012-2013 kindergarten students. This particular regression analysis, described in detail in Chapter V, suggested participation in pre-kindergarten was a determining factor on school readiness as measured by specific literacy skills, which in this case was the DIBELS assessment.

### **Research Question Two**

**How do the basic literacy skills taught in pre-kindergarten align with those taught in kindergarten?** The alignment of basic literacy skills taught in pre-kindergarten and those taught in kindergarten is a key variable in the success of the school as an organization. The alignment between the grade levels is a very important process in the education of young children in relation to literacy skills. Teacher interviews and classroom observations were vital in discovering whether or not this alignment occurs.

Classroom observations led to a discovery of the literacy skills being taught and literacy activities taking place in the pre-kindergarten classroom. For example, at a minimum, one hour per day is set aside for literacy instruction in the observed PK classes. These activities include letter recognition, letter songs, and many different center activities focused on early reading skills. The instruction observed at Central Primary appears to be age-appropriate with the ultimate goal of building a foundation for the skills that will be necessary for these children to become school and reading ready.

The standards used to prepare these lessons and activities for pre-kindergarten students build a foundation that will be needed to achieve the goals of kindergarten. Specific standards for both grade levels are illustrated in Appendix C. In pre-kindergarten, students are expected to demonstrate understanding of the organization and basic features of printed and written text: books, words, letters, and the alphabet. This includes book awareness, such as handling books respectfully and appropriately, holding them right-side up, and turning pages one at a time from front to back. This knowledge of books also extends to the understanding that print is read from left to right and top to bottom, and letters are grouped to form words. These skills are aligned with kindergarten standards, which call for students to demonstrate understanding of the organization and basic features of print. This translates to following words from left to right, top to bottom, and page by page. Moreover, kindergarten students are expected to recognize that spoken words are represented in written language by specific sequences of letters and understand that words are separated by spaces in print.

Another example of the alignment between pre-kindergarten and kindergarten focuses on the acquisition of spoken words and sounds (phonemes). This includes the recognition of rhyming words, segmenting simple sentences into words, and identifying the initial sound of a spoken word. Additionally, students are expected to demonstrate understanding of spoken words, syllables, and sounds (phonemes). This foundation will lead to success in kindergarten when students are expected to achieve the following: recognize and produce rhyming words; count, pronounce, blend, and segment syllables in spoken words; blend and segment onsets and rhymes of single-syllable spoken words; isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme words; and add or subtract individual sounds in simple, one-syllable words to make new words.

During the interview process, there were varying opinions on the alignment between the two grade levels. Ms. Brown believes the district does a good job of allowing collaboration. She believes a good deal of correspondence occurs naturally between the teachers. However, she feels that it would be nice for the pre-kindergarten to be in the same building to allow for more ongoing conversations.

The interview with Ms. Gray shed light on how the alignment could be improved. She feels more communication is needed as she shared, “I think there should be more communication and talk about this is what you’re beginning the year with, and this is what we’re beginning the year with.” The expectations set between the two grade levels could be solidified with this type of communication.

Although, the observations and analyses show the skills being taught in PK do align with those skills needed to be successful in kindergarten, the consensus among the educators would be that the process of alignment between pre-kindergarten and kindergarten could be improved upon. The main concern seems to be with the opportunity for ongoing communication. This is certainly something that needs to be addressed, especially if it has an impact on the overall school readiness of young learners.

### **Research Question Three**

**How does a school organization function as a system to support the goals of school readiness?** While answering this particular question, the components of the General Systems Theory were very beneficial. In order to determine how an organization functions as a system to support the goals of school readiness, one must consider the importance of early childhood education. Central Public Schools is an organization that educates students from pre-

kindergarten through twelfth grade. Although there are many students other than those in an early childhood grade level, the function of school readiness has to begin at this level.

In any dictionary, there are multiple definitions of the term organization. One of these seems to adequately describe what this particular study entails. “A regularly interacting or interdependent group of items forming a unified whole,” (Merriam-Webster, 2013). Central Schools has many interacting parts that make the school successful as an organization. This process begins in the early childhood programs and continues through subsequent years.

The input aspect of the Systems Theory included teachers and children. Central Public Schools follows guidelines set forth by the State of Oklahoma and employs only certified and highly qualified early childhood educators. In addition, the class sizes are below the state average, and each pre-kindergarten classroom also has a full-time teacher’s assistant. As a result, there is an adult for every ten students in a PK classroom. By ensuring such teacher-student ratios, as well as the quality of the educators, the district is putting an emphasis on what they believe is an integral component in school readiness.

The process of quality of classroom instruction is also vital to the functioning of the organization in the support of school readiness. Observations of PK classrooms, as well as the comments made by the interviewees demonstrate that quality instruction is in fact, taking place at Central Primary. Ms. Gray shared during her interview, “I think that pre-k really gets them ready for school. I think they learn so much in pre-k.” I believe this particular quote summarizes the importance of the experience that these young learners have access to in the pre-kindergarten program.

The output of the students considered in this study assist in demonstrating whether or not the organization, in this case Central Schools, is functioning as a successful system in the



support of school readiness. The output examined in depth included two years of results on the DIBELS Next initial kindergarten assessment. A chi-square test was included and provided further evidence that DIBELS Next results for students in kindergarten are associated with whether or not they attended pre-kindergarten. A regression analysis provided statistical reasoning that attendance in a public school pre-kindergarten program is in fact a determining factor in school readiness, and a more specific examination of the variance in DIBELS scores that was attributed to PK attendance was realized. By providing this opportunity to attend pre-kindergarten for any student residing in the school district, Central Public Schools is functioning as an organization in support of the aforementioned school readiness.

I believe a common goal shared by educators is to have children school ready when they reach a certain age. The consensus among the interviewees is that this needs to be accomplished by the kindergarten year. These individuals also were in agreement that attendance in the pre-kindergarten program provides this opportunity. One of the reasons given was the exposure to more aspects of literacy than many receive in the home. This point was driven home when Ms. Black gave a description of an individual student who had not had the opportunity for PK attendance. This student, according to Ms. Black, struggled through the entire kindergarten experience. In essence, this student was not school ready.

Feedback can be received in many forms and it is the last building block in determining the ability of an organization to function as a successful system. The feedback given by the early childhood educators involved in the study clearly revealed their beliefs on the importance of pre-kindergarten attendance. For example, Ms. Brown commented that she is able to see a distinct difference in children who have attended PK. She stated that during a screening exercise, “Not only do they know their tasks of letter, they had the ability to talk, to use positional words and

there's a greater confidence. There's a greater confidence in their ability to respond." This feedback certainly lends credence to the idea that the organization is stressing the need for school readiness with the availability of a quality pre-kindergarten program.

## **Conclusions**

### **Recommendations for Research**

In recent years, states have increased their attention on early childhood programs in an effort to enhance literacy skills among students and promote school readiness for students entering kindergarten. Information gleaned from this study suggests that there are important connections between a child's participation in a pre-kindergarten program and increased school and reading readiness. Future research could take the findings of this particular study, and delve even deeper into the subject of school and reading readiness.

In addition to mere participation in pre-kindergarten, future studies could examine certain characteristics within this, or a similar, sample group. For example, the role gender plays in school and reading readiness could encompass an entire research project. As discussed earlier in this study, socio-economic factors and parental involvement each play a key part in the readiness of children. More specifically, the variable, socioeconomic status could be explored using both qualitative and quantitative analyses. This variable could be added to the regression analysis to determine the relationship between socioeconomic status and performance on DIBELS when considering the overall impact of pre-kindergarten on kindergarten readiness. Using similar data sources, future researchers could assist in pinpointing what affect these factors, in fact, have on school and reading readiness.

Another recommendation for future research involves the same, or similar, sample of students that began kindergarten in the 2010-2011 and 2011-2012 school years. Following each

of these two groups of students throughout their formative school years could provide valuable insight to the long-term effects of early school and reading readiness. For example, a future researcher could examine the third grade reading scores on the state standardized assessments of both students that met kindergarten reading benchmarks and those that did not, as well as students who had attended PK and those who did not. This study could add to what research exists related to the time and effort needed to elevate these young learners to the skills appropriate for their respective grade level. Moreover, future studies can further analyze the relationship between pre-kindergarten attendance and third grade retention, which will be solely based on the ability to read at grade level as measured by designated assessment mechanisms.

Another research project of similar design could also continue through fifth and eighth grades to examine the longitudinal impact of PK attendance. This future research could utilize data from standardized writing assessments, which are administered in these particular grades. This research would be beneficial in determining the relationship, or lack thereof, between performance on early literacy assessments and the standardized state assessments. A positive correlation between the two could place an even greater emphasis on the need for early childhood education, in particular pre-kindergarten attendance.

In addition to measuring student growth across states, this study provides a foundation for examining student performance in relation to newly implemented and proposed legislation regarding early childhood education. For example, as Oklahoma schools are facing the implementation of the previously described third grade retention law, this study has provided the groundwork for expanding additional research in this realm. Conducting an analysis of the relationship between students who are retained in third grade as a result of this law and PK

attendance could provide further information about long-term effects of literacy skills gained in early childhood programs.

### **Recommendations for Practice**

One of the limitations in this study dealt with the ability to compare student achievement across states as different standards exist and varying assessments are used to measure student growth. As states transition to more common benchmarks for gauging student achievement, it will be important to continue research to determine what specific measures of growth may be attributed to participation in pre-kindergarten programs. Future research on specific indicators of success in all curricular areas will be beneficial and help frame the complex nature of early childhood education and its lasting impact on students over time.

A key recommendation for practice of this study is implementation of the aforementioned common benchmarks. The implementation of consistent state and national standards is a must as we move our public education system forward. Also, these standards cannot just begin with the kindergarten year. Instead, they must be initiated during at the pre-kindergarten level.

Oklahoma's newest state standards, Common Core, excluded pre-kindergarten, leaving each school and program to fend for themselves. While the state considered creating new PK standards to align with Common Core in kindergarten, this inconsistency could possibly plague the growth and development of pre-kindergarten on a large scale.

An additional recommendation for practice involves the promotion of the importance of early childhood education. The results in this study, and other current and future results, need to be shared with policy makers in order to make absolutely clear the positive effects of formal schooling at the age of four. With this information, state government officials might possibly see the need to make pre-kindergarten a mandatory grade for children. In addition, it is my hope that

this recognition should also be met with the adequate funding necessary to serve each and every child in an appropriate manner.

A final conclusion for future practice reached over the course of this study is the need for additional collaboration between pre-kindergarten and kindergarten teachers. Each of the interviewees agreed the need existed and would be beneficial. This increased vertical alignment could be facilitated at the district level and would allow for a better understanding of the needs and purpose of each individual grade level. Ongoing, focused, and purposeful communication about curriculum and instruction could enhance the pre-kindergarten programs for both students and teachers.

### **Significance to Theory**

As described earlier, a useful theory provides a framework for understanding some type of observable reality. This study has shown to be significant to the General Systems Theory and how it relates to a school system as a whole. According to Chen and Stroup (1993), “Education must have as core component a commitment to educating all citizens” (p. 447). In order to educate all citizens, a public school, as an organization, must function as a complete system. Each part of the school must be interrelated and working together if this is to be achieved. This study has found a positive relationship between pre-kindergarten attendance and school readiness, as measured by early literacy skills. The ability to provide an avenue for future school readiness shows that early childhood education does indeed assist the school in functioning as a complete system. Effective educational systems must build a solid foundation in order to build and have future success.

## **Summary**

The purpose of this study was to explore a selected pre-kindergarten program and the extent of the program's provision for school readiness. Through dissecting the many components that contribute to school readiness, this study examined the impact of pre-kindergarten programs on this readiness. Some significant findings were realized that could assist decision-making among policy makers. As researchers continue to study the impact of early childhood programs on long-term student achievement, the results from this study contribute to the complex nature of reducing achievement gaps among diverse student populations and increasing educational outcomes for all students. This study contributes to the overall nature of the relationship between pre-kindergarten programs and school readiness as a function of long-term student success. Student participation in pre-kindergarten programs in combination with comprehensive reform efforts, are likely to contribute to long-term growth in student achievement.

In closing, the following remarks expressed by President Barack Obama on February 12, 2013 during the State of the Union Address provide an outstanding synopsis of the importance of early childhood education:

In states that make it a priority to educate our youngest children, like Georgia or Oklahoma, studies show students grow up more likely to read and do math at grade level, graduate high school, hold a job, form more stable families of their own. We know this works. So let's do what works and make sure none of our children start the race of life already behind. (Obama, 2013, p. 7)

### **Researcher's Comments**

The results found over the course of the research have certainly had and will continue to have ramifications on the school under study. The results from the comparisons of DIBELS assessment scores of both groups of students were shared with each site principal. This allowed the principal to examine at length the instruction taking place in both the pre-kindergarten and kindergarten classrooms. For those buildings housing kindergarten students it became obvious that additional remediation is necessary for those students that did not have the opportunity for an early learning experience in PK. The primary school is now able to use this valuable data when discussing the importance of pre-kindergarten to the parents of prospective students. Each year, PK enrollment is emphasized in the district; however, the analyzed data can now assist the district in its recruitment efforts.

Another important aspect that was realized over the course of the data collection and analysis was the need for further collaboration and alignment. The interviewees shared this and their belief that it was currently lacking. Once this became apparent, the district under study began the process of meeting this much important need. Alignment meetings between kindergarten and pre-kindergarten teachers are now scheduled and will become the standard in future years. This will allow these educators to coordinate and find any gaps in instruction, with the goal being to improve the transition between the two grade levels.

Additionally, the district is planning to further analyze future data involving the same groups of students under study in this research project. As these students begin the transition to third grade, the district will then be able to analyze reading scores to determine if the gaps in achievement have indeed been closed. This will be a key in determining the effectiveness of the

instruction in each of the district's early grades. Instructional practices and alignment can then be adjusted if necessary to meet the needs of the students.



## REFERENCES

- Ackerman, D. J., Barnett, W. S., Hawkinson, L. E., Brown, K., & McGonigle E. A. (2009). *Providing preschool education for all 4-year olds: Lessons from six state journeys* (Issue Brief No.18). Retrieved from <http://nieer.org/publications/policy-matters-policy-briefs/policy-brief-providing-preschool-education-all-4-year-olds>
- Anfara, V. A. & Mertz, N. T. (2006). *Theoretical frameworks in qualitative research*. Thousand Oaks, CA: Sage.
- Bainbridge, J., Meyers, M., Tanaka, S., & Waldfogel, J. (2005). Who gets an early education. *Family income*. Retrieved from <https://www.russellsage.org/sites/all/files/u4/Bainbridge,%20Meyers,%20Tanaka,%20%26%20Waldfogel.pdf>
- Ball, R. A. (1978). Sociology and general systems theory. *The American Sociologist*, 13(1), 65-72. Retrieved from <http://www.jstor.org/stable/27702313>
- Banathy, B. H. (1992). *A systems view of education: concepts and principles for effective practice*. Englewood Cliffs, NJ: Educational Technology.
- Barbarin, O. A., McCandies, T., Early, D., Clifford, R. M., Bryant, D., Burchinal, M., Howes, C., & Pianta, R. (2006). Quality of PK: What families are looking for in public sponsored programs. *Early Education and Development*, 17(4), 619-642.

- Barnett, W. S., Hustedt, J. T., Robin, K. B., & Schulman, K. L. (2005). *The state of preschool: 2005 state preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research, Rutgers University.
- Barnett, W. S., Lamy, C., & Jung, K. (2005). *The effects of state prekindergarten programs on young children's school readiness in five states*. Rutgers University: National Institute for Early Education Research.
- Barnett, W. S., Young, J. W., & Schweinhart, L. J. (1998). How preschool education influences long-term cognitive development and school success: A causal model. *Early care and education for children in poverty: Promises, programs, and long-term results*. Albany: State University of New York Press.
- Baroody, A. E. & Diamond, K. E. (2010). Links among home literacy environment, literacy interest, and emergent literacy skills in preschoolers at risk for reading difficulties. *Topics in Early Childhood Special Education*. Retrieved from <http://tec.sagepub.com/content/32/2/78>
- Bertalanffy, V. L. (1968). *General systems theory: Foundations development applications*. New York: G. Braziller.
- Burchinal, M. R., Roberts, J. E., Riggins, R. Jr, Zeisel, S. A., Neebe, E. & Bryant, D. (2000). Relating quality of center-based child care to early cognitive and language development longitudinally. *Child Development*, 71, 338-357. Retrieved from <http://www.cckm.ca/ChildCare/pdf/Burchinal2000.pdf>
- Bredekamp, S., & Copple, C. (1997). *Developmentally appropriate practices in early childhood programs*. Washington, DC: National Association for the Education of Young Children.

- Brown, C. P. (2009). Pivoting a prekindergarten program off the child or the standard? A case study of integrating the practices of early childhood education into elementary school. *The Elementary School Journal*, 110(2), 222.
- Bruner, J. (1996). *The culture of education*. Cambridge, MA: Harvard University Press.
- Bruner, J. (1966). *Toward a theory of instruction*. Cambridge, MA: Harvard University Press.
- Burris, K. G. (2000). All-day kindergarten. *Childhood Education*, 76(4), 228.
- Bryant, M. T. (2004). *The portable dissertation advisor*. Thousand Oaks, CA: Corwin Press.
- Chen, D. & Stroup, W. (1993). General system theory: toward a conceptual framework for science and technology education for all. *Journal of Science Education and Technology*, 2(3), 447-459. Retrieved from [http://generative.edb.utexas.edu/classes/knl2011sum/materials/Chen\\_Stroup\(1993\).pdf](http://generative.edb.utexas.edu/classes/knl2011sum/materials/Chen_Stroup(1993).pdf)
- Chien, N. C., Howes, C., Burchinal, M., Pianta, R.C., Ritchie, S., Bryant, D. M., . . . Barbarin, O. A. (2010). Children's classroom engagement and school readiness gains in prekindergarten. *Child Development*, 81(5), 1534-1549.
- Clifford, R. M., Barbarin, O., Chang, F., Early, D., Bryant, D., Howes, C., Burchinal, M., & Pianta, R. (2005). What is pre-kindergarten? Characteristics of public pre-kindergarten programs. *Applied Developmental Science*, 9(3), 127.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Coley, R. J. (2002). *An uneven start: Indicators of inequality in school readiness*. Educational Testing Service. Princeton, NJ: Policy Information Center.
- Creswell, J. W., (2009). *Research design qualitative, quantitative, and mixed methods approaches* (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage.

Crotty, M. (2005). *The foundations of social research: Meanings and perspective in the research process*. Thousand Oaks, CA: Sage.

Cunningham, A. E., & Stanovich, K. E. (1997). Early reading acquisition and its relation to reading experience and ability ten years later. *Developmental Psychology*, 33, 934-945.

Curby, T. W., LoCasale-Crouch, J., Konold, T. R., Pianta, R. C., Howes, C., Burchinal, M., . . . Barbarin, O. (2009). The relations of observed pre-k classroom quality profiles to children's achievement and social competence. *Early Education and Development*, 20(2), 346-372. Retrieved from

[http://www.tandfonline.com/argo.library.okstate.edu/doi/pdf/10.1080/10409280802581284](http://www.tandfonline.com/argo/library.okstate.edu/doi/pdf/10.1080/10409280802581284)

Curby, T. W., LoCasale-Crouch, J., Konold, T. R., Pianta, R. C., Howes, C., Burchinal, M., . . . Barbarin, O. (2009). The relations of observed pre-k classroom quality profiles to children's achievement and social competence. *Early Education and Development*, 20(2), 346-372. doi:10.1080/10409280802581284

Curtis, K. & Youngquist, S. T. (2013). Part 21: Categorical analysis: Pearson chi-square test. *Air Medical Journal*, 32(4), 179. doi: <http://dx.doi.org/10.1016/j.amj.2013.04.007>

Dotterer, A. M., Iruka, I. U., & Pungello, E. (2012). Parenting, race, and socioeconomic status: Links to school readiness. *Family Relations*, 61, 657-670.

Downer J., & Pianta, R. (2006). Academic and cognitive functioning in first grade: Associations with earlier home and child care predictors and with concurrent home and classroom experiences. *School Psychology Review*, 35, 11-30.

Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., . . .

Japel, C. (2006). School readiness and later achievement. *Developmental Psychology*, 43(6), 1,428-1,446.

Erlandson, D. A., Harris, E. L., Skipper B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry: A guide to methods*. Newbury Park, CA: Sage.

Essa, E. (2010). *Introduction to early childhood education* (6th ed.). Belmont, CA: Wadsworth.

Friedman, S. (2012). *12 principles of child development and learning that inform practice*.

Retrieved from <http://www.naeyc.org/dap/12-principles-of-child-development>

Georgiou, S. N., & Tourva, A. (2007). Parental attributions and parental involvement. *Social Psychology of Education*, 10, 473-482.

Getzels, J. W. & Guba, E. G. (1957). Social behavior and the administrative process. *The School Review*, Winter, 423-441.

Good III, R. H., Gruba, J., & Kaminski, R. A. (2001). *Best practices in using dynamic indicators of basic early literacy skills (DIBELS) in an outcomes-driven model*.

Washington DC: National Association of School Psychologists.

Gormley Jr., W. T. (2005). Is it time for universal pre-K? *The Education Digest*, 71(4), 47-53.

Retrieved from <http://search.proquest.com/docview/218182179?accountid=4117>

Gormley, Jr., W. T. (2005). The universal pre-k bandwagon. *The Phi Delta Kappan*, 87(3), 246-249. Retrieved from <http://www.jstor.org/stable/20441978>

Gormley Jr., W. T. & Phillips, D. (2005). The effects of universal pre-k in Oklahoma: Research highlights and policy implications. *The Policy Studies Journal*, 33(1), 65-82.

Gormely Jr., W. T., Gayer, T., Phillips, D., & Dawson, B. (2005). The effects of universal pre-k on cognitive development. *Developmental Psychology*, 41(6), 872-884.

- Gullo, D. (2000). The long-term educational effects of half-day versus full-school-day kindergarten. *Early Childhood Development and Care*, 160, 17-24.
- Hall, J. (2012, February). *Starting out right: Pre-k and kindergarten*. Retrieved from <http://www.centerforpubliceducation.org/Main-Menu/Organizing-a-school/Starting-Out-Right-Pre-K-and-Kindergarten/Starting-Out-Right-Pre-K-and-Kindergarten-full-report.html>
- Harris, E. L. (2005). *Key strategies to improve schools: How to apply them contextually*. Lanham, MD: Rowman & Littlefield Education.
- Harris, E. L. (2006). Mary Douglas's typology of grid and group. In V. Anfara, Jr. & N. Mertz (Eds.), *Theoretical frameworks in qualitative research* (pp. 129-154). Thousand Oaks, CA: Sage.
- Henry, G. T., Henderson, L. W., Ponder, B. D., Gordon, C. S., Mashburn, A. J., & Rickman, D. K. (2003). *Report of the finding from the Early Childhood Study: 2001-02*. Atlanta: Georgia State University, Andrew Young School of Policy Studies.
- Henry, G., Ponder, B., Rickman, D., Mashburn, A., Henderson, L., & Gordon, C. (2004). *An evaluation of the implementation of Georgia's pre-k program: Report of the findings from the Georgia Early Childhood Study (2002-03)*. Atlanta: Georgia State University, Andrew Young School of Policy Studies. Retrieved from <http://www.aysps.gsu.edu/publications/2005/GAPreK2004.pdf>
- Henry, G. T., Gordon, C., Mashburn, A., & Ponder, B. (2001). *Pre-K longitudinal study: Findings from the 1999-2000 school year*. Atlanta: Georgia State University, Applied Research Center.
- High, P. C. (2008). School readiness. *Pediatrics*, 121(4), 1008-1015.

- Howes, C. (2000). Social-emotional classroom climate in child care, child-teacher relationships and children's second grade peer relations. *Social Development*, 9, 191-204.
- Hunter-Segree, I. R. (2010). *The influence of parental involvement on kindergarten learners' reading readiness* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3411956).
- Kaminski, R. A., & Good III, R. H. (2010). *DIBELS next essential workshop*. Eugene, OR: Dynamic Measurement Group.
- Kast, F. E., & Rosenzweig, J. E. (1972). General system theory: Applications for organization and management. *Academy of Management Journal*, 15(4), 447-465. Retrieved from [http://www.communicationcache.com/uploads/1/0/8/8/10887248/general\\_system\\_theory-applications\\_for\\_organization\\_and\\_management.pdf](http://www.communicationcache.com/uploads/1/0/8/8/10887248/general_system_theory-applications_for_organization_and_management.pdf)
- Kearney, K.S. & Hyle, A.E. (2006). A look through the Kubler-Ross theoretical lens. In V. Anfara, Jr. & N. Mertz (Eds.), *Theoretical frameworks in qualitative research* (pp. 109-128). Thousand Oaks, CA: Sage.
- Kruk, R. S., Prentice, S. & Moen, K. B. (2013). Early childhood education and care (ECEC) and reading acquisition in at-risk readers: Does quantity matter? *Canadian Journal of Behavioural Science*, 45(1), 49-63.
- Laszlo, A. & Krippner S. (1998). Systems theories: Their origins, foundations, and development. *Systems Theories and A Priori Aspects of Perception*. Amsterdam: Elsevier Science.
- Lawrence, D. (2005). The case for universal pre-k. *Presentation to Pennsylvania General Assembly*. Available: <http://www.fed-us.org/applications>

- Lazarus, P. J., & Ortega, P. (2007). Universal pre-kindergarten in conjunction with universal screenings: An antidote to grade retention. *Journal of Education Research and Policy Studies*, 7(1), 54-71.
- Legal Momentum (2012). *Single mother in the United States*, available at <http://www.legalmomentum.org/our-work/women-and-poverty/resources-publications/single-mothers-snapshot.pdf>
- Lin, H. L., Lawrence, F. R., & Gorrell, J. (2003). Kindergarten teachers' views of children's readiness for school. *Early Childhood Research Quarterly*, 18, 225-237.
- Lockridge, C. (2012). The tangible impact of school finance litigation on student achievement (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3507709).
- Lodico, M. G., Spaulding, D. T., & Voegtler, K. H. (2010). *Methods in educational research*. San Francisco, CA: Jossey-Bass.
- Lomax, R. G. (2007). *An introduction to statistical concepts*. New Jersey: Lawrence Erlbaum Associates, Inc.
- Lomotely, K. (1989). *African-American principals: School leadership and success*. New York: Greenwood Press.
- Lynch, J. (2010). Kindergarten teachers' beliefs about students' knowledge of print literacy and parental involvement in children's print literacy development. *The Alberta Journal of Educational Research*, 56(12), 157-171.
- Marshall, C. & Rossman, G. (1989). *Designing qualitative research*. Newbury Park, CA: Sage.



- Miles, S., & Stipek, D. (2006). Contemporaneous and longitudinal associations between social behavior and literacy achievement in a sample of low-income elementary school children. *Child Development*, 77, 103-117.
- Molfese, V. J., Modglin, A. A., Beswick, J. L., Neamon, J. D., Berg, S. A., & Berg, J. (2006). Letter knowledge, phonological processing, and print knowledge: Skill development in nonreading preschool children. *Journal of Learning Disabilities*, 39, 296-305.
- Muhammad, B. (2010). *Student achievement and the leadership capacity of early childhood public elementary school principals: Is there a correlation?* (Master's thesis).
- Muthalaly, A. K. (1987). The application of Ludwig von Bertalanffy's general systems theory as a basis for pastoral assessment of urban South Indian Christian families. *The Southern Baptist Theological Seminary*. ProQuest Dissertations and Theses, Retrieved from <http://search.proquest.com/docview/303631938?accountid=12964>
- Muthalaly, A. K. (1987). The application of Ludwig von Bertalanffy's general systems theory as a basis for pastoral assessment of urban South Indian Christian families (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 303631938)
- National Association of Elementary School Principals. (2010). Yearly federal relations conference gathers to talk ESEA. Retrieved April 6, 2010 from <http://www.naesp.org/blog/yearly-federal-relations-conference-gathers-principals-talk-esea-early-childhood>
- National Education Goals Panel. (1991). *The goal 1 technical planning subgroup report on school readiness*. Washington, DC: National Education Goals Panel.

- National Institute for Early Education Research. (2011). *The state of preschool 2011*. Retrieved from <http://nieer.org/sites/nieer/files/2011yearbook.pdf>
- Neuman, S. B. (2003). From rhetoric to reality: The case for high-quality compensatory prekindergarten programs. *Phi Delta Kappan*, 85(4), 286-291. Retrieved from [http://www.kckps.org/teach\\_learn/pdf/group1/t\\_15.pdf](http://www.kckps.org/teach_learn/pdf/group1/t_15.pdf)
- Oyebade, S. A. (2001). Applying the general systems theory to students' conflict management in Nigeria's tertiary institutions. *Lagos Journal of Educational Administration and Planning*, 1(1), 36-49.
- Oklahoma State Department of Education. (2013). *Rules and regulations - early childhood education programs - four-year-olds*. Retrieved from <http://www.ok.gov/sde/early-childhood-and-family-education>
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3<sup>rd</sup> ed.). Thousands Oaks, CA: Sage.
- Peterson, K. & Kaminski, R. A. (2008). *Phase 3: DIBELS connect*. Eugene, OR: Dynamic Measurement Group.
- Pianta, R. C. (2005). A new elementary school for American children. *SRCD Social Policy Report*, 19(3), 4-5.
- Pre-k program overview* (2010). Grapevine, TX: Frog Street Press. Retrieved from <http://www.frogstreet.com/frog-street-pre-k/program-overview>
- Ray, K., & Smith, M. C. (2010). The kindergarten child: What teachers and administrators need to know to promote academic success in all children. *Early Childhood Education*, 38, 5-18.

- Rebecca, P. H. (2009). Research into practice: Doing what's best for children. *Journal of Research in Childhood Education*, 23(4), 539-548. Retrieved from <http://search.proquest.com/docview/203886442?accountid=4117>
- Robin, K. B., Frede, E. C., & Barnett, W. S. (2006). Is more better? The effects of full-day vs. half-day preschool on early school achievement. *National Institute for Early Education Research Working Paper*. New Brunswick, NJ.
- Rodd, J. (2006). *Leadership in early childhood* (3<sup>rd</sup> ed.). Allen.
- Rosney, K. M. (2009). *The relationship between participation in prekindergarten and early elementary achievement*. (Master's thesis, University of Buffalo, State University of New York), Available from ProQuest Dissertations and Theses database.
- Schafer, G. M. (1980). *General systems theory, basic concepts: Implication for an urban school system*. Available from ProQuest Dissertations and Theses. (UMI No. 303053950)
- Sciaraffa, M. (2004). *Profiles of early childhood education administrators: Looking for patterns of leadership* (Unpublished doctoral dissertation). Retrieved from [http://etd.lsu.edu/docs/available/etd040820041623/unrestricted/Sciaraffa\\_dis.pdf](http://etd.lsu.edu/docs/available/etd040820041623/unrestricted/Sciaraffa_dis.pdf)
- Seng, W. (2009). Principles of social systems. Walden University. Retrieved from <http://www.scribd.com/doc/15451256/Learning-Organizations-and-General-Systems-Theory-in-Education>
- Shaw, E. H. (2009). A general theory of systems performance criteria. *International Journal of General Systems*. 38(8), 851-869. Retrieved from <http://www.tandfonline.com/argo.library.okstate.edu/doi/pdf/10.1080/030810709032705>

- Shaw, E. H. (2009). A general theory of systems performance criteria. *International Journal of General Systems*. 38(8), 851-869. doi: [10.1080/03081070903270543](https://doi.org/10.1080/03081070903270543)
- Shaw, N. I. (1998). The use of systems theory in small schools in Texas. Texas A&M University-Commerce. Available from ProQuest Dissertations and Theses database. Retrieved from <http://search.proquest.com/docview/9841393>
- Shulman, K. (2005). *The overlooked benefits of prekindergarten*. National Institute for Early Education Research Policy Report. New Brunswick, NJ.
- Sims, D. L. (2010). *Kindergarten reading readiness: Effects of full day prekindergarten attendance* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3412489)
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Storytown overview* (2012). Orlando, FL: Harcourt. Retrieved from <http://www.harcourtschool.com/storytown/>
- Strauss, D. F. (2002). The scope and limitations of Von Bertalanffy's systems theory. *South African journal of philosophy*, 21(3), 163-179. Retrieved from <http://www.ajol.info/index.php/sajpem/article/view/31343/23317>
- Strickland, D. S. & Riley-Ayers, S. (2007). *Literacy leadership in early childhood: An essential guide*. New York: Teachers College Press.
- Sykes, A. (1992). The Inaugural Coase Lecture. An Introduction to Regression Analysis. Retrieved from <http://www.law.uchicago.edu/node/1309>
- The national institute for early education research*. (2012). Retrieved from <http://www.nieer.org/>

- U.S. Census Bureau (2000). *Enrollment status of the population 3 years old and over, by age, sex, race, Hispanic origin, nativity, and selected educational characteristics* (Population Paper Listing-148). Washington, DC: Author
- Wagner, R. K., Torgeson, J. K., & Rashotte, C. A. (1994). Development of reading-related phonological processing abilities: New evidence of bidirectional causality from a latent variable longitudinal study. *Developmental Psychology*, 30, 73-87.
- Waltner-Toews, D., Kay, J. J., & Lister, N. E. (2008). *The ecosystem approach*. New York: Columbia University Press.
- Wilsey, J. G. (1969). *An application of systems theory in education: Development of an economic model* (Doctoral dissertation, University of New Mexico).
- Zins, J., Bloodworth, M., Weissberg, R. & Walberg, H. (2004). The scientific base linking social and emotional learning to school success. *Building academic success on social and emotional learning: What does the research say?* New York: Teachers Press, Columbia University, 1-22.
- Zivi, S. B. (1987). *Innovation kaleidoscope. Case study: A general systems/cultural analysis of the development of a graduate cooperative education program at a technological university* (Doctoral dissertation, Union for Experimenting Colleges and Universities). Available from ProQuest Dissertations and Theses database. (UMI No. 88096)

## APPENDIX A

### Interview Questions

1. Please tell me about your experience as an educator.
2. What were the factors that led you to this type of career?
3. In your opinion, what is the meaning of “school and reading readiness”?
4. What are your thoughts on the purpose of pre-kindergarten (or kindergarten) education in relation to school and reading readiness?
5. What do you see as the benefits and negative aspects of pre-kindergarten education?
6. How much coordination is there, in respect to alignment, between kindergarten and pre-kindergarten teachers?
7. What types of assessments do you use to determine the skill level of your students?
8. When are these assessments given and how are they administered?
9. What skills are being evaluated with these particular assessments?
10. In your professional opinion, is there a noticeable difference between your students that attended pre-kindergarten and those that did not? If you have seen a difference, would you please describe what you have observed?
11. In your opinion, why differences or lack of differences exist?
12. Other than attendance in a PK program, what factors do you believe have a direct or indirect impact on reading readiness?

13. As a professional educator, what recommendations would you make to parents that would help improve school readiness for children?

14. Is there anything else you would like to share with me on this topic?

## APPENDIX B

Dynamic Measurement Group  
132 E. Broadway, Suite 636  
Eugene, Oregon 97401  
<http://dibels.org/>



DIBELS is a registered trademark of Dynamic Measurement Group, Inc.



Please Recycle (Remove identifiable information)

GRADE  
**K**



Name: \_\_\_\_\_

Student ID: \_\_\_\_\_ School Year: \_\_\_\_\_

Teacher: \_\_\_\_\_

School: \_\_\_\_\_

# Benchmark Assessment

## Kindergarten Scoring Booklet

	1 Beginning	2 Middle	3 End
Date			
FSF			
LNF			
PSF			
NWF			

© 2011 All rights reserved

Revised 12/09/10



# K Kindergarten DIBELS® Next Composite Score Worksheet

© Dynamic Measurement Group, Inc. / August 31, 2010

The DIBELS Composite Score is used to interpret student results for DIBELS Next. Most data management services will calculate the composite score for you. If you do not use a data management service or if your data management service does not calculate it, you can use this worksheet to calculate the composite score.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

## Beginning of Year Benchmark

FSF Score = \_\_\_\_\_ [1]

LNF Score = \_\_\_\_\_ [2]

DIBELS Composite Score (add values 1–2) =

*Do not calculate the composite score if any of the values are missing.*

## Middle of Year Benchmark

FSF Score = \_\_\_\_\_ [1]

LNF Score = \_\_\_\_\_ [2]

PSF Score = \_\_\_\_\_ [3]

NWF CLS Score = \_\_\_\_\_ [4]

DIBELS Composite Score (add values 1–4) =

*Do not calculate the composite score if any of the values are missing.*

## End of Year Benchmark

LNF Score = \_\_\_\_\_ [1]

PSF Score = \_\_\_\_\_ [2]

NWF CLS Score = \_\_\_\_\_ [3]

DIBELS Composite Score (add values 1–3) =

*Do not calculate the composite score if any of the values are missing.*

[illegible]

137

### Kindergarten Benchmark Goals and Cut Points for Risk

Measure	Score Level	Likely Need for Support	Beginning of Year	Middle of Year	End of Year
DIBELS	At or Above Benchmark	Likely to Need Core Support	26 +	122 +	119 +
Composite	Below Benchmark	Likely to Need Strategic Support	13 - 25	85 - 121	89 - 118
Score	Well Below Benchmark	Likely to Need Intensive Support	0 - 12	0 - 84	0 - 88
FSF	At or Above Benchmark	Likely to Need Core Support	10 +	30 +	
	Below Benchmark	Likely to Need Strategic Support	5 - 9	20 - 29	
	Well Below Benchmark	Likely to Need Intensive Support	0 - 4	0 - 19	
PSF	At or Above Benchmark	Likely to Need Core Support		20 +	40 +
	Below Benchmark	Likely to Need Strategic Support		10 - 19	25 - 39
	Well Below Benchmark	Likely to Need Intensive Support		0 - 9	0 - 24
NWF-CLS	At or Above Benchmark	Likely to Need Core Support		17 +	28 +
	Below Benchmark	Likely to Need Strategic Support		8 - 16	15 - 27
	Well Below Benchmark	Likely to Need Intensive Support		0 - 7	0 - 14

The benchmark goal is the number provided in the At or Above Benchmark row. The cut point for risk is the first number provided in the Below Benchmark row.

### Kindergarten Odds of Meeting Selected Later Important Reading Outcomes from Benchmark Goal Research

Measure	Score Level	Odds of being on track on the Middle of Year DIBELS Composite Score based on the Beginning of Year DIBELS Composite Score	Odds of being on track on the End of Year DIBELS Composite Score based on the Middle of Year DIBELS Composite Score	Odds of being on track on GRADE based on the End of Year DIBELS Composite Score
DIBELS Composite Score	At or Above Benchmark	84%	83%	74%
	Below Benchmark	50%	38%	50%
	Well Below Benchmark	22%	35%	36%
FSF	At or Above Benchmark	81%	76%	
	Below Benchmark	43%	43%	
	Well Below Benchmark	33%	29%	
PSF	At or Above Benchmark		75%	70%
	Below Benchmark		54%	56%
	Well Below Benchmark		38%	50%
NWF-CLS	At or Above Benchmark		82%	74%
	Below Benchmark		46%	63%
	Well Below Benchmark		30%	20%

*Note.* This table shows the odds of being on track for the DIBELS Composite Score at the middle and end of the year and the GRADE assessment administered at the end of the year, based on the student's DIBELS Composite Score at the beginning, middle, and end of the year. The 40th percentile for the GRADE assessment was used to indicate whether the student was on track.

## Central Early Childhood ELA Standards

### Reading Standards for Literature (RL)

Pre-Kindergarten	Kindergarten
<b>Key Ideas and Details</b>	
PK.RL.1. With prompting and support, express ideas and answer questions about a story or poem read aloud.	K.RL.1. With prompting and support, ask and answer questions about key details in a text.
PK.RL.2. With prompting and support, retell a sequence of events from a story read aloud.	K.RL.2. With prompting and support, retell familiar stories, including key details.
PK.RL.3. With prompting and support, act out characters and events from a story or poem read aloud.	K.RL.3. With prompting and support, identify characters, settings, and major events in a story.
<b>Craft and Structure</b>	
PK.RL.4. With prompting and support, answer questions about unfamiliar words in a story or poem read aloud.	K.RL.4. Ask and answer questions about unknown words in a text.
PK.RL.5. Students interact with a variety of common types of texts (e.g. storybooks, poems, songs).	K.RL.5. Recognize common types of texts (e.g., storybooks, poems).
PK.RL.6. With prompting and support, can describe the role of an author and illustrator.	K.RL.6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.
<b>Integration of Knowledge and Ideas</b>	
PK.RL.7. With prompting and support, students will engage in a picture walk to make predictions and connections between self, illustrations, and the story.	K.RL.7. With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).
PK.RL.8. (Not applicable to literature)	8. (Not applicable to literature)
PK.RL.9. With prompting and support, make connections between a story or poem and one's own experiences.	K.RL.9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.
<b>Range of Reading and Level of Text Complexity</b>	
PK.RL.10. Actively engage in group reading activities with purpose and understanding.	K.RL.10. Actively engage in group reading activities with purpose and understanding.



**Reading Standards for Informational Text (RI)**

<b>Pre-Kindergarten</b>	<b>Kindergarten</b>
<b>Key Ideas and Details</b>	
PK.RI.1 With prompting and support, express ideas and answer questions about an informational text read aloud.	K.RI.1. With prompting and support, ask and answer questions about key details in a text.
PK.RI.2 With prompting and support, recall important facts from an informational text after hearing it read aloud.	K.RI.2. With prompting and support, identify the main topic and retell key details of a text.
PK.RI.3 With prompting and support, represent or act out concepts learned from hearing an informational text read aloud.	K.RI.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.
<b>Craft and Structure</b>	
PK.RI.4 With prompting and support, answer questions about unfamiliar words in an informational text read aloud.	K.RI.4. With prompting and support, ask and answer questions about unknown words in a text.
PK.RI.5 Identify the front cover, back cover, spine, and title page of a book.	R.RI.5. Identify the front cover, back cover, and title page of a book.
PK.RI.6 Distinguish between literature (fiction) and informational text (non-fiction).	K.RI.6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.
<b>Integration of Knowledge and Ideas</b>	
PK.RI.7 With prompting and support, describe important details from an illustration or photograph.	K.RI.7. With prompting and support, describe the relationships between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text and illustration depicts).
PK.RI.8 (Begins in kindergarten or when the individual child is ready.)	K.RI.8. With prompting and support, identify the reason an author gives to support points in a text.
RI.PK.9 (Begins in kindergarten or when the individual child is ready.)	K.RI.9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
<b>Range of Reading and Level of Text Complexity</b>	
	K.RI.10. Actively engage in group reading activities with purpose and understanding.

### Reading Standards for Foundational Skills (RF)

Pre-Kindergarten	Kindergarten
<b>Print Concepts</b>	
<p>PK.RF.1. Demonstrate understanding of the organization and basic features of printed and written text: books, words, letters, and the alphabet.</p> <p>a. Demonstrate book awareness: handle books respectively and appropriately, holding them right-side up and turning pages one at a time from front to back.</p> <p>b. Follows print from left to right and top to bottom.</p> <p>c. Recognize that letters are grouped to form words.</p> <p>d. Recognize and name some upper/lowercase letters of the alphabet, especially those in their own name.</p> <p>e. Differentiate letters from numerals.</p>	<p>K.RF.1. Demonstrate understanding of the organization and basic features of print.</p> <p>a. Follow words from left to right, top to bottom, and page by page.</p> <p>b. Recognize that spoken words are represented in written language by specific sequences of letters.</p> <p>c. Understand that words are separated by spaces in print.</p> <p>d. Recognize and name all upper and lowercase letters of the alphabet.</p>
<b>Phonological Awareness</b>	
<p>PK.RF.2. Demonstrate understanding of spoken words and sounds (phonemes).</p> <p>a. Recognize rhyming words.</p> <p>b. Segment simple sentences into words.</p> <p>c. Identify the initial sound of a spoken word.</p>	<p>K.RF.2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes).</p> <p>a. Recognize and produce rhyming words.</p> <p>b. Count, pronounce, blend, and segment syllables in spoken words.</p> <p>c. Blend and segment onsets and rimes of single-syllable spoken words.</p> <p>d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. *(This does not include CVCs ending with /l/, /r/, or /x/.)</p> <p>e. Add or subtract individual sounds (phonemes) in simple, one-syllable words to make new words.</p>
<b>Phonics and Word Recognition</b>	
<p>PK.RF.3 Know and apply grade-level phonics and word analysis skills in decoding words.</p> <p>a. Demonstrate a link between letters and sounds.</p> <p>b. Identify name in print.</p> <p>c. Recognize and “read” familiar words or environmental print (e.g., numbers, letters, one’s name, familiar logos, and environmental print such as stop signs).</p>	<p>K.RF.3. Know and apply grade-level phonics and word analysis skills in decoding words.</p> <p>a. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.</p> <p>b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels.</p> <p>c. Read common high-frequency words by sight (e.g., the, of, you, she, my, is, are, do, does).</p> <p>d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ.</p>
<b>Fluency</b>	
PK.RF.4 Recite nursery rhymes, poems, songs, chants, and books.	K.RF.4. Read emergent-reader texts with purpose and understanding.

### Writing Standards (W)

Pre-Kindergarten	Kindergarten
<b>Text Type and Purposes</b>	
W.PK.1 With prompting, use a combination of drawing, dictating, and emergent writing to express an opinion or preference about a book or topic (e.g. I like ____ because ____).	K.W.1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is...).
W.PK.2 With modeling and support, use a combination of drawing, dictating, and emergent writing to extend learning of a topic.	K.W.2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.
	K.W.3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.
<b>Production and Distribution of Writing</b>	
W.PK.4. (Begins in grade 3)	K.W.4. (Begins in grade 3)
W.PK.5. (Begins in Kindergarten or when child is ready.)	K.W.5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.
W.PK.6 Explore a variety of digital tools.	K.W.6. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.
<b>Research to Build and Present Knowledge</b>	
K.W.7. (Begins in Kindergarten or when child is ready.)	K.W.7. Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).
K.W.8. (Begins in Kindergarten or when child is ready.)	K.W.8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
PK.W.9. (Begins in grade 4)	K.W.9. (Begins in grade 4)



### Standards for Speaking and Listening (SL)

Pre-Kindergarten	Kindergarten
<b>Comprehension and Collaboration</b>	
PK.SL.1. Participate in conversations during daily routines and play.  a. Observe and use appropriate ways of interacting in a group.  b. Continue a conversation through multiple exchanges.	K.SL.1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.  a. Follow agreed-upon rules for discussions (e.g., listening to others and talking turns speaking about the topics and texts under discussion).  b. Continue a conversation through multiple exchanges.
PK.SL.2. (Begins in Kindergarten or when child is ready.)	K.SL.2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
PK.SL.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.	K.SL.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
<b>Presentation of Knowledge and Ideas</b>	
PK.SL.4. Describe personal experiences; tell real or imaginary stories.	K.SL.4. Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.
PK.SL.5. Create representations of experiences or stories and explain them to others.	K.SL.5. Add drawings or other visual displays to descriptions as desired to provide additional detail.
PK.SL.6. Speak audibly and express thoughts, feelings, and ideas.	K.SL.6. Speak audibly and express thoughts, feelings, and ideas clearly.

## Standards for Language (L)

Pre-Kindergarten	Kindergarten
<b>Conventions of Standard English</b>	
<p>PK.L.1. Demonstrate use of informal English grammar when writing and speaking.</p> <ol style="list-style-type: none"> <li>Print some upper and lowercase letters.</li> <li>Use frequently occurring nouns and verbs (orally).</li> <li>With prompting, begins to understand and use question words (e.g., who, what, where, when, why, and how).</li> <li>Demonstrate understanding of frequently occurring prepositions (e.g., to, from, in, out, on, off, about, under, beside, behind, etc.).</li> <li>Speak in complete sentences to express ideas and thoughts.</li> <li>With guidance and support, produce and expand complete sentences in shared language activities.</li> </ol>	<p>K.L.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <ol style="list-style-type: none"> <li>Print many upper and lowercase letters.</li> <li>Use frequently occurring nouns and verbs.</li> <li>Form regular plural nouns orally by adding /s/ or /es/ (e.g., dog, dogs; wish, wishes).</li> <li>Understand and use question words (interrogatives) (e.g., who, what, where, when, why, how).</li> <li>Use the most frequently occurring prepositions (e.g., to, from, in, out, on, off, for, of, by, with).</li> <li>Produce and expand complete sentences in shared language activities.</li> </ol>
<p>PK.L.2. Demonstrates command of the conventions of standard English grammar and usage when writing and speaking.</p> <ol style="list-style-type: none"> <li>Write name.</li> <li>Attempt to write a letter or letter-like symbols to represent a word.</li> <li>With guidance and support, attempt to spell simple words phonetically, drawing on knowledge of sound-letter relationships.</li> </ol>	<p>K.L.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ol style="list-style-type: none"> <li>Capitalize the first word in a sentence and the pronoun I.</li> <li>Recognize and name end punctuation.</li> <li>Write a letter or letters for most consonant and short-vowel sounds (phonemes).</li> <li>Spell simple words phonetically, drawing on knowledge of sound-letter relationships.</li> </ol>
<b>Knowledge of Language</b>	
PK.L.3. (Begins in grade 2)	K.L.3. (Begins in grade 2)
<b>Vocabulary Acquisition and Use</b>	
<p>L.PK.4. With guidance, ask and answer questions about the meaning of new words and phrases introduced through books, activities, and play.</p> <ol style="list-style-type: none"> <li>Identify by name basic colors.</li> <li>Generate words that are similar in meaning (e.g., happy/glad, angry/mad).</li> </ol>	<p>K.L.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content.</p> <ol style="list-style-type: none"> <li>Identify new meanings for familiar words and apply them accurately (e.g., knowing duck is a bird and learning the verb to duck).</li> <li>Uses the most frequently occurring inflections and affixes (e.g., -ed, -s, re-, un-, pre-, -ful, -less) as a clue to the meaning of an unknown word.</li> </ol>
<p>L.PK.5. With guidance and support from adults, explore word relationships.</p> <ol style="list-style-type: none"> <li>Demonstrate understanding of concepts by sorting common objects into categories to gain a sense of the concepts the categories represent.</li> <li>Begins to demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).</li> <li>Apply words learned in classroom activities to real-life examples.</li> </ol>	<p>K.L.5. With guidance and support from adults, explore word relationships and nuances in word meanings.</p> <ol style="list-style-type: none"> <li>Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.</li> <li>Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).</li> <li>Identify real-life connections between words and their use (e.g., note places at school that are colorful).</li> <li>Distinguish shades of meaning among verbs describing the same general action (e.g., walk, march, strut, prance) by acting out the meanings.</li> </ol>
<p>L.PK.6. Use words and phrases acquired through conversations, listening to books read aloud, activities, and play.</p>	<p>K.L.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.</p>

## APPENDIX D

### Oklahoma State University Institutional Review Board

Date: Thursday, June 06, 2013  
IRB Application No ED13100  
Proposal Title: Early Childhood Education: Understanding Pre-Kindergarten and Kindergarten Readiness Through Systems Inventory

Reviewed and  
Processed as: Exempt

**Status Recommended by Reviewer(s): Approved Protocol Expires: 6/5/2014**

Principal  
Investigator(s):

James G. White	Edward Harris
3921 Deer Brook Trail	308 Willard
Piedmont, OK 73078	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

X The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI, advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnnett Watkins 219 Cordell North (phone: 405-744-5700, dawnnett.watkins@okstate.edu).

Sincerely,



Shelia Kennison, Chair  
Institutional Review Board

In-Person Request for Assessment Information

Hello, my name is James White and I am currently working on a research project for my doctoral dissertation. My topic deals with pre-kindergarten attendance and reading readiness.

It is my understanding that you, in your role as Director of Curriculum, have access and the ability to share reading assessment results for the school district.

Is this correct? (If answer is yes, continue. If answer is no, thank them for their time and end conversation)

I am requesting the initial DIBELS results for the last two groups of Kindergarten students. I am also requesting that all indentifying information, with the exception of free/reduced lunch, be removed before granting access.

(Pause for questions)

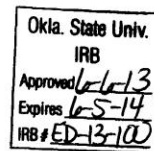
Please understand these results will be kept confidential and destroyed at the completion of the project. Consent forms will also be signed at the time the data is acquired.

(Pause for more questions)

Exchange information in order to schedule a time for picking up the requested data.

Thank you for your help.

Updated: November 2012



Telephone Teacher Interview Request Script

Hello, this is James White. I am working on my doctoral dissertation, which examines pre-kindergarten attendance and reading readiness. I would like to interview six Kindergarten teachers with classroom experience and your name was given to me by your principal. Your principal stated that you have been a Kindergarten teacher in your school for at least the past two school years.

Is this information correct? (If the answer is yes, proceed. If the answer is no, thank them for their time and move to the next name)

If you are interested in participating in the interview, I will be asking approximately 10 main questions, with an opportunity for further follow-up questions. The interview will last between 45 minutes and 1 hour. I would also like to observe your classroom at your convenience.

Any questions so far?

The interview can take place wherever you are most comfortable. This includes your classroom. I want to let you know that all information will be kept confidential. The interview will be recorded, but all recordings will be kept secure and erased after the research is complete. All names or identifying information will be changed to a pseudonym. There will be consent forms to sign at the time of the interview.

(Pause for more questions)

(Exchange information in order to schedule time and place of interview.)

Thank you for visiting with me and I look forward to working with you.

Updated: November, 2012

Okla. State Univ.
IRB
Approved <u>10-13</u>
Expires <u>10-5-14</u>
IRB # <u>ED-13-102</u>

### INFORMED CONSENT

Project Title: Early Childhood Education: Pre-Kindergarten Attendance and Its Effects on Reading Readiness

Investigator: James G. White

Bachelor of Science, Secondary Education, Oklahoma State University,  
Stillwater, OK 1994

Master of Science in School Administration, Northeastern State  
University, Tahlequah, OK 2000

Doctoral Candidate, Oklahoma State University, Stillwater, OK

Purpose: The purpose of this study is to explore a selected pre-kindergarten program and the extent of their provision for school readiness. The school where you work offers a voluntary pre-kindergarten program and some of your students attended this program. Therefore, teachers will be interviewed in relation to their students' reading readiness. Interviews will last approximately one-hour and will consist of pre-determined questions.

Procedures: You are invited to take part in this study by participating in one interview lasting up to one hour.

As the researcher, I agree to meet the following conditions:

1. I will audiotape our interview with your permission and the tape will be transcribed for the purpose of accuracy. I will give you a copy of the transcript so that you may see that I have captured your words correctly. At the end of the study, the tapes and transcripts will be erased or destroyed.
2. I will assign a pseudonym on the transcript or you may choose one yourself. Your real name will not be used at any point of information collection or in my research.
3. Data collected for this project will be used to gauge the effectiveness of the Pre-kindergarten program. All person identifiers will be removed to ensure confidentiality.

Updated: November, 2012

Okla. State Univ.
IRB
Approved 6/6-13
Expires 6-5-14
IRB # ED-B-10

Risks of Participation: There are no known risks associated with this project that are greater than those ordinarily encountered in daily life.

Benefits: The significance of this study cannot be underestimated. Research about the benefits of early childhood education is extensive, but districts have few models or theoretical frameworks for determining if all-day programs are more beneficial than half-day programs. This case study will add to the literature and, with further research, may provide a model for other districts to assess whether early childhood programs provide for better school readiness.

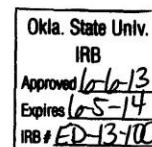
Confidentiality: All data will be secured on my password protected laptop computer, which will be kept in my possession. The data will be backed up on a flash drive that will be kept in a locked file cabinet. Upon transcription and coding of interview questions, I will erase the audio tapes. After the case study is completed (no later than December of 2013), all electronic data will be deleted and hard copies shredded to protect the anonymity and confidentiality of participants. Participants will be advised at the beginning of interviews that data is confidential, has no impact on employment or the students' education, and will be carefully secured. The record of this study will be kept private. Any written results will discuss group finding and will not include information that will identify you. Research records will be stored securely and I will be the only one with access to the records. It is possible that the consent process and data collection will be observed by research oversight staff responsible for safeguarding the rights and well being of people who participate in research.

Compensation: None

Contacts:	James G. White 3921 Deer Brook Trail Piedmont, OK 73078 (405) 596-7190 <a href="mailto:james.white@piedmontschools.org">james.white@piedmontschools.org</a>	Dr. Ed Harris (Advisor) 310 Willard Hall Oklahoma State University Stillwater, OK 74078 (405) 744 9445 <a href="mailto:ed.harris@okstate.edu">ed.harris@okstate.edu</a>
-----------	---	--

Your suggestions and concerns are important to us. Please contact me or my advisor with any questions. For information on subjects' rights, contact Dr. Sheila Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or send email to [irb@okstate.edu](mailto:irb@okstate.edu)

Updated: November, 2012



Participant Rights: As a participant in this research, you are entitled to know the nature of my research. You are free to decline to participate and you are free to stop the interview or withdraw from the study at any time. No penalty exists for withdrawing your participation. Feel free to ask any questions at any time about the nature of the research and the methods I am using.

Signatures: I have read and fully understand the consent form and I sign it freely and voluntarily. A copy of this form has been to me.

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

I certify that I have personally explained this document before requesting that the Participant sign it.

\_\_\_\_\_  
Signature of Researcher

\_\_\_\_\_  
Date

Updated: November, 2012





## VITA

James G. White

Candidate for the Degree of

Doctor of Education

Thesis: EARLY CHILDHOOD EDUCATION: UNDERSTANDING PRE-KINDERGARTEN AND KINDERGARTEN READINESS THROUGH SYSTEMS THEORY

Major Field: School Administration

Biographical:

Education:

Completed the requirements for the Doctor of Education in School Administration at Oklahoma State University, Stillwater, Oklahoma in December 2013.

Completed the requirements for the Master of Science in School Administration at Northeastern State University, Tahlequah, OK in December 2000.

Completed the requirements for the Bachelor of Science in Secondary Education at Oklahoma State University, Stillwater, OK in May 1994.

Experience:

2010 – Present	Superintendent – Piedmont Public Schools
2008-2010	Asst. State Supt. – Oklahoma State Dept. of Education
2005-2008	High School Principal – Sperry Public Schools
2003-2005	Elementary Principal – Tahlequah Public Schools
2001-2003	Junior High Principal – Roland Public Schools
1994-2001	High School/Middle School Teacher/Coach

Professional Memberships:

Cooperative Council of School Administrators  
Oklahoma Association of School Administrators  
American Association of School Administrators

Name: James G. White

Date of Degree: December, 2013

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: EARLY CHILDHOOD EDUCATION: UNDERSTANDING  
PRE-KINDERGARTEN AND KINDERGARTEN READINESS  
THROUGH SYSTEMS THEORY

Pages in Study: 162

Candidate for the Degree of Doctor of Education

Major Field: School Administration

Scope and Method of Study: This naturalistic inquiry case study explored a selected pre-kindergarten program and the extent of its provision for school readiness through the lens of General Systems Theory. Assessment results from kindergarten students at three separate elementary schools were analyzed, interviews were completed with select early childhood educators, and observations of pre-kindergarten classrooms were conducted.

Findings and Conclusions: The findings of this study are meant to contribute to the body of literature relating to early childhood education and school readiness. Of the 293 kindergarten students that had attended pre-kindergarten, 88% scored at or well above the benchmark on the assessment tool. In contrast, of the remaining 116 students who had not attended PK, only 61% met or scored above the DIBELS benchmark. These percentages provide statistical evidence of the positive results of early literacy instruction on school readiness. Additionally, a chi-square and simple regression analysis also suggest participation in pre-kindergarten is a determining factor on school readiness as measured by specific literacy skills. These findings will be beneficial as the expansion of early childhood programs continue.

ADVISER'S APPROVAL: Dr. Ed Harris

---