Ready or Not for K5: A Study on Early Childhood Interventions Within Special Education and General Education Setting

Paulette Mizzell

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READY OR NOT FOR K5: A STUDY ON EARLY CHILDHOOD INTERVENTIONS WITHIN SPECIAL EDUCATION AND GENERAL EDUCATION SETTING

by

Paulette Mizzell

Associate of Arts Degree
Spartanburg Methodist College, 1998

Bachelor of Arts
University Of South Carolina, 2000

Master of Education
American Intercontinental University, 2006

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Accepted by:
Yasha Jones Becton, Major Professor
Leigh D’Amico, Committee Member
Suzy Hardie, Committee Member
Juliet White, Committee Member
Tracey L. Weldon, Interim Vice Provost and Dean of the Graduate School
Dedication

First, I want to thank God for giving me the strength and courage to begin this journey and for his grace and continuous reminders of his promises to help me succeed. I dedicate this dissertation to my family and friends, especially my two sons, Winton and John Paul, who never doubted and always encouraged me along this journey. Lastly, I dedicate this work to Pops, my late grandfather Watson Oliver Mizzell, who instilled a passion in me as a child to love and to see things grow, even people. I know in my heart that you would be proud of me for reaching this goal. Your spirit lives and continues to inspire me daily.
Acknowledgments

I cannot thank Dr. Yasha Becton enough for her continued support and feedback that have molded me as a professional and helped me produce a well-organized study. I would also like to thank Dr. Leigh D'Amico, Dr. Suzy Hardie, and Dr. Juliet White, who were willing to serve on my committee and kindly helped me improve my work. Thank you to Dr. Juliet White, who unknowingly inspired me to pursue my dream.
Abstract

This action research study describes how using the Enhanced Alphabet Knowledge model affects preschool students' readiness for Kindergarten. The theoretical framework that supported this study was based on Cindy Jones’, Sarah Clark's, and D. Ray Reutzel's Enhanced Alphabet Knowledge Method (2013). This study used quantitative data to further indicate the impact and importance of early intervention classrooms. The participants of this study included eight students from one preschool intervention class. Data collection instruments included pre-and post-phonological awareness literacy screening scores and a teacher questionnaire. Results of this study indicated that the majority of student participants experienced an increase in literacy knowledge when the Enhanced Alphabet Knowledge model (Jones et al., 2013) was implemented into the early intervention classroom.
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<tr>
<td>AK</td>
<td>Alphabet Knowledge</td>
</tr>
<tr>
<td>CDEP</td>
<td>Child Development Education Program</td>
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<td>CPC</td>
<td>Child-Parent Centers</td>
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<td>DIAL-3</td>
<td>Developmental Indicators for the Assessment of Learning</td>
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<td>DIAL-4</td>
<td>Developmental Indicators for the Assessment of Learning</td>
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<td>EAK</td>
<td>Enhanced Alphabet Knowledge</td>
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<tr>
<td>IDEA</td>
<td>Individuals with Disabilities Education Act</td>
</tr>
<tr>
<td>IEP</td>
<td>Individualized Education Plan</td>
</tr>
<tr>
<td>K4</td>
<td>Kindergarten for students age four</td>
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<tr>
<td>K5</td>
<td>Kindergarten for students age five</td>
</tr>
<tr>
<td>PALS</td>
<td>Phonological Awareness Literacy Screening</td>
</tr>
<tr>
<td>PCD</td>
<td>Preschool Children with Disabilities</td>
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<tr>
<td>PreK</td>
<td>Preschool</td>
</tr>
<tr>
<td>SCIRA</td>
<td>South Carolina State Council of the International Reading Association</td>
</tr>
<tr>
<td>WWC</td>
<td>What Works Clearinghouse</td>
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<tr>
<td>ZPD</td>
<td>Zone of Proximal Development</td>
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Chapter 1

Introduction

The concept of Kindergarten readiness has multiple factors, and even multiple meanings, dependent on who is asked, making it truly complex. The idea of readiness takes into account chronological age, developmental age, specific academic and social skills, and home-school connections, along with many other variables affecting the student (Hatcher et al., 2012). Knowing all that Kindergarten readiness encompasses, “high quality early childhood education makes a difference” (Candal, 2020, p.1). The Perry Preschool Project continues to show evidence of this, even after monitoring a group of students over fifty years (HighScope Foundation, 2018). Visionary David Weikart, and principal Charles Beatty, began The Perry Project seeking to explore “whether access to high-quality education could have a positive impact on preschool children and the communities in which they live” (HighScope Foundation, 2018). According to the HighScope Foundation (2018), the Perry Preschool Project led to the establishment of the HighScope Education Research Foundation and one of the first early childhood programs in the United States intentionally designed to increase school success for preschool children living in poverty and continues to prove the positive impact high-quality early education has on children and their families.

As a result of the “increased academic demands of Kindergarten” preschool expectations are more academically modeled versus play-based programs (Hatcher et al, 2012 p. 2). Therefore, transitioning from preschool to Kindergarten has been labeled a
“sensitive time” (Rimm-Kaufman, 2000, et al., p. 27) and “an important developmental mile-stone for children and families” (Wildenger and McIntyre, 2010, p. 1).

The difference early childhood education makes in Kindergarten readiness is evident within the research. The research of Infurna & Montes (2020) compared Kindergarten readiness between students who attended two years of preschool with those who attended only one year of preschool and found that the number of days in attendance was vital for academic Kindergarten readiness. More specifically, Bowman et al., (2001), found that early experiences, including preschool literacy instruction, were contributing factors for later reading success. These experiences can be found in the literacy programs studied by Petrova et al., (2020). In this study, the researchers compared a newly adopted literacy program that included purposeful literacy practices to previous programs which “lacked explicit goals and frameworks for targeting written language and literacy in early childhood education” (Petrova et al., 2020 p. 55). Results indicated that the new approach to reading supported improvement in understanding implicit meaning but no growth difference in phonemic awareness (Petrova et al., 2020).

Petrova et al., (2020) noted,

> Learning to read has long been held to be a necessary ingredient for success in school and life. But long before children are formally taught to read, and long before they become independent readers, they learn about the function and process of reading. (p. 51)

This function and process of reading is often taught in preschool programs.

The challenges of implementing early childhood education have not just been a national concern, individual states have also been tasked with determining the best course forward for formally implementing early childhood education programs.
Acknowledgment of the need for early childhood education in South Carolina began in the early 1980s (Carolan, 2013). In 1984, the South Carolina Education Improvement Act was passed and established the state's first preschool education initiative, creating the Half-Day Child Development Program, commonly referred to as K4 (Carolan, 2013). In 1999, South Carolina First Steps to School Readiness was designed after determining that one out of every seven children in South Carolina was unprepared for first grade (Carolan, 2013). In 2006, the Child Development Education Pilot Program (CDEPP) was created as a result of the Abbeville County School District vs. South Carolina court case (South Carolina Department of Education, 2019), which ruled that South Carolina was not providing children in thirty-six high poverty districts a "minimally adequate education" (p. 8). The CDEPP program's goal was to expand K4 in both public school districts and non-public preschools (Carolan, 2013). South Carolina First Steps now oversees programs in non-public settings (Carolan, 2013). It was reported in 2019 that K4 and CDEPP/K4 programs serve over twenty-eight thousand children in the state of South Carolina (South Carolina Department of Education, 2019).

In 2016, the South Carolina General Assembly approved funding for many of the state's economically challenged four-year-old students to have the opportunity to attend a full-day educational program (South Carolina Department of Education, 2019). While 24,000 students seem like an astounding number, according to the 2015 United States Census Bureau, South Carolina houses 293,000 children under the age of five years old. The approved funding only applies to districts that meet the 70% poverty level. School districts that do not qualify for such funding provide K4 programs at their own expense.
The researcher's school district is not eligible for such funding even though some of its schools serve students in which 80% qualify for free or reduced lunch rate.

Statement of the Problem of Practice

While five-year-old Kindergarten was once the introductory year for students entering school in preparedness for first grade, more students are starting school at the preschool level. This increasing demand is partly due to legislation. The No Child Left Behind Act of 2001 placed a higher level of accountability for student success, especially in English Language Arts (Justice et al., 2009). This shift in accountability included the time when students enter school as the law, according to the South Carolina State Department of Education (2021), school attendance is mandatory and compulsory for all five-year-old children. More significantly, the South Carolina's Education ACT 284 - Read to Succeed legislation was created in 2015 to address literacy performance in South Carolina and put in place a comprehensive system of support to ensure South Carolina’s students graduate on time with the literacy skills they need to be successful in college, careers, and citizenship (South Carolina's Education ACT 284 -Read to Succeed legislation, 2015). Therefore, literacy standards for Kindergarten students increased dramatically. According to this legislation, readers who are not performing as expected by the end of third grade may be retained (South Carolina's Education ACT 284 -Read to Succeed legislation, 2015).

Because the bar to enter Kindergarten and Kindergarten standards have been raised over the past few years, students in South Carolina face a potential achievement gap entering K5. Due to this phenomenon, there has been an increase in parental requests
at Eastern Sky Elementary School\textsuperscript{1} to retain students and an increase in referrals to provide students with extensive interventions that may lead to formal evaluations for Special Education services because the opportunity gap is viewed as a possible student developmental delay.

As a special education teacher of preschool children with disabilities (PCD), the teacher-researcher serves students who attend a K4 general education and a preschool special education class. The PCD program is a half-day program that serves children ages 3-5 in schools of the child's zoned school. Students qualify for services through careful assessments and evaluations by psychologists, speech therapists, occupational therapists, and physical therapists. Students can be referred through BabyNet, Child Find, and physicians. Since the PCD program is a half-day program, students can also take advantage of attending K4 in a general education environment for the second half of the day, providing the student with a full day of school and specialized instruction.

Students enrolled in PCD classrooms typically transition to self-contained classes as their least restrictive environment once they reach five years of age. It has been the teacher researcher's observation that preschool children with disabilities are more likely to be afforded the opportunity to attend the K5 general education class as their least restrictive environment if they are allowed to experience dual enrollment in both the K4 classroom and a PCD classroom. This phenomenon demonstrates how significant the instruction that occurs in the PCD classroom can be. This research study will focus on one of the key instructional strategies (the Enhanced Alphabet Knowledge Method) used to ensure the preparedness of students transitioning into a general education classroom.

\textsuperscript{1} Pseudonym for the name of the elementary school.
setting. Essentially, this is a method that was developed to ensure that students learn the alphabet. “Knowledge of the names, sounds, and symbols of the letters of the alphabet or alphabetic knowledge is essential for learning to read and write” (Jones et al., 2012, p. 81).

**Research Question**

For this research study, the following research question will be explored:

What impact does the use of the Enhanced Alphabet Knowledge Method (Jones et al., 2012) within an early childhood intervention classroom have on students' Kindergarten readiness in literacy?

**Theoretical Framework**

Lev Vygotsky is a Russian psychologist of the early 1900’s, whose work on the psychological development of children has been developed and interpreted by researchers (Eun, 2018). The theoretical framework of this study is Vygotsky’s Zone of Proximal Development (ZPD). The ZPD is defined as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). Valsiner & van der Veer (2000) noted the development of ZPD may be influenced by Vygotsky’s interest in theater and literature where dialogue interactions occur that require interpretation of verbal exchanges. Smagorinsky (2018) defines ZPD as “distributed, historically grounded, interactive, and always concerned with long-term development of the whole person” (p. 255). Smagorinsky states that “the ZPD is typically linked to instructional
scaffolding, a teaching method designed to provide assistance to learner at early stages of instruction that is gradually removed to allow for independent performance” (p. 253).

**Understanding Enhanced Alphabet Knowledge**

This research study utilizes a theoretical framework based on Cindy Jones', Sarah Clark's, and D. Ray Reutzel's Enhanced Alphabet Knowledge (EAK) method. Jones et al., (2012) developed the EAK method to improve current methods of alphabet knowledge instruction as they were failing to meet the needs of young children (Piasta and Wagner, 2010). This method was derived through the research-based advantages of alphabet knowledge acquisition found in the research (Justice et al., 2006; Treiman et al., 2007b). The EAK method consists of multiple instructional cycles, making it possible for the teacher to make adjustments through pacing and exposure frequency (Jones et al., 2012). Making adjustments is especially important to students who have learning disadvantages. The researchers emphasized flexible cycling review, which includes teacher modeling, using the upper-case and lowercase form of the letter simultaneously, followed by guided practice in identifying letter names and sounds, recognizing the letter in text, and producing the letter form. Essentially, the three primary components of the EAK model include identifying letter name and sound, being able to recognize the letter in text, and being able to produce the letter form (Jones et al., 2012) (See Figure 1.1). The results of the study by Jones et al., (2012) indicated an increase in student learning when the EAK method was the method of instruction versus traditional methods. Traditional methods introduce one letter a week (Bowman & Treiman, 2004). At this rate, it would take nearly the entire school year to introduce all of the letters of the alphabet versus one month with the EAK method (Jones et al., 2012). The traditional
method of one letter a week places a further disadvantage on students who are already considered at-risk as learning requires repetition and practice (Piasta and Wagner, 2010; Jones et al., 2012). Furthermore, some students may already have knowledge of some letters making it unnecessary to “devote an entire week learning a letter that is already known” (Jones et al., 2012 p. 81). The cycle of the EAK method would allow learning to continue that week for those students (Jones et al., 2012).

Figure 1.1. The components of the enhanced alphabet knowledge model.

**Purpose of Study**

The purpose of this action research study was to examine the impact of the implementation of the EAK model in an early intervention classroom. This action research study explored students' Kindergarten readiness in literacy by implementing a specific instructional method. Embedded within the use of *Creative Curriculum*, the Enhanced Alphabet Knowledge method of instruction (EAK) is a practical instructional method that early childhood teachers can use to organize, plan, and teach the essential skills of alphabet knowledge (Jones et al., 2012). It also “emphasizes identifying the letter name and sound, recognizing the letter in the text, and producing the letterform
through flexible, distributed cycles of review based on factors that influence alphabet knowledge acquisition” (Jones et al., 2012 p. 81).

An additional purpose of this study was to examine the importance of student readiness for Kindergarten. Leger, Roberts, and Sharpe of the Overdeck Family Foundation (2021) describe the importance of Kindergarten readiness as “being foundational to later success, both inside and outside the classroom” (p. 4). A five-year-old child who performs better on school readiness assessments tends to experience more academic success in grade school and less likely to drop out of high school. (Duncan et al., 2007). According to a study by the American Academy of Pediatrics, (2020) Kindergarten readiness is linked to a lifestyle advantage that could reduce the health burden generated by high school dropouts.

Unlike other studies on methods to teach literacy, this study applied a specific method to students who attend an intervention preschool classroom, some with identified developmental delays or other disabilities. An additional purpose of this study is to explore if this particular instructional method aids in preparing students with developmental delays for a general education Kindergarten setting.

**Overview of Methodology**

Action research allows a hands-on approach for the researcher, exploring areas in which a teacher-researcher can improve student learning (Mertler, 2014). Action research develops one's awareness of their practice and therefore has personal meaning (Mertler, 2014). The outcomes can potentially change a teacher's practice.

This action research study utilized quantitative data collection techniques. For the purpose of this study, the researcher utilized data collected from two assessments
including the Phonological Awareness Literacy Screening (PALS) benchmark assessment and EAK. PALS assessment presents data that can help guide instruction and measure progress toward expectant ranges by the end of K4 (Townsend & Konold, 2010). The comparison of pre- and post-assessment scores aided in answering questions relative to the use of the EAK instruction method in intervention classes prepares students for K5 literacy.

Additionally, data from the DIAL-4 assessment was also utilized. DIAL-4 is the third edition of Pearson's Developmental Indicators for the Assessment of Learning. It provided the teacher-researcher with a diagnostic assessment of each student’s motor, language, concepts, self-help, and social-emotional skills. As previously noted, knowledge of the names, sounds, and symbols of the letters of the alphabet or alphabetic knowledge is essential for learning to read and write (Mardell & Goldenberg, 2019).

**Significance of Study**

This research study centers on early childhood interventions within special education and general education settings. According to Intervernizzi (2009), students entering Kindergarten should be able to recognize at least 12 uppercase and 9 lowercase letters. Alphabet knowledge is consistently recognized as the strongest, most durable predictor of later literacy achievement (Jones et al., 2013). Recent research offers practical implications for the increased effectiveness of teaching alphabet knowledge to young children (Jones et al., 2013).

Frontiers in Psychology (2018) provided research by Wenz-Gross et al., (2018) focused on decreasing the achievement gap found between low-income children and their more affluent peers. This longitudinal study entitled *Pathways to Kindergarten*
Readiness (Wenz-Gross et al., 2018) indicated letter-word identification scores collected during the fall season of the year as the highest correlation with Kindergarten readiness. This indicates the importance of students demonstrating basic reading skills such as alphabet knowledge as a key indicator for success in Kindergarten.

It is also important to note that effective preschool programs can be a result of teachers implementing a curriculum that has been carefully reviewed and researched to ensure it meets the expected state standards and developmental needs of its students. This action research study provided the researcher an opportunity to examine the impact a method embedded within a curriculum has on students’ early literacy learning. This opportunity allowed the researcher to additionally share the results with stakeholders in making curriculum decisions for the preschool program.

This research study offers further significance as readiness for Kindergarten is important in keeping with recent legislation that calls for the retention of readers who are not performing as expected by the end of third grade (South Carolina's Education ACT 284 -Read to Succeed legislation, 2015). Since opportunities for an adequate education was found lacking in poverty districts of South Carolina through the court case of Abbeville vs. South Carolina (Carolan, 2013), there has been an increased focus on funding programs in minoritized and Title One populations (Friedman-Kraus et al., 2018). According to Leger et al., (2019), only 48% of students in low-income households are prepared for age-five Kindergarten. Language, particularly emergent literacy skills, aids the development of other early academic building block skills (Leger et al., 2018). This is supported through the study of Uccelli et al., (2018), who found that a students' seventh-grade academic language proficiency can be predicted by their level
of language skills at thirty months of age. It is further found important for students to be able to enter a general education class at the Kindergarten level through a study by the American Academy of Pediatrics (2020) as it is foundational to their success in high school which can lead to lower dropout rates.

**Limitations of Study**

This action research study is limited in terms of the sample size and the delivery method within the time constraint of 8 weeks. The small sample size limited to one intervention classroom, with limited diversity in race and socioeconomic status, made it difficult to suggest results would be consistent in future studies. The 8-week study included 6-weeks of implementation of the method. The time frame allotted for the research was based on several factors. According to Jones et al., (2012) the EAK method of instruction allows the introduction of a letter per day. There are 26 letters in the alphabet, therefore, six weeks of implementation of the method was needed. The week prior to and after implementation of the EAK method of instruction was needed for pre-and-post assessment. The eight-week time frame limited the study’s depth and results. However, the purpose of action research is "done by teachers for themselves" (Mertler, 2014, p.4), and the researcher gathered the information needed in an effort to improve the curriculum within the program.

**Dissertation Overview**

The framework for this Dissertation in Practice consists of five chapters. Chapter One introduces the problem of practice, the action research question, the context, and the need for the study. A more extensive discussion of related literature is included in
Chapter Two. The methodology behind the research study, the implemented strategies, and data collection and analysis are discussed in Chapter Three. Chapter Four will include a more in-depth review of data findings and analyses related to the Problem of Practice. Lastly, Chapter Five will include the study results and their implications for future use of the implemented strategies and their importance to the future growth of K4 funding in South Carolina.

**Definition of Terms**

For this study, the following key terms are defined and used in the study on information, literacy models research:

*Action Research:* A systematic process of inquiry conducted by educators leads to the improvement of school conditions (Mertler, 2014).

*BabyNet:* A developmental program through the South Carolina Department of Health and Human services service that helps an infant or toddler with special needs move toward their best potential (South Carolina Department of Disabilities and Special Needs, 2019).

*Child Find:* A federal law within the Individuals with Disabilities Education Act that schools must evaluate any child that it suspects as having a disability (South Carolina Department of Disabilities and Special Needs, 2019).

*Developmentally Delayed:* A child with developmental delay is a child age 3-9 who has been identified before the age of 7 as experiencing significant developmental delays in one or more of the following areas: physical development, cognitive development, communication development, social or emotional development, or adaptive development:
and who, by reason thereof, needs special education and related services (South Carolina State Board of Education, (2004).

*DIAL-4:* Developmental indicators for the Assessment of Learning is a global screener for assessing large groups of children quickly and efficiently (Mardell et al., 2011).

*EAK:* Enhanced Alphabet Knowledge instructional method of practical instruction that early childhood teachers can use to organize, plan, and teach the essential skills of alphabet knowledge (Jones, et al., 2012).

*Highly qualified:* A South Carolina teacher who holds a bachelor’s degree or higher, have full State certification, and demonstrate content competency (South Carolina State Department of education, 2018).

*PALS:* A Phonological Awareness Literacy Screening of literacy skills provided by the state in an effort to predict future reading success (Townsend & Konold, 2010).

*Preschool:* A program that children attend before starting Kindergarten that integrates pre-academic skills and social skills into a safe environment that also meets children's basic development needs (Rose, 2010).

*Pre-academic skills:* Early literacy behaviors, including book and print awareness skills, alphabet recognition, alphabet sound production, and vocabulary knowledge.

*Social skills:* Taking turns, follow directions, share, work well with others, work independently, and identify basic needs and wants.

*School readiness:* A child's basic knowledge at the start of school and their ability to learn new things.

*Title I:* Title I, Part A, more commonly referred to as Title I, of the Elementary and Secondary Education Act, as amended by the Every Student Succeeds Act (ESEA)
involves legislation that provides financial assistance to local educational agencies on behalf of children from low-income families to help ensure that all children are positioned to meet the challenging state academic standards (“Title I”, n.d.).
Chapter 2

Literature Review

Overview of Study

The Problem of Practice examined in this action research study derives from the increased expectations of a student's readiness for age-five Kindergarten. Studies such as *The Road to Readiness-The Precursors and Practices that Predict School Readiness and Later School Success* (Leger et al., 2021) indicate students are not meeting this expectation, and there is an increasing concern of retention rates due to the South Carolina education ACT 284-Read to Succeed, 2015. There is a growing consensus that students who obtain skills that depict them as ready for Kindergarten have a greater chance at higher levels of education and obtain higher-paying jobs (Leger et al., 2021).

This literature review is divided into eight components. The next eight sections include, Historical Perspectives, Early Childhood Intervention Theoretical Framework, Teaching and Learning, Accessing Readiness, Special Education and Early Childhood Initiatives for Students with Disabilities, Socioeconomic Status, and Related Studies. Finally, a Summary concludes this review.

**Historical Perspectives**

A German philosopher from the late 1700s, Friedrich Froebel, originally introduced the idea of creating early learning opportunities for children under age five (Fuller, 2007). He believed that children would grow and blossom into capable students if
given the right opportunities and placed under the right conditions (Fuller, 2007). With his passion for fostering young children's growth through early learning programs, Froebel created a program titled The Institution for Fostering Small Children that he later renamed Kindergarten (Fuller, 2007). Froebel's passion for early learning makes him a trailblazer for today's Kindergarten classes (Fuller, 2007).

The first Kindergarten classrooms opened to the public in the early 1900s as the inspiration of Froebel's passion spread through America, described by Bryant et al., (2002) as a transition year into formal education for a limited number of students. According to Farkas & Hibel (2008), researchers such as Labov (1970), Berstein (1977), and Heath (1983) are some of the first to report studies on socioeconomic status and school readiness. These researchers concluded that low income caused a difference in parenting compared to higher-income families (Farkas & Hibel, 2008).

School segregation by race was began under the leadership of Chief Justice Lemuel Shaw in 1850, through the ruling of Roberts v. City of Boston (Guthrie & Springer, 2004). Plessy v. Fergusson (1896) resulted in a decision known as Jim Crow laws to the Nation continued this segregation as long as “equal facilities were provided to citizens (Guthrie & Springer, 2004, p.7). As a result, organizations such as the National Association of the Advancement of Colored People formed to fight the injustice (Guthrie & Springer, 2004). Legal cases also mounted, such as the Brown v. Board of Education of Topeks, Kansas (1954) after Linda Brown was denied school in a White-only school in Kansas (Guthrie & Springer, 2004). This case is pivotal in that it changed the “sociopolitical landscape” and opened equal educational opportunities to the Black Community (Guthrie & Springer, 2004, p. 9).
Preschool first began at the national level in 1965 after concerns for three and four-year-old students' education were conveyed by states and communities, just as they did for five-year-old students (Bryant et al., 2002). The federal government created the Head Start program to serve disadvantaged preschoolers and provide intervention to assist in their school readiness (Rose, 2010). Head Start, as explained by Rose (2010), "was born in a time of enormous optimism, both about the impact early intervention could have on children's development and life trajectories and about federal government's ability to solve deep-seated problems of poverty and inequality" (p.13). It is further explained that early intervention during the preschool years instantly became an essential focus for society as a whole and not just individual students.

The Head Start is a program, supported by U.S. Department of Health and Human Services began over fifty years ago, 1965 (US Department of Health and Services, 2021). The program was developed in order to provide education, health, nutrition, and parent involvement services to low-income children and their families (US Department of Health and Services, 2021). The effectiveness of this program has been documented many times over the years. The Head Start Impact Study by Gelber and Isen (2013) provides research-based evidence that students who attend Head Start programs increased the probability that participants would graduate from high school and attend college. It also causes “social, emotional, and behavioral development that becomes evident in adulthood measures of self-control, self-esteem, and positive parenting practices” (Schanzenbach & Bauer, 2017, p. 5). A study by Schanzenbach and Bauer (2017) indicated the effectiveness Head Start programs had on multi-generations. Their study titled, *The long-term impact of the Head Start program*, indicated Head Start “causes
participants to invest more in their own children years after their participation in the program” (Schanzenbach and Bauer, 2017, p. 5).

The expectation of preschool learning is a question that is dependent on varying factors, but Rose (2010) simplifies the idea by stating, "excellent preschool teaching requires the ability to integrate pre-academic skills and social skills into children's imaginative play and chosen activities through extensive interaction and conversation as well as to construct a stimulating classroom environment," (pp. 203-204). Excellent preschool teaching includes activities that will help foster children's language acquisition, enrich their vocabulary, develop early literacy skills, and promote social and emotional skills. Rose (2010) expressed finding the right balance of care and education is crucial to providing a meaningful preschool experience to children and aiding in their Kindergarten readiness. Litty & Hatch (2006) rendered historical support of this balance as it has the potential to prepare children for challenging Kindergarten classrooms to their fullest abilities.

**Early Childhood Intervention**

While the researcher is located in South Carolina, the need for early childhood intervention reaches far beyond local schools. In 2013, President Barack Obama developed a plan for the states' current and future actions concerning early childhood education (ECE), a federally funded program that would partner with states to make universal preschool a reality (Office of the Press Secretary, 2013a). President Obama's proposed plan of Preschool for All was founded upon research that indicates children who have access to high-quality preschool may reap future developmental, social, and economic benefits from these programs (Carolan, 2013; Duncan, 2013). The cost in
fulfilling the plan would be shared between the federal government and the states to provide preschool for all children, starting with children from low- and moderate-income families first and growing to eventually include all four-year-olds as well as three-year-olds identified as developmentally delayed. "Increasing and stabilizing ECE funding sources may allow preschool programs to provide high-quality, intensive education to many more children, potentially improving the nation's international ranking in preschool enrollment rates, school readiness, and academic performance" (Best et al., 2013, p. 3). Studies from national and local government levels support the need for early childhood interventions, and therefore, funding for programs that provide this foundational service to future learning is validated. A cost-benefit analysis of the Chicago Child-Parent Centers (CPC) by Reynolds et al., (2011) indicated positive outcomes of allocated funds. In 1967, the CPC was the oldest ongoing federally funded early learning intervention, which costs about $8,500 per child per year (Reynolds et al., 2011). In this prospective investigation that followed over 1,500 children from low-income families, it was found that the participants' reading, and math advantages were persistent through grade nine (Reynolds et al., 2011). The cost-benefit analysis also indicated that as adults, participants had higher insurance coverage rates and lower rates of depression, felony arrest, and substance abuse.
Figure 2.1 Proposals and benefits of a well-aligned preschool system (The National Governors Association, 2012 and National Association of Elementary School Principals Foundation, 2011).

Within the state of South Carolina, South Carolina Child Early Reading Development and Education Program (CERDEP) funding supports some South Carolina school districts' preschool programs. To qualify, the district must have a poverty index of seventy percent or greater (ed.sc.gov, 2017), which reduces the prior requirement in 2013 of at least a seventy-five percent poverty index. Students must also qualify for the program with evidence of an annual family income of 185% or less of the federal poverty
guidelines as promulgated annually by the U.S. Department of Health and Human Services or Medicaid eligibility (ed.sc.gov, 2017). Eligible public schools shall provide full day 4K services to eligible children living within the participating CERDEP districts. Within this program, the state follows the Good Start-Grow Smart standards (ed.sc.gov, 2017); however, new state standards are currently in adoption.

Two similar studies, The National Governors Association (2012) and the National Association of Elementary School Principals Foundation (2011), compiled reviews and reports from leading researchers, practitioners, district and state administrators to provide leaders information on how to develop and improve a well-aligned preschool system. Information from both studies was used in Figure 2.1 to outline their proposals and benefits and provide a visual of the continuity among the system.

**Theoretical Framework**

The theoretical framework of this study is Vygotsky’s Zone of Proximal Development (ZPD). The definition interpretation of ZPD has developed over time. The ZPD, originally defined as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky et al., 1978, p. 86). Cultural development is the focus of Vygotsky (1997) as it is described as “appearing on the stage twice, first on the social plane and then, on the psychological plane” (Rieber et al., 1987 p.237). Smagorinsky (2018) states that “the ZPD is typically linked to instructional scaffolding, a teaching method designed to provide assistance to learner at early stages of instruction that is gradually removed to allow for independent performance” (p. 253).
Three areas of ZPD that relate to this study is imitation, collaboration, and Assessment. Imitation is defined as “possible only to the extent and in those forms in which is accompanied by understanding” (Rieber et al., 1987, p. 96). The EAK instructional method lesson requires the student to apply what is learned in collaboration with the teacher just as the learning takes place in a literature rich environment (Jones et al., 2012). Shabani et al. (2010) defines Vygotsky’s idea of collaboration in assessment as being “through interaction or collaboration with the learner because it provides an opportunity for imitation, which is the way for identifying maturing psychological functions that are still inadequate for independent performance” (p. 239). Hinshaw (1964) translates Vygotsky’s view as criticizing the then current method used in Russia to assess learners which was to assess what they know, rather than assess their potential for future learning. The DIAL-4 and PALS assessment align with this idea. The DIAL-4 screening used in this study allows the researcher to determine areas of potential delay and areas of strength. The PALS assessment is closely related to this idea as it measures a student’s readiness in areas related to literature.

**Understanding Enhanced Alphabet Knowledge**

*Making Preschool Inclusion Work* (2014) includes evidence-based practices and strategies that support children with disabilities in fully participating in preschool classrooms. This text emphasizes collaboration among education team members as it guides professionals through every aspect of successful preschool inclusion (Gibbs and Klein, 2014). It includes designing an effective program in preparing all children for a smooth transition to Kindergarten (Gibbs and Klein, 2014). This action research will use
Enhanced Alphabet Knowledge (EAK) instruction, which allows easy differentiation in instruction. The teacher can continue EAK lessons for some students while other students work in small groups or independently on other literacy skills. Allowing students to work independently or in small groups follows the Learning-Centered Ideology; that students learn from interacting with their environment.

Guidelines for a method of practical instruction as explained by Jones at al. (2012) Enhanced Alphabet Knowledge (EAK) instruction are as follows:

1. EAK lessons are brief and explicitly teach letter names, sounds, and written Symbol (Jones et al., 2012).

2. The three components of an EAK lesson are:
   a. identifying the letter name and sound,
   b. recognizing the letter in the text, and
   c. producing the letterform (Jones et al., 2012).

3. EAK lessons include teaching both the uppercase and lowercase forms of the letter (Jones et al., 2012).

4. EAK instruction provides differential exposure to the alphabet letters as all letters are not created equal in ease-of-learning (Jones et al., 2012).

5. EAK instruction uses multiple, distributed instructional cycles (letter-a-day) rather than massed instruction with only one cycle of exposure to the alphabet (letter-a-week) (Jones et al., 2012).

6. EAK instruction connects the research-based alphabet knowledge acquisition advantages to the distributed instructional cycles, providing alternatives and
variety for alphabet instruction in whole class or small group settings (Jones et al., 2012).

Using (letter a day) multiple, distributed cycles and providing alternatives for instruction in whole class or small group settings (Jones et al., 2012) are guidelines that are specifically aligned with this research study. Collected data from K4 students in the specified setting and teacher scale will provide evidence to indicate whether or not our students are ready for Kindergarten. Formal assessments paired with the teacher's perspective will strengthen internal and external validity by providing a relationship with facts and opinions. Evidenced-based research is vital to finding the relationship between early childhood education and the success of being prepared to enter Kindergarten. Statistics indicating past findings of Kindergarten readiness provided background information for improvements to be made.

**Teaching and Learning**

According to Litty and Hatch (2006), adults assume that today's Kindergarten classrooms are the same play and learn Kindergarten classrooms that they grew up in as a child. Kindergarten has an increased “emphasis on academic preparedness for elementary school” (Hustedt et al., 2017, p. 1). The factors that have influenced the nature and purpose of Kindergarten are explained by Litty & Hatch (2006):

The experience of being a child is vastly different than it was just a generation ago; advances in knowledge about what young children are capable of learning have challenged traditional perspectives on appropriate practice in Kindergarten classrooms; the standards-based accountability movement has worked its way down into early childhood classrooms. (p. 203)
Across the nation, Kindergarten teachers are transitioning from the play and learn teaching methods to standards-based curriculum that some educators report hurries a child into academic development before they are developmentally ready (Litty & Hatch, 2006). This is known as "educational hurrying" (Elkind, 2001, p.7), which has resulted in Kindergarten students demonstrating stress, both physically and emotionally, and has resulted in poor Kindergarten performance. Hustedt et al., (2017) examined Kindergarten teacher’s beliefs concerning readiness for Kindergarten. Their findings indicated teachers believe nonacademic skills are key components to Kindergarten readiness versus the academic emphasis by policy makers Hustedt (2017). Developmentally appropriate practice for young children has been researched for over twenty years by Elkind (1987), and he disagrees with the idea of hurrying students, stating, "when the first-grade curriculum transferred into Kindergarten and the Kindergarten curriculum taught to four-year-olds…we see the results of this false concept of young children's competence" (p.59). To further support this idea, Litty & Hatch, (2006) described Kindergarten classrooms as "more rigorous with teaching methods that are more direct, and expectations for academic achievement are much higher" (p. 204). It is a standard procedure in many districts throughout the nation to routinely assess Kindergarten students' proficiency of curriculum and state standards throughout the school year, pushing them to prove their learning in areas previously thought to be too difficult for them to successfully learn (Lord, 2005). According to Hustedt, et al. (2017), “Kindergarten is the new first grade” has been widely stated by “researchers, professional organizations, and the media” (p.53). “Kindergarten marks an important ecological transition for children as the enter a new setting and experience” (Stromont et al., 2019 p.
This transition from preschool to kindergarten is foundational in a student’s future educational experience as “researchers continue to find a strong relationship between children’s cognitive and social competence before kindergarten and later academic success” (Atchison et al., 2018 p. 2). A survey involving Kindergarten teachers across the nation was conducted by Zeng and Zeng (2005), with 50% agreeing that standardized tests are vital in knowing what the students are capable of, but only if the assessments were developmentally appropriate. Whether or not Kindergarten assessments are developmentally appropriate remains unanswered (Zeng & Zeng, 2005).

Alphabet knowledge (AK) is consistently recognized as the strongest, most durable “predictor of later literacy success” (Jones et al., 2013, p. 449). Recently, researchers have noted that current methods of A.K. instruction are failing to meet the needs of young children (Piasta & Wagner 2010). Traditional AK instruction in early childhood classrooms across the nation has focused on teaching one letter each week (Bowman & Treiman 2004). Unfortunately, this common practice is mostly based on tradition rather than empirical validation as an effective instructional practice (Justice et al., 2006).

The EAK instructional method (EAK), as described by Jones et al., (2012), is not like the aforementioned instructional method. The EAK is a practical method of instruction that teaches the essential skills of alphabet knowledge. “EAK emphasizes identifying the letter name and sound, recognizing the letter in text, and producing the letterform, through flexible, distributed cycles of review based on factors that influence acquisition of alphabet knowledge” (Jones et al., 2012,). Berninger et al. (2006) further support this instructional method with studies that indicate instruction that includes visual...
and verbal modeling of letter writing effectively improves students' letter formation
automaticity and word reading ability. Tables 2.1 and 2.2 provide an explanation of each
cycle of the Enhanced Alphabet Knowledge.

**Table 2.1 Enhanced Alphabet Knowledge Cycles**

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Advantage rationale</th>
<th>Organizational pattern of instruction</th>
<th>Additional considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own name advantage</td>
<td>Learning advantage for initial letter in first name</td>
<td>Based on frequency of initial letters in class members' names</td>
<td>Highly motivating and responsive to young students' developmental needs for constructing self-identity</td>
</tr>
<tr>
<td>Alphabetic order advantage</td>
<td>Learning advantage for alphabet sequential order</td>
<td>Alphabetic order or beginning with the letter a and ending with the letter z</td>
<td>Possible serial effects leading to difficulty with letters in the middle of the alphabet</td>
</tr>
<tr>
<td>Letter name letter sound relation ship advantage</td>
<td>Learning advantage for letters that have the letter sound pronounced in the letter name and for letters that represent one sound</td>
<td>Begins with the letters easier to learn proceeding to the more difficult to learn letters</td>
<td>Instruction may proceed rapidly through the easier letters, allowing increased instructional time for more difficult letters</td>
</tr>
</tbody>
</table>

(Jones et al., 2012 p. 85)
<table>
<thead>
<tr>
<th>Cycle</th>
<th>Advantage rationale</th>
<th>Organizational pattern of instruction</th>
<th>Additional considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter frequency advantage</td>
<td>Learning advantage based upon letter frequency in environmental print and other printed materials</td>
<td>Begins with the letters occurring less frequently in text, proceeding to the more frequently occurring letters</td>
<td>Goal is to increase focus on the letters more difficult to learn due to the lack of frequency in text</td>
</tr>
<tr>
<td>Consonant phoneme acquisition order advantage</td>
<td>Learning advantage based upon normative, developmental order of consonant phoneme acquisition</td>
<td>Begins with letters more frequently articulated and acquired earlier proceeding to letters for which children have less experience producing the sound</td>
<td>Teachers can use the normative developmental pattern to identify potential reasons for difficulty with particular letters and focus on oral speech that uses the more difficult to learn letters</td>
</tr>
<tr>
<td>Distinctive visual features letter writing advantage</td>
<td>Learning advantage based upon the number of distinctive features in written letterforms</td>
<td>Letters with similar features presented in small clusters over several days or presentation of letters with fewer distinctive features over subsequent days</td>
<td>Emphasis is on the distinctive critical features between similar letters</td>
</tr>
</tbody>
</table>

(Jones et al., 2012 p. 85)

**Assessing Readiness**

South Carolina’s Act 284 (Read to Succeed) requires that beginning with the 2017-2018 school year; a student must be retained in the third grade if the student fails to demonstrate reading proficiency at the end of third grade as indicated by scoring at the lowest achievement level on the state summative reading assessment SC READY (ed.sc.gov, 2017). A student may be exempt for a good cause from the mandatory
retention but will be mandated to continue to receive instructional support and services and reading intervention appropriate for their age and reading level. Good Cause exemptions include student progress in intervention programs, a previous grade level retention of the student, the student has an individualized education plan, or the student is and English language learner (ed.sc.gov, 2017). It is explained that the Read to Succeed Team is aware of research around third-grade retention and is currently researching models and solutions in other states and among stakeholders in South Carolina.

Assessments are essential tools when considering Kindergarten readiness.

Accountability is an increasing demand; it is critical for educators everywhere to have access to accurate screening tools and information (Costenbader et al., 2000). Access to quality school readiness screeners and assessment tools has increased substantially over the last few years and will continue to do so. However, this can only be used to an advantage if schools understand how to select an appropriate screening tool and train their staff accordingly (Costenbader et al., 2000). According to Costenbader et al. (2000), instruments used to screen upcoming Kindergarten students are typically classified as either a screening instrument or a skill-oriented readiness assessment. Screening instruments often measure students' gross and fine-motor coordination skills, memory skills, receptive and expressive language skills, and social-emotional development skills; some of the most well-known readiness screeners include the Gesell School Readiness Test, Developmental Indicators for the Assessment of Learning (DIAL) 3, and the Denver Developmental Screening Test (Costenbader et al., 2000). Screening instruments are different from skill-oriented readiness assessments as they measure the skills that are thought to be related to being prepared to begin Kindergarten
instruction. Some of the most well-known skill-oriented readiness assessments include the Brigance Diagnostic Inventory of Early Development and the Development Indicators for the Assessment of Learning. As Costenbader et al. (2000) explain, there are many other assessments available, and school districts must decide which tool is best based upon the information they are seeking concerning Kindergarten readiness.

Wildenger et al., (2010) clarify that it is not wise to assume that scoring well on a readiness assessment will lead to a very smooth transition to Kindergarten without having attended a preschool program. Rimm-Kaufman et al., (2000) surveyed 3,595 Kindergarten teachers and found that approximately fifty percent of all Kindergarten students have a very smooth transition to school, with thirty-four percent having minor difficulties and sixteen percent having significant difficulties. However, although half of the students transitioned with little difficulties, this did not mean they were ready to learn the Kindergarten curriculum (Pianta et al., 2009). This study also noted that teachers reported for every two children that were ready to learn Kindergarten material, three were not ready, specifically in the areas of academic skills, working with others, and following directions.
Table 2.3 *Student Literacy Knowledge Growth Pattern*

<table>
<thead>
<tr>
<th>Task</th>
<th>Fall Scores</th>
<th>Mid-Year Scores</th>
<th>Spring Scores</th>
<th>Spring Developmental Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper-Case Alphabet Recognition</td>
<td></td>
<td></td>
<td></td>
<td>12-21</td>
</tr>
<tr>
<td>Lower-Case Alphabet Recognition</td>
<td></td>
<td></td>
<td></td>
<td>9-17</td>
</tr>
<tr>
<td>Letter Sounds</td>
<td></td>
<td></td>
<td></td>
<td>4-8</td>
</tr>
<tr>
<td>Beginning Sound</td>
<td></td>
<td></td>
<td></td>
<td>5-8</td>
</tr>
<tr>
<td>Awareness</td>
<td></td>
<td></td>
<td></td>
<td>7-9</td>
</tr>
<tr>
<td>Print and Word</td>
<td></td>
<td></td>
<td></td>
<td>5-7</td>
</tr>
<tr>
<td>Rhyme Awareness</td>
<td></td>
<td></td>
<td></td>
<td>6-10</td>
</tr>
<tr>
<td>Nursery Rhyme Awareness</td>
<td></td>
<td></td>
<td></td>
<td>5-7</td>
</tr>
<tr>
<td>Name Writing</td>
<td></td>
<td></td>
<td></td>
<td>5-7</td>
</tr>
</tbody>
</table>

The Phonological Awareness Literacy Screening (PALS) assesses early childhood students' knowledge of literacy fundamentals that predict reading readiness. As previously noted in Chapter One, PALS is the statewide assessment tool used in all public early childhood programs in South Carolina as mandated by law. PALS originated in Virginia with the Virginia Department of Education's Early Intervention Reading Initiative's financial support and voluntarily used by public schools. The assessment allows for the beginning of the year, mid-year, and end of year progress monitoring to provide educators with information about their students' growth and need in literacy fundamentals (Invernizzi, 2009). Collins and Glover (2015) note, "We cannot notice
what language children use or how independent they are, nor can we help them move forward unless we are sitting beside them, watching and listening as they read" (p. 117).

Table 2.3 is an example of how data is recorded throughout the student's attendance in an early childhood program.

According to Invernizzi et al., (2009), PALS developed predicted readiness for Kindergarten by using the PALS PreK scores of students who were successful readers in fall of first grade as defined by their scores on the PALS 1–3 pre-primer word list, their overall entry level summed score, and their oral reading accuracy. The pattern of scores in which these “students had achieved on PALS-PreK tasks a year and a half earlier were examined, and further divided into percentiles to capture as fully as possible the range of PALS-PreK scores achieved by students who would later become successful readers” (Invernizzi et al., 2009 p. 63). Table 2.4 provides a predicted readiness for Kindergarten based on assessment results. This table was used to evaluate student readiness for kindergarten after the intervention is complete.
Table 2.4 Individual Kindergarten Readiness

<table>
<thead>
<tr>
<th>Task</th>
<th>Spring Scores</th>
<th>Spring Development Ranges</th>
<th>Met Kindergarten Readiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper-Case Alphabet Recognition</td>
<td></td>
<td>12-21</td>
<td></td>
</tr>
<tr>
<td>Lower-Case Alphabet Recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter Sounds</td>
<td></td>
<td>4-8</td>
<td></td>
</tr>
<tr>
<td>Beginning Sound Awareness</td>
<td></td>
<td>5-8</td>
<td></td>
</tr>
<tr>
<td>Print and Word Awareness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhyme Awareness</td>
<td></td>
<td>5-7</td>
<td></td>
</tr>
<tr>
<td>Nursery Rhyme Awareness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name Writing</td>
<td></td>
<td>5-7</td>
<td></td>
</tr>
</tbody>
</table>

Special Education and Early Childhood Initiatives for Students with Disabilities

It is documented that “students and families with disabilities have long fought for equal access to education” (National Council on Disability, 2018, p. 13). Students with disabilities can qualify for services in a public-school setting when they turn three years of age according to the nation's special education law—the Individuals with Disabilities Education Act, or IDEA. There are provisions and assessments mandated by IDEA for one to receive special education services. A description of these provisions is provided by the South Carolina State Department of Education (sc.edu.gov, 2017) and are:

- The child is identified as possibly needing special education and related services (sc.edu.gov, 2017).
• The child is evaluated. The evaluation must assess the child in all areas related to the child's suspected disability (sc.edu.gov, 2017).

• Eligibility is decided. A group of qualified professionals and the parents look at the child's evaluation results. Together, they decide if the child is a "child with a disability," as defined by IDEA (sc.edu.gov, 2017).

• The child is found eligible for services. If the child is determined to be a "child with a disability," as defined by IDEA, they are eligible for special education and related services (sc.edu.gov, 2017).

• IEP meeting is held, and the Individualized Education Plan is written.

• Services are provided. The school makes sure that the child's IEP is being carried out as written (sc.edu.gov, 2017).

• Progress is measured and reported to parents (sc.edu.gov, 2017).

• IEP is reviewed. The child's IEP is reviewed by the IEP team at least once a year, or more often if the parents or school ask for a review. If necessary, the IEP is revised (sc.edu.gov, 2017).

• The child is reevaluated at least every three years. The child must be reevaluated (sc.edu.gov, 2017).

Emergent literacy skills such as alphabet knowledge, phonological awareness, oral language skills, and concepts about print are foundational to reading and writing progress in young children (National Early Literacy Panel [NELP], 2008). Studies provide a worthy case for the need for intervention classes for preschool age children with disabilities. McNeil et al., (2017) compare the metalinguistic performance and spelling development of children with inconsistent speech sound disorder with their age-
appropriate peers. There was a significant discrepancy in the two subgroups, signifying that speech sound disorder can significantly impact spelling development. Comparative research of Fluery & Schwartz (2017) further supports the impact severe levels of communication impairments can have on developing emergent literacy skills. Although the interactive-to-independent literacy model (Kaderavek & Rabidoux, 2004) provides a conceptual framework for emergent literacy development in students with atypical development, Fluery & Schwartz (2017) had to draw inferences based on what is known about literacy development for typically developing children.

A legal foundation for inclusion began after rulings of two courts cases dated in 1972, Pennsylvania Association for Retarded Children (PARC) v. Commonwealth of Pennsylvania, and Mills v. Board of Education of District of Columbia, that it is a violation of the Constitution to segregate students with disabilities from public schools (National Council on Disability, 2018). Inclusion represents school culture in which educators share instructional responsibilities, collaborate in teaching teams, and believe that general education classes and other contexts are most appropriate for all students (National Council on Disability, 2018). The National Council on Disability (2018) advocate that students with and without disabilities benefit from inclusion. Students without disabilities gain a sense of awareness of differences and growth in ethical principles and caring friendships (National Council on Disability, 2018). Students with disabilities gain more access to the general curriculum resulting in higher rates of academic performance (National Council on Disability, 2018).

The U.S. Department of Health and Human Services, (2015) released a policy that mandated the inclusion of young children with disabilities in high quality early childhood
intervention programs designed to assess children with special needs and lessen the factors that place children at risk of poor outcomes when they go to school. ECSE services also provide support for parents, children, and the family as a whole (US Department of Education, 2015). When children who have developmental disabilities, or are at risk for them, receive early intervention, they show positive changes in health, language and communication, cognitive development, and social and emotional development (US Department of Education, 2015).

**South Carolina’s Read to Succeed**

The South Carolina Department of Education developed an intervention plan to improve student reading achievement (South Carolina Department of Education, 2021). Legislation specific to the plan is Read to Succeed and ACT 223. Read to Succeed, legislation passed in 2015, mandates South Carolina public schools to identify students’ areas of need early in a child’s life in order to provide support through interventions; intensive lessons on areas of academic weakness (South Carolina’s Education Act 284-Read to Succeed legislation, 2015). In May 2018, Governor Henry McMaster signed into law Act 213, which directed districts to begin implementation of a Multi-Tiered System of Supports (MTSS) (South Carolina Department of Education, 2021). MTSS addresses the needs of the whole child – academically, behaviorally, socially, and emotionally – through a holistic and personalized system of learning that incorporates academics and social emotional into one framework (South Carolina Department of Education, 2018). A core component of Act 213 involves both identifying and supporting students with reading difficulties, including dyslexia.
Socioeconomic Status

A longitudinal study by Halle et al., (2009) indicated gaps in early learning begin in the first three years of life. Family income, race, home language, and the mother's educational level are responsible for the differences in children's cognitive development, general health, and social-emotional development (Halle et al., 2009). According to Farkas & Hibel, (2008), the differences result from low vocabulary usage due to lack of conversation with children and experiencing family distress and disorder, which caused harsh and ineffective parenting in the home. Children from low socioeconomic status are often not as developmentally ready for Kindergarten because they do not experience the cognitive skill instruction present within warm, responsive parenting styles of higher economic status families (Farkas & Hibel, 2008).

Because toddlers of low-income families score lower on cognitive assessments than toddlers of higher-income families, (Halle et al., 2009) conclude that interventions need to start earlier than four years of age. In an effort to close this gap in early learning, Smith et al., (2013) suggest through research that parents play an essential role in early development by modeling behaviors and providing cognitive and emotional support for their children starting at birth. Although many other factors can affect a child's ability to be successful in school, the years before a child enters a learning environment are seen as the most crucial opportunities to intervene with young children to improve school readiness (Pagani et al., 2006). Knowing that Kindergarten children can face many difficult issues as they get ready to begin school as a Kindergarten student, much research has been conducted on using prekindergarten and preschool programs as a universal way to support Kindergarten readiness (Clifford et al., 2005). The Perry Project was a five-
year research study led to a continuous longitudinal study and is known as “the landmark study that forever changed the trajectory of early education” (HighScope Foundation, 2018). Results of the longitudinal study indicate participants of the preschool program committed fewer crimes and had fewer teenage pregnancies while being more likely to graduate high school, hold a job with higher earnings, and own a home and car by forty years of age (HighScope Foundation, 2018).

Despite recent research and the development of early childhood programs, families do not take advantage of the opportunity simply because they cannot afford it (Rose, 2010). Sadowski (2006) reported that "the likelihood that a child will attend some preschool is largely tied to socioeconomic status" (p. 2). Rose (2010) reports that less than fifty percent of children from families who earn less than fifty thousand dollars per year attend preschool while nearly eighty percent of children from families earn over one hundred thousand dollars per year attend. According to Rose (2010), it is due to the many constraints that economically disadvantaged families face after providing what is necessary for their children to live. Sadowski (2006) reports that "most researchers agree that socioeconomic status-closely associated with race and ethnicity- is one of the strongest predictors of low skills at school entry" (p. 1). A commentary by Rouse et al. (2005) describes the relation of race and ethnicity to this outcome:

Ten percent of white children, as against thirty-seven percent of Hispanic and forty-two percent black children, live in poverty. Further, the better the child's family's socioeconomic status, the more likely that child is to be "ready" for school. Given the close links between race and ethnicity and family socioeconomic status and school readiness, on the other, it is not surprising that
family economic status appears to explain a substantial portion of the racial and ethnic gaps in readiness. (p. 8)

The Presidential initiative by Barak Obama was inspired by such research: to create a universal prekindergarten program for all students to attend, regardless of family income, so that all children of this nation would have equal opportunities to and grow together while preparing for Kindergarten. "A most remarkable consequence of growing up poor is school failure" (Pagani et al., 2006, p. 133).

In this study, the relationship between socioeconomic status and Kindergarten readiness will become evident.

**Related Studies**

Preschool and Kindergarten literacy intervention studies similar to the Enhanced Alphabet Knowledge (Jones, et al., 2012) instructional method are reported by the US Department of Education. *Sound Partners* is a phonics-based tutoring program that provides supplemental reading instruction to elementary school students grades K–3 with below-average reading skills (US Department of Education, 2021). Instruction emphasized letter–sound correspondence, phoneme blending, decoding and encoding phonetically regular words, and reading irregular high-frequency words (US Department of Education, 2021). It included oral reading to practice applying phonics skills in text and designed to be used for thirty-minute sessions of one-to-one tutoring four days per week (US Department of Education, 2021). *Sound Partners* was found to have positive effects on alphabettics, fluency, and comprehension and no discernible effects on general reading achievement on beginning readers (US Department of Education, 2021).
The Phonological Awareness Training plus Letter Knowledge Training aimed at enhancing young children’s phonological awareness, print awareness, and early reading strategies that will enhance early reading abilities (US Department of Education, 2021). The trainings included strategies in which teachers engaged students in rhyming word-games, blending-games, and discussions where students follow teacher directed activities segmenting words (US Department of Education, 2015). The results indicated the Phonological Awareness Training plus Letter Knowledge Training had potentially negative effects on oral language, positive effects on print knowledge, potentially positive effects on phonological processing and early reading/writing, and no discernible effects on cognition (US Department of Education, 2021).

Literacy Express also aimed to enhance literacy skills in young students through units that are intended to be integrated into classroom activities (US Department of Education, 2007). The units were presented within small groups of 3-5 students focusing on “dialogic reading, phonological awareness, print awareness and print knowledge” (US Department of Education, 2007). The sequential units build in complexity and include opportunities for teacher led activities as well as student led activities (US Department of Education, 2007). Results of the study indicate “positive effects for print knowledge and phonological processing, potentially positive effects for oral language and math, and no discernible effects for cognition” (US Department of Education, 2007).

**Summary**

With the emphasis on K5 readiness, this study focuses on the impact and importance of early intervention classrooms that serve students in general education and special educational environment. Pianta & Howes (2009) explain that a vast amount
of research has been completed on this topic and its relation to school reform in recent years. This provides evidence specifically related to what preschool programs are available, why they are necessary for our current educational situation and the potential benefits of these programs for our students and our schools. This review of literature examined Historical Perspectives, Early Childhood Intervention Theoretical Framework, Teaching and Learning, Accessing Readiness, Special Education and Early Childhood Initiatives for Students with Disabilities, Socioeconomic Status, and Related Studies that pertain to a student’s readiness for Kindergarten.
Chapter 3
Methodology

According to the National Education Goals Report (1999), "All children will start school ready to learn" (p.1). Since 2001, the No Child Left Behind Act of the United States has created a significant shift in the expectation of students' success. Schools are expected to provide children with school readiness skills at a younger age; prior to entering elementary school (Pianta & Howes, 2009). Maxwell and Clifford (2004) defined school readiness in five categories: cognitive and general knowledge, language use and development, physical health and motor development, social and emotional development, and approaches toward learning.

Data from the Kindergarten Readiness Assessment provided by The South Carolina Department of Education (2018) reports only 40% of South Carolina students can handle the beginning-of-the-year Kindergarten curriculum. Students who are not meeting expectations set by state standards can be retained in the third grade per ACT 284 (South Carolina's Education ACT 284 -Read to Succeed legislation, 2015). Because of this, there has been an increase in parent requests to retain students, as well as an increase in school referrals to provide students with extensive interventions that may lead to formal evaluations. This research study sought to answer the guiding research question: What impact does the use of the Enhanced Alphabet Knowledge Method (Jones et al., 2012) within an early childhood intervention classroom have on students'
Kindergarten readiness in literacy? The study focused on a small sample of students in two different settings using the aforementioned model.

**Research Design**

Collecting data through action research allows a hands-on approach that develops one's awareness of their practice and therefore has personal meaning for the researcher (Mertler, 2014). Since educators conduct the research, critics have suggested that action research lacks quality and rigor (Mertler, 2014). Yet, practices in theory connect to practice through action research as it allows teachers to use theory to better understand their practices by using the data, they collect to inform educational research (Melrose, 2001; Mertler, 2014).

This action research study focused on the utilization of quantitative data collection techniques. These techniques were used to gather useful information about the student participants which could be analyzed and interpreted using descriptive statistical techniques (Mills, 2018). The quantitative nature of the study focuses on pre- and post-assessment scores as well as data from a teacher survey. Watson (2015) described quantitative research having the unique feature testing theories formally by formulating hypotheses and applying statistical analyses. The researcher triangulated the data by utilizing multiple sources of data. This research design is used to examine the impact early literacy intervention has on the readiness of preschool students for Kindergarten.
Ethical Considerations

Ethics, as defined by *The American Heritage College Dictionary* (1997), means "the rules or standards governing the conduct of a person or the members of a profession" (p. 471). Teacher-researchers must consider ethical standards and manners in which to conduct research. These standards include communication with parents, other faculty members and handling of data and other information. Ethical behavior is really about “attitude—the attitude that one brings into the field requires permission, permission that goes beyond the kind that comes from people” (Graue & Walsh, 1997, p. 56).

Consent forms are imperative, but having mutual respect involving the teacher-researcher with the parents and respectfully the students is significant in fulfilling the proposed action research involving four-year-old children just entering the public-school educational environment. The safety and well-being of all students involved will be of high regard. The anonymity of participants is maintained throughout the study with permission to share. Collected data must be shared with others who directly influence the field of education to be applicable in its purpose.

Context and Setting of the Study

This action research took place at an elementary school located in a suburban city in the southeastern United States. Eastern Skyview Elementary holds a Title I status, with eighty-six percent of the population receiving free or reduced-rate lunch. The school serves 581 students in PreK through the third-grade level with a 1:20 teacher-student ratio. It is also home to the district's Head Start program.

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2 Pseudonym for elementary school
Within the past ten years, the school has received the following awards:

- Palmetto Gold Closing the Gap Award for 2014-2015
- Recognized as the 3rd best Kindergarten-Third Grade school in SC 2009-2010
- Palmetto Gold Award, 2010-2011
- Red Carpet Award, 2010-2013
- Healthier U.S. School Bronze Level winner 2010-2014 USDA

The school collects data in Grades K5-3 to ensure that students receive instruction at the required level and to also ensure that appropriate academic progress is being made at required rates. Weekly meetings are held by each grade level and accompanied by the literacy coach, principal, and other leadership team members to compare data and set goals. Preschool data is collected and is based on the South Carolina Good Start Grow Smart standards set for Early Learners. Data examined for special education students is based on a combination of Good Start Grow Smart standards, their Individual Education Plan (IEP), and assessment data from the Phonological Awareness Literacy Screening (PALS).

The school offers a Head Start Program and three half-day K4 classes populated by students based on need. There are six classrooms of each grade level, Kindergarten through third grade. The Preschool Children with Disabilities classroom serves all preschool-age students with a developmental delay. According to the South Carolina State Board of Education, (2004) a developmental delay in the areas of physical development, cognitive development, communication development, social or emotional
development or adaptive development may adversely affect a student’s educational performance in age-appropriate activities. Due to a varied range of growth and development within the classroom, a routine schedule includes daily activities that address fine motor, gross motor, and cognitive skills including circle time, art, cooking, and therapy sessions as warranted. Physical Therapy, Occupational Therapy, and Speech Therapy sessions are rendered to students who require them either within the classroom setting or individually in an independent location within the school. Some students also receive therapy services outside of the school setting. Students are provided with transportation to and from school as requested accommodating car seat and wheelchair needs.

**Participants**

Participants include eight students who were enrolled in preschool and intervention classes within the school; three of the student participants are shared with a K4 general education cooperating teacher. The researcher is the teacher of the preschool students with disabilities. The ages of the student participants range from age three to five years old. To protect the identity of the participants and setting, the names of the students are omitted from the study.

All students received special education services as students who were identified as experiencing significant developmental delays. Students who have known disabilities, attend an additional half-day intervention program to receive specialized instruction in accordance with their Individualized Education Plan (IEP). Additionally, no student participants within this study were considered English Language Learners. All student participant qualified to receive free lunch. Table 3.1 provides a list of all students in the
study with their demographic information. The students of this study were primarily white, male students which limits its validity in accordance to the diverse population of South Carolina.

**Table 3.1 Demographic Characteristics of Participants**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Race</th>
<th>IEP</th>
<th>Free Lunch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>F</td>
<td>W</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student B</td>
<td>M</td>
<td>W</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student C</td>
<td>M</td>
<td>H</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student D</td>
<td>F</td>
<td>W</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student E</td>
<td>M</td>
<td>W</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student F</td>
<td>M</td>
<td>W</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student G</td>
<td>M</td>
<td>W</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student H</td>
<td>F</td>
<td>H</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 3.2 indicates all student participants receive instruction within the PCD classroom half-day. Student A, Student D, and Student G also attended the k4 general education classroom half-day as determined by the IEP team.
### Table 3.2 Type of Services Received

<table>
<thead>
<tr>
<th>Participant</th>
<th>Preschool Classroom (1/2 day)</th>
<th>K4 – ½ day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student B</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Student C</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Student D</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student E</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Student F</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Student G</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Student H</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Intervention**

Because preschool students at Eastern Skyview Elementary School\(^3\) are challenged with new Kindergarten state standards, especially in the area of literature, the intervention used for this study was the Enhanced Alphabet Knowledge instruction method (Jones et al., 2012). The Enhanced Alphabet Knowledge instruction method consists of brief, explicit lessons taught through six instructional cycles. The method names the six cycles in which the lessons are taught as own name advantage, alphabetic order advantage, letter name-letter sound relationship advantage, letter-frequency advantage, and so on.

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\(^3\) Pseudonym for elementary school
Over the course of eight weeks, the cooperating teacher and the teacher-researcher taught preschool-aged students literacy skills using the Enhanced Alphabet Knowledge (Jones et al., 2012) instructional method using the EAK lesson plan. There were three important phases in which students were involved. Phase one involved gathering a student baseline performance score using PALS. During phase two, the teacher implemented the EAK method in accordance with the prescribed lesson plan, based on the initial observations and data findings. Information was recorded using the student record sheet (Appendix D). Phase 3 involved gathering student performance scores on PALS.

Daily Enhanced Alphabet Knowledge (Jones et al., 2012) lessons began with an explanation of the objective. The objective required direct instruction in letter name identification, letter sound identification, recognizing the letter in text, and producing the letter form. An instructional example of a semi-script daily lesson is as follows (Jones et al., 2012):

- This is the letter ____.  This is the uppercase letter ____.  This is the lowercase letter _____.  (Show and/or write the letter, explaining the form.)
  
  Let’s practice naming this letter.  What is this letter?  _____.
  
  (Point to uppercase and lowercase letters in different order at least 3 times asking students to identify the letter name).  (Jones et al., 2012 p.83)

- The letter ____ represents the sound /___/.  When I say the sound /_/ I place my tongue & mouth like this ____.
(Provide explanations/stories/key words to help students remember the sound.)

Let’s practice saying the sound of this letter. The letter ____ represents the ____ sound. Say the ____ sound with me _____.

(Point to uppercase and lowercase letters in different order at least 3 times asking students to identify the letter sound). (Jones et al., 2012 p.83)

- Now, let’s see if we can find the letter _____.

(Students locate the uppercase and lowercase letter in text and state the letter name and sound each time the letter is located) (Jones et al., 2012 p.83)

- Let me show you how to write the letter _____. Here’s where I begin on the paper lines to write the letter ___.

(Provide description and hints about how to write the uppercase and lowercase form of the letter).

Let’s practice writing the letter ____ together. (Jones et al., 2012 p.83)

Twenty to twenty-five minutes were allotted for direct instruction. Instructions for student participation were continuously given while feedback was received from the student.

**Data Collection Methods**

Use of the Enhanced Alphabet Knowledge method of practical instruction, guided by the state adopted, Good-Start, Grow-Smart, standards (Appendix A) data were collected during this eight-week action research study. For the purpose of this research study, quantitative data collection instruments were used.
PALS

The intention of the criterion-referenced instrument, Phonological Awareness Literacy Screening (PALS), is to be used as a guide for instruction (Invernizzi et al., 2001). Its purpose is to identify children in need of additional instruction and aid in providing early intervention services to those students with diagnosed needs. The assessment includes eight subtests that are administered to students one on one within approximately twenty-five minutes by the teacher. Students are administered a pre-and post-assessment which includes eight subtests of name writing, upper-case alphabet knowledge, lower-case alphabet knowledge, letter sounds, beginning sound awareness, print and word awareness, rhyme awareness, and nursery rhyme awareness. According to Bloodgood (1999) Welsch, Sullivan, and Justice (2003), a child’s first attempt to convey meaning through written language often occurs when that child learns to write the letters in his or her name. Children’s writing behaviors can be examined from a developmental perspective as they advance through various stages, from a scribbled representation to a correct and recognizable signature (Ferrerio & Teberosky, 1982). The scoring of the name-writing task reflects these varied stages of development. Bloodgood (1999) as cited by Internizzi et al. (2001) found “there was a clear relationship between name writing and other literacy tasks such as concept of word, beginning sound identification, word recognition, and spelling” (p. 4). The single best predictor of early reading achievement, on its own, is accurate, rapid naming of the letters of the alphabet (Adams, 1990; Badian, 2000; Snow et al., 1998 as cited by Internizzi et al., 2001, (p. 4).

Name Writing

The teacher asks the child to draw a self-portrait and to write his/her name. Name writing is scored on a developmental continuum, ranging from scribbles to the use of
mixed symbols to writing the entire name correctly (Virginia.edu, *Phonological Awareness Literacy Screening* 2001, 2003).

**Alphabet Knowledge**

The teacher asks the child to name the 26 upper-case letters of the alphabet presented in random order. Children who know 16 or more upper-case letters also take the lower-case alphabet recognition task. Children who know 9 or more lower-case letters are also asked to produce the sounds associated with the 23 letters and 3 consonant digraphs (ch, sh, etc.). To keep in compliance with the EAK instructional method (Jones et al., 2012) the teacher researcher assessed upper-case and lower-case letters simultaneously (Virginia.edu, *Phonological Awareness Literacy Screening* 2001, 2003).

**Letter Sound and Beginning Sound Awareness**

The teacher says the name of a picture and asks the child to produce the beginning sounds for words that start with /s/, /m/, and /b/ (Virginia.edu, *Phonological Awareness Literacy Screening* 2001, 2003).

**Print and Word Awareness**

The teacher reads a familiar nursery rhyme printed in a book format and asks the child to point to various text components such as the title. In this natural book-reading context children demonstrate their awareness of print concepts such as directionality and the difference between pictures, letters, and words (Virginia.edu, *Phonological Awareness Literacy Screening* 2001, 2003).

**Rhyme Awareness**

The teacher shows the child pictures and names the object depicted in each one. The teacher asks the child to point to the picture that rhymes with the first one presented (Virginia.edu, *Phonological Awareness Literacy Screening* 2001, 2003). An example
would include showing the student a picture of a toy, providing them with the opportunity to say and point the picture of the boy.

**Nursery Rhyme Awareness**

The teacher recites familiar nursery rhymes, stopping before the end so the child can supply the final rhyming word (Virginia.edu, *Phonological Awareness Literacy Screening* 2001, 2003). Using the Nursery Rhyme, *Itsy Bitsy Spider*, the teacher says the rhyme until the last word, giving wait time and opportunity for the student to state the correct rhyming word. Teacher: itsby bitsy spider crawled up the water spout, down came the rain and washed the spider Student: out.

This assessment tool allows baseline information and outcome information to be recorded and compared to the expected growth model (Appendix D) used to monitor student achievement. Student performance will be documented using district-designed material (Appendix E).

**DIAL-4**

Developmental Indicators for the Assessment of Learning (DIAL-4) (Appendix B) was first developed by Mardell & Goldenberg in 1998 and was known as DIAL-3 (Mardell & Goldensberg, 2021). According to (Mardell & Goldensberg, 2021), improvements in the area of length of assessment and timeliness were made in 2019 and is known as DIAL-4, the fourth edition of Pearson's Developmental Indicators for the Assessment of Learning. DIAL-4 was developed with the intended use as a screener-instrument used to assess large groups of students efficiently. The participating school district uses DIAL-4 to screen all preschool students who register. It provides a diagnostic assessment in the areas of motor, language, concepts, self-help, and social-emotional skills (Mardell & Goldenberg, 2011). Information gathered from DIAL-4
served as a basis of information for the IEP team decision of least restrictive environment for the student.

Teacher Survey

A teacher survey (Appendix H) of closed response questions, resulting in quantitative data, was completed by the cooperating teacher at the end of the study to document biographical data as well as teacher perceptions concerning the impact intervention classroom instruction involving the EAK method has on Kindergarten readiness.

Questions included:

- How many years of teaching experience are currently recorded on your professional certificate?
- What is your highest degree level held?
- Rank the importance of preschool overall experience on students' future educational success.
- Rank the importance of preschool experiences on student achievement in the area of literacy in the preschool classroom.
- Rank the importance of preschool experiences on student achievement in the area of literacy in the preschool intervention (PCD) classroom.
- Rank your perception of the use of the EAK method of instruction versus other methods.
Research Procedure

Dial-4 was administered by a collective group of preschool teachers and therapists to all students who register for preschool. The collective group included the preschool teacher, the speech therapists, and curriculum coordinator. Prior to the research study, the researcher met with the cooperating teacher and discussed the EAK method of instruction as well as the students that participated including results of the Dial-4 skills assessment. The researcher and the cooperating K4 teacher also discussed and planned the study with specifics such as what the day would look like and the level of collaboration needed between them as noted on the timeline. (See Table 3.3). Using the Enhanced Alphabet Knowledge (Jones, et al., 2012) instruction method (Appendix F) as a guide, a timeline was developed. This timeline was reviewed with the cooperating teacher, and it consists of literacy strategies to implement based on student needs and a proposed timeline of the phases. The timeline was reflected upon daily during implementation to determine if student needs are changing or misunderstood. The teacher-researcher and cooperating teacher referred to a classroom checklist and other district-prepared tools to ensure continuity of student exposure to a literature-rich environment (Appendix G).
Table 3.3 *Timeline*

<table>
<thead>
<tr>
<th>Time</th>
<th>Description of Activities</th>
<th>Materials Needed</th>
<th>Persons Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to study</td>
<td>Conference with cooperating Teacher</td>
<td>DIAL-4 information of students participating, EAK Description and Lesson Plan</td>
<td>● Researcher ● Cooperating Preschool Teacher</td>
</tr>
<tr>
<td>Phase 1</td>
<td>Gather student baseline performance scores on PALS</td>
<td>PALS Data Form</td>
<td>● Researcher ● Preschool Students ● Cooperating Preschool Teacher</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Implement EAK model based on findings of initial observations and data. Record info of student record sheet.</td>
<td>EAK lesson plan</td>
<td>● Researcher ● Preschool Students ● Cooperating Preschool Teacher</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Gather student performance scores on PALS, analyze and compare to baseline score for growth, and share findings with cooperating teacher.</td>
<td>EAK record form PALS analysis form</td>
<td>● Researcher ● Cooperating Preschool Teacher</td>
</tr>
<tr>
<td>After study completion</td>
<td>Share results with stakeholders. Determine if student’s progress is in line with suggested targets of state standards Teacher survey to obtain teacher experience, education level, and perception of EAK method</td>
<td>Data from study and Teacher Survey</td>
<td>● Researcher ● Cooperating Preschool Teacher ● Administration Other Stakeholders</td>
</tr>
</tbody>
</table>

The teacher researcher and cooperating teacher are involved in each phase of the study. The timeline was essential in organizing the study providing consistency of lesson delivery and reflection.
Phase 1

During phase one, the teacher researcher gathered students baseline performance scores using the Phonological Awareness Literacy Screening (PALS). The assessment was administered to each student one on one by the teacher researcher. Assessing the eight subtests of each student took a week’s time.

Phase 2

During phase two, the EAK instructional method was implemented by the teacher and cooperating teacher daily over the duration of six weeks. Lessons were presented in accordance with the lesson plan guide (Appendix F) and the Enhanced Alphabet Knowledge Instructional Cycles (Jones, et al., 2012). The beginning lessons were based on the frequency of initial letters of student’s names, which in this study was the letter, B. Each day a new letter was presented by the teacher researcher while students were in the PCD classroom and by the cooperating teacher while students attended the general education classroom. Because Student A, Student D and Student G. attended both the PCD classroom and the K4 classroom, they experienced lesson repetition. Continuous practice of formally introduced letters were practiced through classroom activities. In effort to ensure an inviting environment that is relevant to what is being taught, the teachers referred to the Literacy Rich Classroom Checklist (Appendix G) daily. In turn, students had ownership of a literacy rich classroom of their work which was used by during activities.

Phase 3

The teacher researcher administered PALS and recorded student performance scores on the PALS record form (Appendix D). The teacher researcher analyzed and
compared post assessment scores to the baseline score to measure growth. After analyzing the data proving growth by the majority of the students, the teacher researcher credits repetition of instruction for their confidence and success, especially Student A, Student D, and Student G who received a full day of instruction. This comparison was then shared with the cooperating teacher.

**Data Analysis**

This study being quantitative in nature, allowed the researcher to give descriptive statistics through the use of growth comparison charts on each of the eight subtests. Descriptive statistics are described by Mertler, (2014) as mathematical way to summarize data.

Pre- and post-assessments. According to Trochim (2006) descriptive statistics will describe the quantitative data by summarizing the sample and the measure. Best and Kohn (2013) declare valuable information regarding a specific group of individuals can be found through descriptive information of simple action research studies. The researcher analyzed the data from pre- and post-assessments of each of the eight subtests in comparison charts.

The teacher researcher was limited in choosing students who are afforded the opportunity to attend a full day of instruction at the preschool level. These decisions are determined by program directors and IEP teams.

**Summary**

This chapter discussed the methodology, design, procedures and data analysis of this action research study. The study took place at an elementary school that serves
preschool age students within an intervention classroom setting. The researcher used quantitative data that focused on pre- and post-assessment scores, focused primarily on the language area of the assessment. This diagnostic assessment was administered three months prior to this study. Data derived from PALS and DIAL-4 are compiled in a before and after chart to show growth patterns to evaluate student K5 readiness in literacy. Before the study began, the cooperating teacher was informed with a “clearly stated purpose of the study” (Mertler, 2014, p. 108), which outlined the purpose and timeline (Appendix C) and description of the study.
Chapter 4

Presentation and Data Analysis

This chapter explores the research question's findings: What impact do early childhood intervention classrooms have on students' Kindergarten readiness in literacy using the Alphabet Knowledge Instruction Method. Within nine weeks, the researcher collected quantitative data based on student performance and the teacher rating survey. This chapter opens with a description of the intervention and a discussion of the general findings, followed by a description of the data analysis based on the research mentioned above.

General Findings and Data Analysis

This action research study centered on quantitative data related to the effectiveness of the EAK model with each of the eight student participants. The quantitative data collected in this study included data from the DIAL-4 assessment, pre- and post- data from the PALS assessment, along with data collected from teacher surveys. The results and findings of the study are outlined below.

DIAL-4

Results of DIAL-4 are found important to this study as it is the requisite for qualifying to attend the preschool program at Eastern Skyview Elementary. The eight student participants were administered the DIAL-4 before attending preschool. The

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4 Pseudonym for elementary school
DIAL-4 assessment encompasses measuring Motor, Concepts, Language, Self-Help, and Social Development (Mardell & Goldenberg, 2011). It is important to note that the measured area of Language, as it relates to literacy, each student participant scored as Potential Delay for all students included in this study. Due to the small sample size, the data for the DIAL-4 is presented in a way not to directly disclose the identity of any one student. All students served within a preschool intervention program present a potential delay in at least one of the five areas assessed. All students in this study present a potential delay in language and motor skills as shown in Figure 4.1. A delay in motor skills impacts name writing. Six students present a potential delay in self-help skills. Three of the eight students present a potential delay in concepts skills and social development.

**Figure 4.1.** Percentage of students demonstrating delay in motor skills area.

Figure 4.1 indicates more than half of the students demonstrate a delay in motor skills which can affect gains in areas assessed such as name writing.
Figure 4.2. Percentage of students demonstrating delay in concepts skills area.

Figure 4.2 indicates more than half of the students demonstrate a delay in concept skills which can affect gains in areas assessed.

Figure 4.3. Percentage of students demonstrating delay in language skills area.

Figure 4.3 indicates all students of the study demonstrate a delay in language skills which can affect gains areas assessed such as beginning sounds.

PALS

The PALS assessment consisted of eight items used to assess each student's readiness in literature. While implementing the Enhanced Alphabet Knowledge model, the study focused mainly on letter recognition as implicated in Table 4.1 while considering how letter recognition affects other areas of Kindergarten readiness in literacy. In the tables below, the Pre-Intervention assessment occurred during phase one.
and the Post-intervention assessment occurred during phase three of the study, after implementing the EAK instructional method (Jones, et al., 2012).

**Table 4.1a Pre-Intervention Scores**

<table>
<thead>
<tr>
<th></th>
<th>Beginning Sound</th>
<th>Print and Word Awareness</th>
<th>Rhyme Awareness</th>
<th>Nursery Rhyme Awareness</th>
<th>Uppercase Alphabet Recognition</th>
<th>Lowercase Alphabet Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Student B</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Student C</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Student D</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Student E</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Student F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Student G</td>
<td>2</td>
<td>7</td>
<td>6</td>
<td>9</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Student H</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Table 4.1b Pre-Intervention Scores**

<table>
<thead>
<tr>
<th></th>
<th>Name Writing</th>
<th>Letter Sounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Student B</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Student C</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Student D</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Student E</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Student F</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Student G</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Student H</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Table 4.2a  Post-Intervention Scores

<table>
<thead>
<tr>
<th>Name</th>
<th>Writing</th>
<th>Beginning Sound</th>
<th>Print and Word Awareness</th>
<th>Rhyme Awareness</th>
<th>Nursery Rhyme Awareness</th>
<th>Uppercase Alphabet Recognition</th>
<th>Lowercase Alphabet Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td></td>
<td>8</td>
<td>7</td>
<td>5</td>
<td>8</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Student B</td>
<td></td>
<td>7</td>
<td>8</td>
<td>3</td>
<td>8</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>Student C</td>
<td></td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Student D</td>
<td></td>
<td>7</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Student E</td>
<td></td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Student F</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Student G</td>
<td></td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>Student H</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Table 4.2b  Post-Intervention Scores

<table>
<thead>
<tr>
<th>Name</th>
<th>Letter Sounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>69 10</td>
</tr>
<tr>
<td>Student B</td>
<td>7 9</td>
</tr>
<tr>
<td>Student C</td>
<td>7 10</td>
</tr>
<tr>
<td>Student D</td>
<td>7 6</td>
</tr>
<tr>
<td>Student E</td>
<td>5 5</td>
</tr>
<tr>
<td>Student F</td>
<td>2 0</td>
</tr>
<tr>
<td>Student G</td>
<td>7 19</td>
</tr>
<tr>
<td>Student H</td>
<td>0 0</td>
</tr>
</tbody>
</table>
Table 4.3 Comparison of Beginning Sound Awareness and Print/Word Awareness Pre and Post Scores

<table>
<thead>
<tr>
<th>Student</th>
<th>Beginning Sound Awareness PRE</th>
<th>Beginning Sound Awareness POST</th>
<th>CHANGE</th>
<th>Print and Word Awareness PRE</th>
<th>Print and Word Awareness POST</th>
<th>CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>8</td>
<td>+8</td>
<td>0</td>
<td>7</td>
<td>+7</td>
</tr>
<tr>
<td>B</td>
<td>0</td>
<td>7</td>
<td>+7</td>
<td>4</td>
<td>8</td>
<td>+4</td>
</tr>
<tr>
<td>C</td>
<td>0</td>
<td>9</td>
<td>+9</td>
<td>2</td>
<td>7</td>
<td>+5</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>7</td>
<td>+6</td>
<td>3</td>
<td>4</td>
<td>+1</td>
</tr>
<tr>
<td>E</td>
<td>0</td>
<td>4</td>
<td>+4</td>
<td>2</td>
<td>6</td>
<td>+4</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>G</td>
<td>2</td>
<td>9</td>
<td>+7</td>
<td>7</td>
<td>9</td>
<td>+2</td>
</tr>
<tr>
<td>H</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Tables 4.1 and 4.2 provide an overview of pre- and post- intervention scores that are discussed in the following tables. The results indicated in Table 4.3 highlights 6 out of 8 (75%) students made progress in the areas of beginning sound awareness as well as print and word awareness. Two (25%) students did not make any progress in either area. Student F and Student H are three years old with significant developmental delays who require speech therapy services.
Table 4.4 *Comparison of Rhyme Awareness and Nursery Rhyme Awareness Pre and Post Scores*

<table>
<thead>
<tr>
<th>Student</th>
<th>Rhyme Awareness PRE</th>
<th>Rhyme Awareness POST</th>
<th>CHANGE</th>
<th>Nursery Rhyme Awareness PRE</th>
<th>Nursery Rhyme Awareness POST</th>
<th>CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>5</td>
<td>+4</td>
<td>2</td>
<td>8</td>
<td>+6</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>8</td>
<td>+6</td>
</tr>
<tr>
<td>C</td>
<td>6</td>
<td>8</td>
<td>+2</td>
<td>3</td>
<td>8</td>
<td>+5</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>7</td>
<td>+5</td>
<td>4</td>
<td>7</td>
<td>+3</td>
</tr>
<tr>
<td>E</td>
<td>3</td>
<td>5</td>
<td>+2</td>
<td>1</td>
<td>8</td>
<td>+7</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>G</td>
<td>6</td>
<td>9</td>
<td>+3</td>
<td>9</td>
<td>10</td>
<td>+1</td>
</tr>
<tr>
<td>H</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4.4 highlights 5 out of 8 (63%) students made progress in the areas Rhyme Awareness and 6 out of 8 (75%) students made progress in Nursery Rhyme awareness.

One student remained the same in regard to Rhyme Awareness.

Table 4.5 *Comparison of Upper-case and Lower-case Pre and Post Scores*

<table>
<thead>
<tr>
<th>Student</th>
<th>Upper-case PRE</th>
<th>Upper-case POST</th>
<th>CHANGE</th>
<th>Lower-case PRE</th>
<th>Lower-case POST</th>
<th>CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3</td>
<td>15</td>
<td>+12</td>
<td>1</td>
<td>9</td>
<td>+8</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>16</td>
<td>+15</td>
<td>1</td>
<td>11</td>
<td>+10</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
<td>16</td>
<td>+13</td>
<td>1</td>
<td>12</td>
<td>+11</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>8</td>
<td>+5</td>
<td>1</td>
<td>7</td>
<td>+6</td>
</tr>
<tr>
<td>E</td>
<td>0</td>
<td>8</td>
<td>+8</td>
<td>0</td>
<td>8</td>
<td>+8</td>
</tr>
<tr>
<td>F</td>
<td>1</td>
<td>6</td>
<td>+5</td>
<td>0</td>
<td>4</td>
<td>+4</td>
</tr>
<tr>
<td>G</td>
<td>15</td>
<td>26</td>
<td>+11</td>
<td>12</td>
<td>24</td>
<td>+12</td>
</tr>
<tr>
<td>H</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The results indicated in Table 4.5 highlights 7 out of 8 (87.5%) students made progress in the areas of upper-case and lower-case. It is important that we also compare
this to the PALS end of preschool (spring) expectant developmental range of scores that indicates students entering Kindergarten should be able to identify 12 uppercase and 9 lower case letters (Intervernizzi, 2009). In examining the Upper-Case letters, 1 out of 8 or 12.5% of students met this requirement at the pre-test level, while 4 out of 8 or 50% of students met this requirement at the post-test level. In examining the lower-case letters, 1 out of 8 or 12.5% students met the requirement of recognizing 9 letters, while 4 out of 8 or 50% of students met the requirement. There was also one student who was just one letter shy of meeting the expectant range.

**Table 4.6 Comparison of Name Writing and Letter Sounds Pre and Post Scores**

<table>
<thead>
<tr>
<th>Student</th>
<th>Name Writing PRE</th>
<th>Name Writing POST</th>
<th>CHANGE</th>
<th>Letter Sounds PRE</th>
<th>Letter Sounds POST</th>
<th>CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>6</td>
<td>+4</td>
<td>0</td>
<td>10</td>
<td>+10</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>7</td>
<td>+5</td>
<td>0</td>
<td>9</td>
<td>+9</td>
</tr>
<tr>
<td>C</td>
<td>0</td>
<td>7</td>
<td>+7</td>
<td>0</td>
<td>10</td>
<td>+10</td>
</tr>
<tr>
<td>D</td>
<td>5</td>
<td>7</td>
<td>+2</td>
<td>0</td>
<td>6</td>
<td>+6</td>
</tr>
<tr>
<td>E</td>
<td>0</td>
<td>5</td>
<td>+5</td>
<td>0</td>
<td>5</td>
<td>+5</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>2</td>
<td>+2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>G</td>
<td>5</td>
<td>7</td>
<td>+2</td>
<td>5</td>
<td>19</td>
<td>+14</td>
</tr>
<tr>
<td>H</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4.6 highlights 7 out of 8 (87.5%) students made progress in the area of name writing, 6 out of 8 (75%) made progress in the area of letter sounds. Table 4.7 indicates fifty percent of the students achieved kindergarten readiness as they named 9 lowercase letters and 12 uppercase letters.
Table 4.7 Number of Students that Score Within the Expected Range

<table>
<thead>
<tr>
<th>Task</th>
<th>Number of students scored within the expected range</th>
<th>Expectant Spring Developmental Ranges</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Sound Awareness</td>
<td>5</td>
<td>5-8</td>
<td>62.5</td>
</tr>
<tr>
<td>Print and Word Awareness</td>
<td>4</td>
<td>7-9</td>
<td>50</td>
</tr>
<tr>
<td>Rhyme Awareness</td>
<td>5</td>
<td>5-7</td>
<td>62.5</td>
</tr>
<tr>
<td>Nursery Rhyme Awareness</td>
<td>6</td>
<td>6-10</td>
<td>75</td>
</tr>
<tr>
<td>Upper-Case Alphabet Recognition</td>
<td>4</td>
<td>12-21</td>
<td>50</td>
</tr>
<tr>
<td>Lower-Case Alphabet Recognition</td>
<td>4</td>
<td>9-17</td>
<td>50</td>
</tr>
<tr>
<td>Name Writing</td>
<td>6</td>
<td>5-7</td>
<td>75</td>
</tr>
<tr>
<td>Letter Sounds</td>
<td>6</td>
<td>4-8</td>
<td>75</td>
</tr>
</tbody>
</table>

PALS PreK provides developmental score ranges designed for the use with four-year-old students (Phonological Awareness Literacy Screening, 2017). Students meeting the Expectant Student Development Readiness are considered on-track or meeting the criteria for Kindergarten readiness. Results indicate the percentage of students who meet the PALS developmental ranges for each of the subtests. Results indicate significant
gains in each skill area accessed. In comparison to the state's expected spring developmental range, ranges of each category are met by at least 50% of students.

The post-intervention scores reflect two out of eight students scoring within the expected range for Kindergarten readiness in all areas. One out of eight students scored within the expected range in seven out of the eight (75%) areas. Four out of eight students scored below range in at least four (50%) of the areas. Seven students at least doubled in the areas of letter recognition. One student made zero progress in all areas.

In terms of Kindergarten readiness, there was no area evaluated that showed less than 50% of students making progress. In the areas of Print and Word Awareness, Upper-case and Lower-case Alphabet Recognition 50% of the students evaluated present progress. In the three areas of Name Writing, Letter Sounds, and Nursery Rhyme Awareness 75% of the students evaluated present progress. In the two areas of Rhyme Awareness and Beginning Sound Awareness, 62% of the students evaluated present progress.

**Students Receiving All Day Instruction**

The findings indicate students A, D, and G, who attended all day instruction, made significant growth in each area assessed. This implies the positive academic and social gains possible through all-day instruction.

*Student A:* Student A demonstrated the most progress in upper-case letter recognition with an increase of +8 and the lowest gain in Rhyme Awareness with a gain of +4.

*Student D:* Student D demonstrated equal gains in progress in the areas of Lower-case letters, beginning sound awareness, and letter sounds with the score of +6. Student D
made the least amount of progress in the area of name writing with the score of +2.

Beginning Sound Awareness and Letter Sounds support each other whereas name writing requires fine motor skills.

*Student G:* Student G demonstrated the most progress in letter sounds with the gain of +14 and the lowest gain in Print and Word awareness with the score of +2.

Of the three students who receive full day instruction, Student G had beginning scores that were higher than other students and also made higher gains in the areas of Lower-case letters and Letter Sounds. Student G attended half-day preschool at age three and attended full day preschool at age four. Areas of least amount of progress can also signify areas where additional support is needed in order for the student to make progress. Supports can include Speech-Language Therapy, Occupational Therapy, and hearing and vision screenings.

**Teacher Survey**

The teacher survey indicated that the preschool cooperating teacher has sixteen plus years of teaching experience with a bachelor’s degree in early childhood education. The cooperating teacher selected a score of five for all five questions addressing the importance of preschool overall experience on students’ future educational needs, the importance of preschool experiences in K4 and PCD classrooms on student achievement in the area of literacy. The cooperating teacher also selected the highest rank for the use of the EAK (Jones et al., 2012) instructional method versus other methods. Biographical information is important as a basis of knowledge and experience. The researcher wanted to ensure the cooperating teacher had taught for at least five years. Experience within and the preschool can influence reflection on the reflection in the importance of overall
preschool experiences. Reflection of the EAK model can also be influenced by the knowledge and experience of the cooperating teacher. Year teacher Questions included:

Summary

This chapter explored the research question's findings: What impact do early childhood intervention classrooms have on students' Kindergarten readiness in literacy using the Enhanced Alphabet Knowledge instruction method. It inherently reflected how letter recognition affects other areas of readiness in literacy. The study was quantitative in nature, and the researcher collected data through pre-and post-assessments. The researcher compared the collected data to expected ranges for students entering Kindergarten.

The quantitative findings suggested that using the Enhanced Alphabet Knowledge instructional method to support students in learning early literacy skills is useful as there were increases in alphabet knowledge for seven of the eight students within this study. The study also provided data indicating some students may require extended use of the model to reflect further growth, demonstrating Kindergarten readiness. Lastly, the study provided insight to the researcher on the effectiveness of using the EAK (Jones et al., 2012) instruction method of teaching students who attend preschool and require intervention.
Chapter 5

Summary, Conclusion, and Recommendations

Early literacy skills are essential to future learning. In particular, Alphabet knowledge (A.K.) is consistently recognized as the strongest, most durable predictor of later literacy achievement" (Jones et al., 2013, p. 81). Students cannot adequately progress during their Kindergarten school year if they have not mastered state literacy expectations prior to entering Kindergarten. This has become a common problem due to the newly adopted state standards. According to South Carolina's state standards, students are expected to recognize at least twelve upper-case letters, nine lowercase letters, and four-letter sounds (South Carolina Department of Education, 2018) in order to be considered ready for Kindergarten. Experience in teaching students in collaboration with general education teachers derived the concern of students not being ready to enter Kindergarten and so developed the Problem of Practice for this action research study. The researcher wanted to explore the impact early intervention classrooms have on students' readiness in literacy.

The purpose of this action research study was to examine the impact and importance of early intervention classrooms in accordance with the identified Problem of Practice while implementing the EAK literacy model developed by Jones et al., (2012). Also, to improve current methods of alphabet knowledge instruction as they are failing to meet the needs of young children (Piasta and Wagner 2010). There are studies that prove the EAK model as effective, but no known study that looks at the implementation of this
model to students within an intervention environment involving preschool students with known disabilities. Thus, this study sought to answer the research question, "What impact do early childhood intervention classrooms have on students' Kindergarten readiness in literacy using the Alphabet Knowledge Instruction Method?"

**Methodology**

The study was quantitative in nature, gathering discrete data from the quality assessments that form a growth model. This model was used to determine the impact early literature intervention had on the readiness for Kindergarten by comparing it to the expected literacy standards of a beginning K5 student.

The researcher collaborated with the classroom teacher to implement the Enhanced Alphabet Knowledge (EAK) instruction method, as described by Jones et al., (2013). The study took place over the course of eight weeks during the spring semester in a suburban elementary school in upstate South Carolina. The students that participated represent the population of students within intervention classrooms of the school district.

Data collection instruments used in this action research study included pre-and post-intervention Phonological Awareness Literacy Screening. The teacher questionnaire was given to the active participant-observer to obtain teacher experience, education level, and knowledge of research factors.

At the beginning of the study, all students were screened on literacy knowledge using PALS providing a knowledge baseline for the study. The data derived from the screening was recorded in a before and after chart to show growth patterns and to evaluate student readiness for Kindergarten. The implementation of the EAK model took place followed by the post-intervention PALS assessment. The pre- and post-intervention
scores are analyzed and then compared to the expected score of a student beginning Kindergarten. These findings provided an indication of the impact early childhood intervention classrooms have on students' Kindergarten readiness in literacy.

Findings

DIAL-4 screenings provided a diagnostic assessment in the areas of motor, language, concepts, self-help, and social-emotional skills (Mardell & Goldenberg, 2011) which indicate a potential need for instruction in one or more of those areas. Students who present the need for one or more of these areas are served through preschool intervention classrooms. In order to answer the research question, the researcher analyzed the data from the pre- and post-assessments and found gains in each skill area assessed. In comparison to the expected spring development range, gains were indicated by at least 50% of the students.

Two students who made little progress, indicate preschool age students may benefit from multiple years of intervention. The study presented evidence of two students who started with a score of zero in Beginning Sound Awareness as well as Print and Word Awareness. In their second year of attending preschool and with the use of the EAK (Jones et al., 2012) instructional method, these students made significant gains. Their final score reflects one that is ready for Kindergarten according to PALS Expectant Developmental Ranges.

After analyzing and comparing the quantitative data collected, the researcher determines that the use of the EAK (Jones et al., 2012) instructional method within early childhood intervention classrooms has a positive impact on students' Kindergarten readiness in literacy. The positive impact is indicated through the increase of upper and
lowercase letters by most of the participants. An increase indicates four of the eight students fall within the Kindergarten readiness ranges in comparison to only one student according to the pre-intervention screening data. Findings also indicate that further instruction is needed to reach the needs of all participants. The teacher survey indicated support on the use of the EAK instructional method within intervention classrooms inclusive to those with special needs. The awareness of this need and impact can affect future decisions in meeting the educational needs of early childhood students.

**Action Researcher**

After many years of teaching in the special education environment, the researcher recently changed positions and is currently teaching in the general education classroom setting. Although she is not presently responsible for meeting the needs of preschool-aged students with disabilities, her future endeavors include just that, but on a larger scale. Transitioning into the general education classroom setting has provided an opportunity to deliver the more rigorous state standards with a foundation of experience in meeting the needs of students with disabilities. This experience provides opportunities to lead special education teachers as well as general education teachers in meeting the needs of individual students. Delivering the newly adopted educational standards solidifies the need for early literacy skills intervention.

**Action Plan**

The teacher-researcher's action plan includes sharing the results of this study with those within the field of special education and other appropriate audiences in variant levels. The researcher plans to share this information with a rural school district of South
Carolina seeking improvements to their curriculum. The model was designed for preschool age students within the intervention classrooms and provided information to a broader audience by:

1. Share it with the preschool and K teachers at the school level and possible district level to influence and advocate for full day K4
2. Present results at district level or state level conferences to gain financial support for a full day K4 program
3. Implement the intervention with a larger group of students that represent the diverse population of South Carolina
4. Implement the intervention over a longer period of time

The goal of sample sizing is selecting a group that represents that of the larger population so that the group selected will match the population (McMillan, 1996).

**Recommendations for Practice**

The quantitative findings of the action research suggested that the use of the Enhanced Alphabet Knowledge (Jones et al., 2012) instructional method within an intervention classroom led to an increase in the number of students who present Kindergarten readiness, especially those who received a full day of instruction. It is recommended that educators continue to explore methods that support early literacy knowledge and ways to implement them within their role as an educator.

**Recommendations Relative to Preschool**

This study embodies research that supports the importance of Kindergarten readiness through preschool intervention classrooms. This study included students who
received specialized instruction through the PCD classroom in addition to the general preschool classroom, providing a full day of instruction.

Based on this study, a full day of instruction can be influential to student academic growth of those with special needs. The significance of this effectiveness could prevent increasing numbers of students being self-contained. Research on a full day versus a half day delivery of instruction inclusive to those with special needs is needed to determine the delivery effectiveness of a full day program on a larger population. The need for funding is relative to the need for all day programs. Determining ways and means of funding future high-quality, full day preschool programs is needed to support the growing population as well as the increase in accountability and readiness expectations. As part of Every Student Succeeds Act, the Preschool Development Grant Birth Through Five (PDG B-5) was created to support the expansion and access to preschool services. The main goal was to help states better understand their current services in preparing every student for Kindergarten and develop “sustainable” improvements (Poppe et al., 2020, p. 1). The disproportionate access to high-quality transition activities among students of color, English language learners and students from low-income families are the exact students who have demonstrated strong benefits from inclusion (Poppe et al., 2020 p. 14).

“Participation in home literacy activities is foundational for academic skill development and development of skills in other domains” (Leger et al., 2020 p. 12). Continuous practice of lessons learned should transfer from school to home. Parental support of the EAK instructional method is evident through continued practicing at home
in the areas of literacy. This should be supported by the teacher in providing ideas of at home activities including shared reading activities.

**Implications for Future Research**

Additional research should be completed in a setting with a more diverse population as African American students were not represented in this study of eight students. White and Hispanic students represent the population majority within the location of this study; however, this is not representation of the population of South Carolina. It’s important that research, inclusive of all races represented in South Carolina, is completed in order to better validate the effectiveness of the EAK instructional method on Kindergarten readiness based on the expectations determined by state.

Conducting this research at a school that is not a Title I school would broaden its effectiveness on readiness for Kindergarten on a more socioeconomic diverse population. With action research, there are limitations. Even though the district at hand provides professional development and a general curriculum for use in the classrooms, teachers have varied styles of delivery which influence a students' gain in skills.

Interventions outside of the school day provide additional support to learning. Interventions can occur outside of the school day by caretakers, tutors, or through organized programs such as the Young Men’s Christian Academy (YMCA). The organized after school programs can be costly to parents and should be offered at a lower rate so that more students can participate. Families can play a major role in providing out of school intervention and should be encouraged and supported by the school. Schools can support family involvement by informing them of what is expected of their student,
providing ideas and ways to support these expectations at home, and providing activities that connect school and home.

**Recommendations Relative to EAK (Jones et al., 2012) Instructional Method**

This study showed relevancy in the EAK (Jones et al., 2012) instructional method with the expectations of the South Carolina state adopted assessment program, PALS. Use of the EAK instructional method over a longer period of time within preschool intervention classrooms represented by diverse populations of race and socioeconomic status should be completed to further determine its effectiveness on Kindergarten readiness throughout the state.

**Summary**

This action research study explored the impact of the use of the Enhanced Alphabet Knowledge instructional method within the preschool intervention classroom setting has on Kindergarten readiness in literacy using. It inherently reflected how letter recognition affects other areas of readiness in literacy. Due to sample size, it may be difficult to suggest that this study's results would remain consistent in future studies. However, it depicts students' current status and provides feedback to school and district level professionals that may lead to future questions or areas of study. The researcher will share this information with those within the field of special education and other appropriate audiences in variant levels to advocate literacy knowledge for every child.

Getting ready for Kindergarten has drastically changed as learning standards and student expectations have continued to rise higher (Justice et al., 2009). Therefore, research must continue to be collected and analyzed to determine what can be done and
what methods effectively prepare preschool-age students for the high expectations of Kindergarten. It is essential to retrieve baseline data that the aforementioned assessments and diagnostic tools can provide. However, as stated by Maxwell & Clifford (2004), School readiness is more than just about children. School readiness, the broadest sense, is about children, families, early environments, schools, and communities. Children are not innately ready or not ready for school. Their skills and development are strongly influenced by their families and through their interactions with other people and environments before coming to school. (p. 1)

The methodology in this study endeavored to answer the question of students' Kindergarten readiness in literacy.
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U.S. Department of Education, Institute of Education Sciences, What Works


Appendix A

Good Start Grow Smart Standards

ELA-3K-1.1 Explore realistic books and materials in classroom centers.
Snapshots: Plays with puzzles and looks at pictures that are photos or realistic drawings in the science area of the classroom.
Picks up the cookbook from the Home Living Center before pretending to cook dinner.

ELA-3K-1.2 Listen to simple stories, songs and rhymes.
Snapshots: Goes to the book area when an adult is reading a picture book.
Brings a book to an adult and asks him to read it to her.

ELA-4K-1.1 Show interest in informational texts about familiar objects.
Snapshots: Chooses to look at pictures, newspapers, magazines and books including non-fiction topics such as current events, animals, cars and other topics of interests as they are displayed in the classroom in various areas
Names the idea (subject) of the text and describes details of the subjects such as, “Cats have claws”.

ELA -4K-1.2 Make relevant comments or appropriate responses to story events or characters.
Snapshots: Responds that the caterpillar might be getting sick while hearing a story about the life cycle of the butterfly.
Imitates the facial expression and chimes in the repeated refrain, “not by the hair on my chinny chin chin”.

ELA -K-1.1 Summarize the main idea and details from literacy texts read aloud
Snapshots: Tells a friend that the caterpillar goes into the chrysalis before he becomes a butterfly after hearing The Very Hungry Caterpillar.
Writes or draws a story that includes details and main idea about a story read aloud.

ELA-K-1.2 Use pictures and words to make predictions regarding a story read aloud.
Snapshots: Says that the pirate might fall into the sea when listening to a picture book about pirates.
Looks at the pictures in a new book about animals trying to get into a mitten and says, “I think it will burst soon”.
Writes or draws a logical prediction about a story read aloud.

3-Year Old 4-Year Old 5-Year Old
ELA-3K-1.3 Anticipate spoken lines in songs and finger plays. 
Snapshots: Joins in the on the last line, “Wee, Wee, Wee”, in the finger play This Little Piggy.
Corrects the reader if a refrain is read incorrectly in a predictable text.

ELA-3K-1.4 Form sounds that imitate the natural sounds of an animal, action or object. 
Snapshots: Makes sounds that match pictures in book like “moo” for a cow and “who-oo” for the train whistle.
Says “ring-ring” and picks up the phone and says hello while playing in the Home Living Center.

ELA-4K-1.3 Distinguish between descriptions of story events and spoken words of characters. 
Snapshots: Participates in spoken lines in text such as “I’m going to huff and puff and blow your house down” while listening to The Three Little Pigs.
Reminds a friend to wait until the teacher tells about the Big Billy goat on the bridge before you say the Troll’s part.

ELA-4K-1.4 Respond to elements of colorful language in stories and poetry. 
Snapshots: Wiggles on his belly to show how the snake “slithers” through the grass.
Demonstrates the difference between “he banged the door shut” and “he shut the door”.

ELA-K-1.3 Understand that a narrator tells the story. 
Snapshots: Organizes friends to act out nursery rhymes or stories while playing the narrator role.
Discusses with a friend which character is telling the story.

ELA-K-1.4 Find examples of sound devices (including onomatopoeia and alliteration) in texts read aloud. 
Snapshots: Listens for words with the same beginning sound and identifies them when a text is read aloud.
Identifies words that indicate sounds such as the stick “smacking” the branch and the “plop” of the snow as it drops in the book The Snowy Day.
Appendix B

Timeline

Table B.1

<table>
<thead>
<tr>
<th>Time</th>
<th>Description of Activities</th>
<th>Materials Needed</th>
<th>Persons Involved</th>
</tr>
</thead>
</table>
| Prior to study        | Conference with cooperating Teacher                                                        | EAK Description and Lesson Plan                 | ● Researcher  
 ● Cooperating Preschool Teacher                     |
| Phase 1               | Gather student baseline performance scores on PALS                                         | Conference, Observation and PALS Data Form      | ● Researcher  
 ● Preschool Students  
 ● Cooperating Preschool Teacher                       |
| Phase 2               | Implement EAK model based on findings of initial observations and data. Record info of student record sheet. | EAK lesson plan                                 | ● Researcher  
 ● Preschool Students  
 ● Cooperating Preschool Teacher                       |
| Phase 3               | Gather student performance scores on PALS, analyze and compare to baseline score for growth, and share findings with cooperating teacher. | EAK record form  
 PALS analysis form                               | ● Researcher  
 ● Cooperating Preschool Teacher                     |
| After study completion| Share results with stakeholders. Determine if student’s progress is in line with suggested targets of state standards Teacher survey to obtain teacher | Data from study and Teacher Survey              | ● Researcher  
 ● Cooperating Preschool Teacher  
 ● Administration  
 ● Other Stakeholders                                   |
experience, education level, and perception of EAK method
## Appendix C

### PALS Record

### Table C.1

<table>
<thead>
<tr>
<th>Task</th>
<th>Fall Scores</th>
<th>Mid-Year Scores</th>
<th>Spring Scores</th>
<th>Spring Developmental Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper-Case Alphabet Recognition</td>
<td></td>
<td></td>
<td></td>
<td>12-21</td>
</tr>
<tr>
<td>Lower-Case Alphabet Recognition</td>
<td></td>
<td></td>
<td></td>
<td>9-17</td>
</tr>
<tr>
<td>Letter Sounds</td>
<td></td>
<td></td>
<td></td>
<td>4-8</td>
</tr>
<tr>
<td>Beginning Sound Awareness</td>
<td></td>
<td></td>
<td></td>
<td>5-8</td>
</tr>
<tr>
<td>Print and Word Awareness</td>
<td></td>
<td></td>
<td></td>
<td>7-9</td>
</tr>
<tr>
<td>Rhyme Awareness</td>
<td></td>
<td></td>
<td></td>
<td>5-7</td>
</tr>
<tr>
<td>Nursery Rhyme Awareness</td>
<td></td>
<td></td>
<td></td>
<td>6-10</td>
</tr>
<tr>
<td>Name Writing</td>
<td></td>
<td></td>
<td></td>
<td>5-7</td>
</tr>
</tbody>
</table>
Appendix D

Expected Range

Table D.1

<table>
<thead>
<tr>
<th>Task</th>
<th>Number of students scored within the expected range</th>
<th>Expectant Spring Developmental Ranges</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Sound Awareness</td>
<td></td>
<td>5-8</td>
<td></td>
</tr>
<tr>
<td>Print and Word Awareness</td>
<td></td>
<td>7-9</td>
<td></td>
</tr>
<tr>
<td>Rhyme Awareness</td>
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<td>5-7</td>
<td></td>
</tr>
<tr>
<td>Nursery Rhyme Awareness</td>
<td></td>
<td>6-10</td>
<td></td>
</tr>
<tr>
<td>Upper-Case Alphabet</td>
<td></td>
<td>12-21</td>
<td></td>
</tr>
<tr>
<td>Recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower-Case Alphabet</td>
<td></td>
<td>9-17</td>
<td></td>
</tr>
<tr>
<td>Recognition</td>
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<tr>
<td>Name Writing</td>
<td></td>
<td>5-7</td>
<td></td>
</tr>
<tr>
<td>Letter Sounds</td>
<td></td>
<td>4-8</td>
<td></td>
</tr>
</tbody>
</table>
Appendix E

EAK Lesson Plan

Explanation of Objective:
Today, you will be learning the name, sound, and how to write the letter __. Learning this letter will help you to read and write many words.

Instruction

Letter Name Identification: (~ 1-2 minutes)
1. This is the letter ___. This is the uppercase letter ___. This is the lowercase letter ____.

(Show and/or write the letter, explaining the form.)

2. Let’s practice naming this letter. What is this letter? _____.

(Point to uppercase and lowercase letters in different order at least 3 times asking students to identify the letter name).

Letter Sound Identification: (~ 1-2 minutes)
3. The letter ____ represents the sound /___/. When I say the sound /_/ I place my tongue & mouth like this ____.

(Provide explanations/stories/key words to help students remember the sound.)

4. Let’s practice saying the sound of this letter. The letter ____ represents the ____ sound. Say the ____ sound with me ____, _____, _____.

(Point to uppercase and lowercase letters in different order at least 3 times asking students to identify the letter sound).

Hint: For vowels, teach students the short vowel sound and explain that when reading words the vowel letter represents its name or its sound.

Recognizing the Letter in Text: (~ 3 minutes)
5. Now, let’s see if we can find the letter ______.

(Students locate the uppercase and lowercase letter in text and state the letter name and sound each time the letter is located)
There are a number of alternatives for student practice with recognizing the letter in text such as:

- sorting through magnetic letters/tiles to isolate the particular letter
- identifying the letter in charts of classmates’ names
- using a crayon to circle the letter in newspapers or magazines
- placing highlighter tape over the letter in easy-to-read children’s books

**Producing the Letter Form: (~ 4-5 minutes)**

6. Let me show you how to write the letter _____. Here’s where I begin on the paper lines to write the letter ____.

(Provide description and hints about how to write the uppercase and lowercase form of the letter).

7. Let’s practice writing the letter ____ together.

Producing the letter can also use alternatives for practice such as:

- using a transparency and marker to trace over the letter as it is identified in enlarged print from children’s books
- writing the letters on small white boards as the teacher dictates
- producing the letter form with clay, pipe cleaners, wiki sticks

Note: Tasks such as using a rubber stamp and ink to stamp the letter or gluing items to an outline of the letter (e.g. gluing beans on the letter b) is not producing the letter form as the form has already been produced and students are not required to think about how to create the form.
Appendix F

Literacy Rich Classroom Checklist

✔ Word/letter games like Pictionary, Scrabble, BINGO, and Boggle
✔ Play with alphabet letter cookie cutters or stamps
✔ Discuss the daily schedule
✔ Interact with magnetic letters
✔ Label photos of students, teachers, important school staff and class activities
✔ Explore a variety of books, magazines, books on tape, books on computer
✔ Complete daily communication notebooks
✔ Read aloud frequently.
✔ Include children's primary language in print around the classroom.
✔ Allow children to make mistakes when attempting to use a second language.
✔ Encourage children to read the same books repeatedly to become familiar with the text.
✔ Plan activities that involve using language.
Appendix G

Teacher Survey

How many years of teaching experience are currently recorded on your professional certificate?

<table>
<thead>
<tr>
<th>Years</th>
<th>0-3</th>
<th>4-8</th>
<th>9-12</th>
<th>3-15</th>
<th>16+</th>
</tr>
</thead>
</table>

What is your highest degree level held?

Bachelor  Bachelor+15  Master  Master+30  Doctorate

**Rank the following questions with 1 being low and 5 being high.**

Rank the importance of preschool overall experience on students' future educational success.

| 1 | 2 | 3 | 4 | 5 |

Rank the importance of preschool experiences on student achievement in the area of literacy in the preschool classroom.

| 1 | 2 | 3 | 4 | 5 |

Rank the importance of preschool experiences on student achievement in the area of literacy in the preschool intervention (PCD) classroom.

| 1 | 2 | 3 | 4 | 5 |

Rank your perception of the use of the EAK method of instruction versus other methods.

| 1 | 2 | 3 | 4 | 5 |