ABSTRACT

EDUCATIONAL LEADERSHIP

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THE EFFECTIVENESS OF THE HEARBUILDER SOFTWARE PROGRAM ON THE ACQUISITION OF PHONOLOGICAL AWARENESS SKILLS FOR AFRICAN-AMERICAN CHILDREN IN PREKINDERGARTEN: IMPLICATIONS FOR EDUCATIONAL LEADERS

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Dissertation dated May 2017

This mixed methods study was designed to examine the effectiveness of the HearBuilder Phonological Awareness software program on the acquisition of phonological awareness in African-American preschool children. Additionally, the researcher investigated the relationship between the independent variables of student engagement, student motivation, student behavior, and student attendance on the dependent variable of acquisition of phonological awareness as measured by the gain score. Descriptive statistical analyses were used to describe, summarize, and interpret the data collected. After examining the aforesaid variables, the researcher found there were no significant relationships between the gain scores and any of the independent variables. But there were useful significant relationships between the independent variables of

student motivation, student engagement, and student attendance. The researcher also examined the differences between the pretest and posttest for the experimental and control groups combined. A significant difference was found between these two tests suggesting that the HearBuilder Phonological Awareness software program was effective in improving student's performance in the experimental group. There was no significant difference, however, between pre and posttest based on gender. So while one can see the effectiveness in the HearBuilder Phonological Awareness program based on the difference between the pre and posttest, the reason does not lie in the variables selected as independent variables, but in other variables not included in the study such as instructional strategies. Finally, the researcher investigated the difference in the performance of the experimental group and the control group as measured by the mean gain scores. Key results revealed that the experimental group scored higher than the control group on the HearBuilder Phonological Awareness posttest as measured by the gain score. Early Childhood administrators can utilize this investigation as a vehicle to advance their instructional leadership skills and teachers can improve their pedagogical practices.

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A DISSERTATION

SUBMITTED TO THE FACULTY OF CLARK ATLANTA UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR

THE DEGREE OF DOCTOR OF EDUCATION

BY

JANICE ELAINE ADAMS

DEPARTMENT OF EDUCATIONAL LEADERSHIP

ATLANTA, GEORGIA

MAY 2017

ACKNOWLEDGMENTS

"I can do all things through Christ who strengthens me." (Philippians 4:13)

I thank my Heavenly Father from whom all blessings flow. I am forever grateful to my mother, Sandra Adams, for guiding me and teaching me to rely on God's word. To my biggest cheerleaders, my wonderful children, E'Lexus and Arontez, thank you for loving me unconditionally and helping me to believe that dreams do come true. To my siblings, Cassandra, Frankie, Kamela, and Willie, your prayers, patience, love, and encouragement upheld me. For this, I love you all, and thank you. To the Walker family and the rest of my family, thank you for encouraging me in all of my pursuits and inspiring me to follow my dreams. This journey would not have been possible without you.

To my dissertation chair, Dr. Barbara Hill, thank you for being my pillar and guiding light as I traveled this journey. I would like to thank my dissertation committee members, Dr. Groves, Dr. Turner, and Dr. Gregory. I am grateful for your caring spirits and support. Each of you has given of your time, energy, and expertise and I am richer because of it. I would like to acknowledge Dr. Noran L. Moffett, my mentor and one of the best professors in the world. You are truly an example of a servant-leader. Thank you for letting your light shine before men, so that they may see your good deeds and give glory to our Father who is in heaven.

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CHAPTER I

INTRODUCTION

It is a requirement for today's students to be prepared to enter a world in which colleges and businesses are demanding more than ever before. In an effort to honor their urgent demands, the field of reading and emergent literacy research has devoted increasing attention to foundational, skills that young children need to possess in order to become successful readers (Catts, Fey, Zhang, & Tomblin, 2001; McCardle, Scarborough, & Catts, 2001; National Early Literacy Panel [NELP], 2008). Progress in reading begins with the development of emergent literacy skills, such as alphabet knowledge, phonological awareness (PA), oral language skills including vocabulary, as well as familiarity with the written language system (Hoff, 2006; Lonigan & Shanahan, 2008; Whitehurst & Lonigan, 2001). Human interactions like sharing a picture book, telling a story, and talking about experiences are central to emergent literacy. Because competency in alphabetic knowledge, phonological awareness, and oral language skills predicts reading acquisition and subsequent achievement (Storch & Whitehurst, 2002; Strickland & Shanahan, 2004), children lacking early development of these skills are at risk for reading difficulties and lower academic outcomes (Walker, Greenwood, Hart, & Carta, 1994). Notably, phonological awareness has been shown to be particularly difficult for some children to acquire on their own. Therefore, it is crucial to build children's

phonological awareness skills and other emergent literacy skills during the preschool period by providing high-quality learning opportunities.

Despite teachers' continuous efforts, numerous children are not mastering basic literacy skills and are failing to learn to read. A potential explanation for literacy underachievement in African-American children is the lack of effective instructional programs for this population. Bowman (2001) proclaimed that the field of early childhood education is veering toward explicit targeting of children's development of emergent literacy skills. Such skills are vital for success with later reading and writing; they must be intentionally fostered in disadvantaged children if achievement gaps are to be narrowed.

Students that have poor phonological awareness skills and lack disconnect may need a program to supplement the day-to-day literacy program that are taught in school. Phonological awareness reading software, such as the Webber HearBuilder software program, can be used in conjunction with tablet devices to help improve emergent literacy skills. Webber HearBuilder is an interactive software program that focuses on different skills that are associated with phonological awareness, auditory memory processing, sequencing, and following directions. This program consists of nine activities that focus on hearing the sounds in words, syllables, and sentences. Each activity is divided into skill levels and automatically gets progressively more advanced with each correct response. Also, programs like Webber HearBuilder can be used in the home or in school during times outside of the literacy instruction.

Long (2009) wrote, "There is a radical shift in how students learn, create, and present using technology in schools. Besides technology, such as tablets, is a necessity

because it mirrors their lives outside of school" (p. 27). Students are tweeting their friends, blogging about their favorite bands, and creating entertaining *YouTube* videos in hopes of being the next "viral" video star. They are contributing to the world of information technology where they access many online social environments. Their voices and opinions are being shared with the global community, not just with their friends and families. Further, Long (2009) maintained, "When students are leading such engaging, interesting lives outside of the classroom, asking them to fill in worksheets in the classroom is not the most clever and successful way to motivate them" (p. 27).

The manner in which individuals shop, bank, work, communicate, transact business, teach and learn have changed tremulously over the years, particularly during the past 10 years. This suggests that children require a new and more demanding intellectual skill set to succeed in adulthood. Technology has had an astonishing impact on the lives of individuals in society. Due to the advancement of computers, vehicles are being designed differently, the entertainment world has become more entertaining, and medical science has made bounteous advances toward the cures for diseases. Life became instantaneously easier. Without doubt, another area the computer has impacted is the entertainment world. Computers made it possible to enhance graphics and special effects (Graham, 1989). Unfortunately, even the job market is hugely affected by technology. According to Chris Arnold (2011), some blue-collar jobs such as working on an assembly line were overtaken by computers. Paychecks are an excellent example of direct application, because most employees now receive direct deposit into their bank accounts or the paycheck received is generated by a computer. Even more, the business sector has been a beneficiary of the recent changes in technology. The entire banking

industry has changed since the introduction of technology. Banking has computerized most aspects of the processing of checks and maintenance accounts, keep track of money and inventory, and facilitate recent moves into such areas as automatic bill payment and installation of electronic tellers. People can now access their accounts and adjust funds from their personal computers from the comfort of their own home. Certainly, the days of taking a check to the bank to deposit it is in the past and now all accounts can be maintained by using the computer. Credit card transactions, account billings, loan repayments, and hotels are now processed by a computer and it is nearly impossible to try to utilize those luxuries without one. Comparatively, technology is being utilized in grocery stores, supermarkets, and retail. Consumer purchases are made through automatic reading of product/price codes, which generates a printed bill for the customer and provides current information for inventory control and sales trends.

One of the massive phenomenon surrounding the growth and acceptance of technology worldwide is the advent and the intense use of cell phones (Ling, 2005). Indeed, the cellular phone has become the new television. Comparatively, many students today carry and use cell phones and cell phone technology as their primary means of communication (Prensky, 2005). Thus, the use of cell phones not only creates and enables many learning opportunities inside the classroom, but also facilitates learning outside the classroom (Kolb, 2006), changing the ways of teaching and learning (Bessie, 2008).

Mobile devices such as smartphones and tablets are a pervasive part of American lives and North American parents represent a great portion of the population. Martin and Robinson affirm there has been an increase in the use of technology among all

populations. Parents are more connected to and attracted to technology than non-parents (Martin & Robinson, 2007). Parental use of mobile devices in playgrounds, restaurants, or other public settings with children has received criticism in the media, with concern that parental distraction by these devices may affect child safety or emotional well-being (Fredrickson, 2013).

The adoption of tablet devices by schools has accelerated and created a new opportunity to use technology in early literacy skill development. Increasingly, students also have access to tablets and smartphones at home, giving educators an excellent opportunity to use these technologies to connect school and home learning activities. However, researchers argue that this technology needs to be used in a careful and deliberate way to ensure learning and development of early literacy (Duke & Pearson, 2002; Pearson & Gallagher, 1983). Prekindergarten students are part of a leading-edge of students entering the classroom that have entirely different life experiences and background knowledge with technology in comparison to the first wave of 21st Century Learners, those who were already in school when technology and other tablets were introduced. Blair (2012) referred to these students as the "New 21st Century Learner" (p. 8) because they have had different experiences with technology and learning in comparison to students slightly older than themselves. He also asserted that new 21st Century Learners are able to engage in their learning in a unique way, making teaching then a completely different experience than students in the past.

The need for educational leaders to promote and understand the impact of technology on early childhood programs as related to student achievement is paramount. In an-ever changing technology environment, educational leaders plays a vital by

providing a vision, communicating the vision and expectations of integrating technology into classroom instruction, and by ensuring resources of all types are available for teachers and students to access in order to sustain an educational enterprise (Courville, 2011). The International Society for Technology in Education (2007) recommends basic skills in technology operations and concepts by age five. Considering this, early childhood settings can provide opportunities for exploring technology to children who otherwise might not have access to these tools. It is vitally important that educational leaders consider the learning and creative advantage that high-quality interactive technology can bring to children, especially when implemented in a developmentally appropriately manner. Also high-quality tech combined with adroit teaching and curriculum resources are likely to produce positive student outcomes and narrow the achievement gap between children from low-income families and their more affluent peers. Even more, educational dignitaries that appropriately integrate technology into their early learning program addresses the issue of equity among students of different racial and socioeconomic backgrounds by increasing access to information and information technology for all groups (Judge, Puckett, & Cabuk 2004).

According to Takeuchi (2011), technological devices have the potential to help educators make and strengthen home–school connections. Indeed with technology becoming more prevalent as a means of sharing information and communicating with one another, forerunners in early childhood education have an opportunity to build stronger relationships with parents and enhance family engagement. As a matter of fact, it has always been encumbered upon early childhood educators to support parents and families by sharing knowledge about child development and learning.

In 2012, the National Association for the Education of Young Children and the Fred Rogers Center for Early Learning and Children's Media produced a joint position statement on the use of technology and interactive devices for children from birth through age eight. The document was recommendatory toward the use of technology in preschool classrooms. It also equated digital literacy with traditional literacy claiming that young children need opportunities to develop the early technology-handling skills associated with early digital literacy that are comparable to the book-handling skills associated with early literacy development. Further, the document points to the positive effects technology has on children's learning and development, both cognitive and social (National Association for the Education of Young Children and Fred Rogers Center for Early Learning and Children's Media, 2012). Honey, Culp, and Spielvoget (2005) posited that the use of technology helps prepare students for a world where they will compete globally with the best and brightest individuals from every corner of the world. The researchers claim that technology for early learners has proliferated, presently digital tools are being use outside the classroom, further engaging the digital native learners in the learning process. Even more, Sadao and Robinson (2010) contended that assistive technology is fundamental in providing equitable access for children with special needs. Because of the emergent of technology, inclusive practices in early childhood settings is being manifested by providing adaptations that allow children with disabilities to participate more fully in the classroom (Sadao & Robinson, 2010). According to the Consortium for School Networking [CoSN] (2004), technology has become a powerful forbearing engine in using data to make informed decisions. It does so by allowing administrators, teachers, parents and policymakers access to timely and comprehensive

information regarding a student's progress, problems and strengths. As a final point, research has established that properly implemented technology initiatives can improve student achievement, engage the digital native learner, inform decisions, and provide important technological skills to the future workforce (Ringstaff & Kelley, 2002).

Since emergent literacy serves as a foundation for children subsequent transition to beginning reading and ultimately the acquisition of skilled reading, the researcher began to look to technology and applications (apps) based learning using tablets as a way to make the acquisition of emergent literacy fun, exciting, and explosive for kindergarten children at-risk of failing reading. Digital learning has become my intervention tool box for helping students' ingress a scaffolder explicit emergent literacy intervention curriculum.

Statement of the Problem

Approximately 40% of U.S. children enter kindergarten each year without sufficient foundational reading readiness skills to ensure academic success, and unfortunately, many of them may never catch up (Fielding, Kerr & Rosier, 2007). These children often lack early literacy skills to become proficient readers including alphabet knowledge, phonological awareness and oral language that are important predictors of later reading achievement (Byrne & Fielding-Barnsley, 1991).

According to research, many children from low-income families have meager experiences with reading and writing at home than children from middle-class families (Dickinson & Snow, 1987; Washington, 2001). Consequently, they enter school with limited knowledge in emergent literacy skills which can lead to future problems with

conventional reading and writing (Justice, Chow, Capellini, Flanigan, & Colton, 2003; Whitehurst et al., 1994).

Children who have been identified as potentially having later reading difficulties include, children raised in poverty (Lee & Burkham, 2002; Lonigan, Burgess, Anthony, & Baker, 1998; Nancollis, Lawrie, & Dodd, 2005) and children from low literacy homes. (Dickinson & Tabors, 2001; Hart & Risley, 1995; National Reading Council, 1998; Sadowski, 2006). Findings from the Early Childhood Longitudinal Study-Birth Cohort (ECLS-B) (U.S. Department of Education, 2007) revealed that preschool children from low socioeconomic status (SES) households performed more poorly on early literacy assessment than their peers from middle and higher income households.

There are several related factors that may place children at-risk for difficulties and impede the development of emergent literacy skills. One important factor is the introduction of mobile phones and its ability to allow individuals to communicate with instant messages by using texting. Unquestionably, texting has greatly impacted the way in which people communicate including children (Kemp & Bushnell, 2011). People no longer need to make phone calls to keep in touch with friends and family, they now have the option to type a short message in an abbreviated manner. What is more, text messaging continues to have an impact in the education department and the literacy skills of students. Increasingly students are submitting online assignments via text messages (Verheijen & Lieke, 2013). It has been observed when youngsters use text language or text messages, they revert to a phonetic language and texting may have a negative effect on students' writing skills (Plester, Wood, & Bell, 2008). In a study, participants were asked to transcribe back and forth between Standard English and text messages. Mistakes

were made in transcription to English included missed words, punctuation, untranslated text language, and misspellings. It was also observed that those who texted more often, tend to have worse mistakes in nonverbal communication (Plester, Wood, & Bell, 2008). Identically, some students do not seem to be able to alternate between short word slang and normal English in a classroom setting. By the same token, adaptations, abbreviations, letter omissions, and homophones tend to negatively predict grammar scores. This may be a reason why educators have a negative outlook on student testing habits (Cingel & Sundar, 2012).

Another risk factor that has the potential to hamper students' literacy skills is noneducational television. Clearly noneducational television and reality shows play a significant role in the lives of most American children. In fact, entertainment programs with mature content continues to increase dramatically. Neil Postman's work, *The Disappearance of Childhood*, asserts that "Watching television not only requires no skills but develops no skills" (Postman, 1994, p. 79). Along with that, with specific regard to emergent literacy, Ennemoser and Schneider (2007) reported that television viewing and reading literacy are influenced by program content. In the case of entertainment television, the influence is mostly perceived as negative. According to Neuman and Prowda (1982), children experience negative consequences when they extensively view television beyond four hours per day. Furthermore, Mabel Rice contends that children extensive coviewing with adults of adult programming, high exposure to television, and low exposure to educational programs are associated with low language development (Rice, Huston, Truglio, & Wright, 1990). Comstock and Paik (1991) confirmed that

children from lower-income homes tend to watch more television and also score lower on measures of academic achievement than do their higher-income counterparts.

Mistry, Minkovitz, Strobino, and Borzekowski (2007) reported that prolong television viewing is associated with more behavioral problems over time for preschool children. In like manner, children exhibiting challenging behaviors within the preschool year have demonstrated stable trajectories of continued problems in the school classroom resulting in disruptions for participation in learning activities and ultimately development of academic skills including early literacy skills (Fantuzzo, Bulotsky-Shearer, Fusco & McWayne, 2005).

Purpose of the Study

Tablet technologies in early childhood education have been of great interest and deem as a potential learning tool and resource to engage children's learning. Despite a growing literature on the ways educators have attempted to use tablets in the educational arenas, there is a scarcity of studies in the early childhood education context. Media articles such as "Forget nap time; its app time" (Evans, 2013), "Is my iPad in my backpack?" (Timmermann, 2010), and "iPads bridge kindy generation gap" (Wade, 2012) recognize the growing relevance of tablets in young children's daily lives, serving as a prompt to teachers to integrate them into their practice as a way of enhancing children's learning.

The purpose of this research study was to examine the effectiveness of HearBuilder's phonological awareness computer program on the acquisition of phonological awareness skills as measured on the posttest in African-Americans

prekindergarten children. The acquisition of phonological awareness is the dependent variable that was investigated while exploring student motivation, student engagement, student behavior, and student attendance.

Specifically, the acquisition of phonological awareness skills incorporate a range of skills such as rhyming, sound matching, letter-sound identification, rhyming awareness, initial sound identification, blending words, blending syllables, and segmenting words. Additionally, the phonological awareness skills were assessed along a spectrum of phonological awareness aptitudes. Lastly, the study investigated the relationship between the acquisition of phonological awareness skills and the independent variables of student motivation, student engagement, student behavior, and student daily attendance.

Research Questions

RQ1: Is there a difference in the performance of the experimental group and the control group as measured by the mean gain scores?

RQ2: How effective is the HearBuilder Phonological Awareness app via the Kindle Fire tablet in improving the posttest scores for students in the experimental group?

RQ3: Is there a significant relationship between the acquisition of phonological awareness skills and student motivation?

RQ4: Is there a significant relationship between the acquisition of phonological awareness skills and student engagement?

RQ5: Is there a significant relationship between the acquisition of phonological awareness skills and student behavior?

RQ6: Is there a significant relationship between the acquisition of phonological awareness skills and student attendance?

RQ7: What are the opinions of preschool teachers regarding student motivation, student engagement, student behavior, and student attendance in student's acquisition of phonological awareness skills?

Significance of the Study

There is scant research regarding the effectiveness of phonological awareness programs via Kindle Fire tablets. Comparatively, the integration of phonological awareness and the Kindle Fires tablet have not been extensively studied as a technological platform to teach emergent literacy skills such as phonological awareness in the early childhood classroom, the findings of this study is among one of the first to address integrating them as a learning tool into early childhood education. Therefore, the findings of this study will contribute to the body of knowledge in early childhood education and, at the same time, highlight the effectiveness of phonological awareness computer program through the medium of handheld devices when integrated into pre-k classrooms.

Preschool and kindergarten are the most crucial grades and school districts have a short time period in which to get children off to a strong start. Research indicates that children who begin third grade struggling in reading and writing rarely catch up with

their age-appropriate peers and tend to struggle all the way through high school (Snow, Burns, & Griffin 1998).

Recent changes in the federal law are demanding improvement in all students' reading skills through the use of research-based methods and strategies, as seen through national educational policies, such as Individuals with Disabilities Education Improvement Act (IDEA, 2004).

Therefore, the educational significance of this study is to raise awareness of the critical role on the use of technology in the primary classroom and how it can increase students' emergent literacy achievement. It is expected that the study will offer some insight so that policy makers, educational stakeholders, and parents can adopt the most appropriate policies for utilizing technology into early childhood educational arenas. Additionally, this investigation will induce explicit information that districts can employ as part of their decision-making process regarding an early literacy curriculum.

In American schools, mastery of early literacy skills is an essential prerequisite for academic success. According to Sarah Mead (2009), up to third grade, children have to learn to read. Starting in fourth grade, they have to read to learn information. Those that have not mastered literacy skills by the end of third grade are likely to struggle to keep up thereafter. Mobile apps represent a new, and often inexpensive, resource now available to parents, teachers and others who try to help young children struggling to master early literacy skills.

As educators and parents look to digital tools such as tablets to transform literacy instructions, it is the researcher's desire that this study will provide concrete answers regarding the effectiveness of phonological awareness software apps linked with

handheld devices on acquisition of phonological awareness skills for African-American children in prekindergarten.

Summary

In summary, Chapter I conveyed a detailed explanation of the problem in context being studied and the purpose of the study is explained. The study explored the effectiveness of the HearBuilder Phonological Awareness software program on the acquisition of phonological awareness skills in African-American kindergarten children. During the study, the researcher identified variables and their relationship as it relates to the effectiveness of students acquiring and improving emergent literacy skills in the area of phonological awareness. Finally, Chapter I concluded with a review of the research questions framed for this study and a discussion about the significance of the study.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter presents the review of the current research literature related to the factors of the acquisition of phonological awareness skills. Each section of the literature presents information to support the connection between the dependent and independent variables. The study focuses on the effectiveness of a phonological awareness software program on the acquisition of phonological awareness skills for African-American students; moreover, this study examines the relationship between the independent and dependent variables.

Four themes emerged from the literature: (a) student motivation, (b) student engagement, (c) student behavior, and (d) student attendance. These themes are important for the procuration of phonological awareness skills. Following this section, the themes are highlighted to show some relations between them. Research consistently shows that phonological awareness is an important concept for students to understand before they begin the process of learning to read print. Equally important, research supports the idea that students who possess well-developed phonological skills generally learn to read with more success.

Acquisition of Phonological Awareness

Researchers have displayed an extraordinary interest in the construct of phonological awareness because there a belief it is related to the acquisition of beginning reading skills and it may be the determinant of reading disability (Brady, Braze, & Fowler, 2011). The importance of acquiring phonological awareness cannot be overstated. It is closely linked with most specific learning disabilities in reading (Brady & Shankweiler, 2013). When learning to read, it is paramount that attention is given to the sound structure of language, which is fundamental to the acquisition of reading. From the largest unit of sounds in words to the smallest, the development of sensitivity along the phonological awareness continuum is positively correlated with future reading success (Lonigan, Purpa, Wilson, Walker, & Clancy-Menchetti, 2013). Similarly, Chard and Dickson (1999) concluded that phonological awareness skills emanate by following a continuum and can be developed before reading mastery, and that it facilitates the subsequent acquisition of reading skills (see Figure 1).

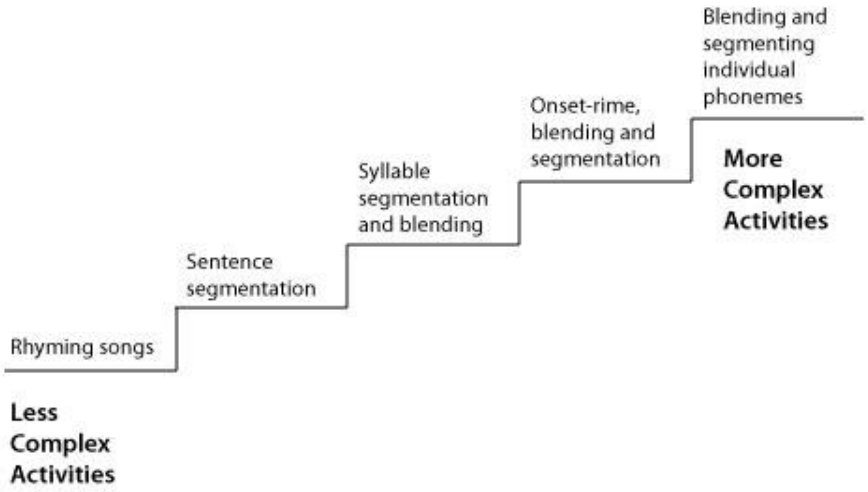

Figure 1. A continuum of complexity of phonological awareness activities.

The importance of strong phonological and phonemic awareness skills on future reading achievement is well documented in research, and evidence suggests that mastery of phonological tasks with both larger and smaller units of sound is certainly correlated to future reading success (Lonigan et al., 2013).

Lonigan et al. (2013) utilized an intervention which progressed along the developmental continuum from larger to smaller units of sound in their study of 318 preschoolers at risk for reading failure. The authors found that the students who participated in explicit phonological awareness instruction scored significantly higher on phonological awareness assessments than did students who received traditional classroom instruction or participated in standard and dialogic reading and alphabet treatment groups. The growth in overall phonological awareness development using this synthesis approach suggests that the same phonological tasks can be mastered at various points along the phonological awareness continuum and are not limited to phoneme level mastery.

In the same fashion, Bailet, Repper, Murphy, Piasta, and Zetter-Greeley (2013) applied an explicit instruction sequence in their study of 3,374 preschoolers in 102 low-income child care settings. The researchers found that students who were given explicit instructions made statistically significant growth, gaining more than double the average fall to spring score on a phonological awareness instrument. The results also indicated that even the most at-risk students made significant gains over peers of similar ability who did not take part in the intervention.

Research studies have demonstrated that with targeted interventions, prekindergarteners identified as at-risk can make positive gains in phonological awareness understanding. Correspondingly, research based interventions positively

correlated with increasing the phonological awareness understanding of at-risk pre-k students include explicit instruction in one or two areas only, small group instruction, and a short intervention time period (Bailet et al., 2013).

While independent readers will ultimately manipulate sounds at the phoneme level, research shows that the development of these tasks occurs along a continuum, and task proficiency with larger units of sound, such as syllables and onset-rime, is also beneficial and correlated to future reading success (Lonigan et al., 2013). When it comes to the development of phonological and phonemic awareness, a measurable achievement gap emerges in students as young as four years of age (Bailet et al., 2013).

Another essential point, there is a common agreement among researchers that phonological awareness is important to the reading process in order to develop segmentation skills that allow the brain to store words (Andrews & Wang, 2015). Although the literature has demonstrated numerous theories regarding the relationship between phonological awareness and reading ability, the overall agreement among proponents of each theory is that phonological awareness is central to learning to read (Andrews & Wang, 2014; Mayer & Trezek, 2014).

Student Motivation

Motivation involves individual beliefs, perceptions, values, interests, and actions. There are two types of motivation, intrinsic and extrinsic motivation. Intrinsic motivation refers to motivation that is driven by personal enjoyment, interest, pleasure, and is usually contrasted with extrinsic motivation. On the contrary, extrinsic is geared toward external rewards or to avoid punishment. Some examples of external rewards are money, praise,

and awards (Guay et al., 2010). Students typically enter school with high levels of intrinsic motivation, although this type of motivation tends to decline as children progress through school. Numerous research studies have shown that there is a positive correlation between intrinsic motivation and academic achievement (Law, Elliot, & Murayama, 2012). The majority of researchers believe that motivation is not solely intrinsic or extrinsic, but a balanced approach exists in the classroom that includes a combination of both types (Williams & Williams, 2011). Lai also took stock that tangible rewards can be especially harmful to intrinsic motivation, as can negative feedback on performance task when it is executed in an authoritative manner. However, in some situations, verbal rewards can contribute positively. Furthermore, the researcher suggested several methods for affecting student's motivation. First, teachers should also attempt to give students more autonomy or control over their own learning by allowing them to make personal choices regarding learning and assessment activities. Second, teachers should employ collaborative or cooperative learning methods in order to increase student motivation and task engagement. Third, through the facilitation and the influence of goal structures in the classroom environment, that is, teachers' become immersed in pedagogical practices that promote various instructional, evaluation, and grouping strategies in their classroom (Lai, 2011). Motivation in children predicts motivation later in life, and the stability of this relationship strengthens with age. Furthermore, early achievement and IQ predict later motivation, and these relationships also tend to stabilize with age as motivation is consolidated. Moreover, motivation is related to a number of other important educational outcomes, including critical and higher order thinking skills.

Student Engagement

Student engagement theory serves as an appropriate frame of reference for technology-based learning. Although mobile learning has been on the horizon for many years, the introduction of tablets has changed mobile learning opportunities for teachers and students. To understand the theoretical rationale behind mobile learning on tablets one must look at engagement theory for students (Hutchison, Beschorner, & Schmidt-Crawford, 2012).

Although different interpretations and conceptions regarding student engagement have been noted, three underlying assumptions are strikingly salient. The first is that engagement is impacted by improved instructional strategies and interventions. The second is that engagement represents a direct pathway to learning (Skinner & Pitzer, 2012). In like fashion, once engagement occurs, learning outcomes often follow it. The third is that engagement is definitely distinct from students' motivations (Finn & Zimmer, 2012; Martin, 2012). Although student motivation may reflect the direction of students' energy toward school and/or the classroom (Assor, 2012), engagement is thought to represent the affective, cognitive, and behavioral activation of that energy and direction.

Research has shown that student engagement is linked to positive learning outcomes (Diemer et al., 2012). Clark and Luckin (2013) reported that studies have "overwhelmingly" reported that "tablet devices have a positive impact on students' engagement with learning" (p. 4). Similarly, Diemer et al. (2012) found that the use of tablets in the classroom increased students' perception of their engagement and in turn left a positive effect on students' active and collaborative learning.

Additionally, the concept of engagement materialized as a way to understand how students effectively work and learn. Also, literature on engagement theory includes the concept of self-determination. Moreover, student engagement entails choosing to be engaged in an activity, demonstrating involvement in an activity, and collaborative problem solving between and among students (Marcum, 2011). "Engagement is very similar to intrinsic motivation. Intrinsic motivation fundamentals include meaningfulness, choice, competence, and progress" (Marcum, 2011, p.1).

Mark Edwards (2013) wrote a groundbreaking book titled, *Every Child, Everyday: A Digital Conversion Model for Students Achievement*. Subsequently, this bold visionary recognized six principle drivers of student engagement that promotes student achievement: relevant and personalized learning, collaborative and connected learning, informational literacy, and dialogical and dialectical thinking.

Student Behavior

A growing body of literature indicates that student behavior and attention is related to student achievement. Duncan et al. (2007) found attention concerns were predictive of later struggles in reading achievement. Georges, Brooks-Gunn, and Malone (2012), in a longitudinal study of over 14,000 children, concluded that those with low attention, as well as those with combined low attention and aggressive behavior, made less academic progress than their peers. Teachers have also reported spending more time on behavior, citing that it detracts from their instructional time (Scholastic, Inc., & Bill and Melinda Gates Foundation, 2012). In a recent survey of more than 10,000 public school teachers conducted by Scholastic, Inc. and Bill and Melinda Gates Foundation

(2012), 62% of the teachers reported that they had more students with behavioral problems that interfered with teaching, as compared to when they began their careers. According to the National Institute of Mental Health [NIMH] (2014), the number of children diagnosed with attention concerns specifically is increasing without known cause, with the onset of symptoms typically occurring between the ages of three and six, leading up to school entry age.

Student Attendance

According to Georgia Department of Education [GaDOE] (2010), student attendance has always been areas of concern for educators, as well as, community members, and legislators. The research, conducted by the GaDOE Policy division, contended that students who are not in school cannot learn. Data indicated that missing more than five days of school each year, regardless of the cause, begins to impact student academic performance and starts shaping attitudes about school. In addition, student attendance is a better predictor of dropping out of school than test scores. Excused absences and unexcused absences have similar impact on student academic performance (GaDOE, 2010). The National Forum on Education Statistics (2009) postulated that research shows that attendance significantly impact student achievement. Teacher effectiveness is the strongest school-related determinant of student success, but chronic student absence impedes even the best teacher's ability to provide learning opportunities. Students who attend school regularly have been shown to achieve at higher levels than students who do not have regular attendance. This relationship between attendance and

achievement may appear early in a child's school career. Besides that, poor attendance has serious implications for later outcomes as well.

A growing body of research documents students who display chronic absenteeism miss 10% percent or more of the school year are due to excused or unexcused absences. Ready (2010) conducted a study regarding the extent to which school absenteeism exacerbates social class differences in academic development among young children. His study showed that the effects of poor attendance are particularly notable and most troubling for low-income children, who need more time in the classroom to master reading and are less likely to have access to resources outside of school to help them catch up. Unfortunately, low-income children are four times more likely to be chronically absent.

In 2014, Attendance Works shared highlights from a report entitled Attendance in the Early Grades: Why it Matters for Reading. The report focused on attendance in the early grades and its implications for reading. As reported by Attendance Works, the effects of absenteeism on literacy skills start before kindergarten. In effort to support their claim, they reported that The University of Chicago Consortium of Chicago School Research followed 25,000 3- and 4-year-olds served by Chicago Public Schools' school-based preschool programs and found that nearly half of 3-year-olds and more than one-third of 4-year-olds missed at least 10% of the school year. The results of this study showed that chronic absence for 4-year-old students correlated with weaker kindergarten readiness scores, including letter recognition and pre-literacy scores. In the final analysis, their research declared that when students attend school regularly, they can see tremendously literacy gains.

Emergent Literacy

Emergent literacy has been recognized as a vital content area in preschool curriculum, with a strong research base supporting its use (Watson & Wildy, 2014). Recent work conducted by Elena Nitecki and Mi-Hyun Chung (2013) revealed tension exist between developmentally appropriate literacy instruction and addressing conventional literacy skills and Common Core Standards. Therefore, it is imperative to use developmentally appropriate instruction, such as play-based activities in preschool classrooms, to support emergent literacy.

Some educators and others claimed adopting a teaching approach of emergent literacy that encouraged waiting for children to develop resulted in a delay or lack of direct instruction. The outcome was many children failing to learn to read, or at least failing to gain the necessary early literacy knowledge to be successful in early elementary school. This realization by researchers and early childhood educators acknowledged a need for a different approach to literacy learning for young children (Shea, 2011).

According Leigh Rohde (2015), Nitecki and Chung proposed a new comprehensive model of emergent literacy (see Figure 2). The model provides a framework conveying all domains of literacy required for a child to become literate. The early model of emergent literacy did not consider environmental factors. The new model strives to explain how emergent literacy can be viewed as an interactive process of skills and context rather than a linear series of individual components.

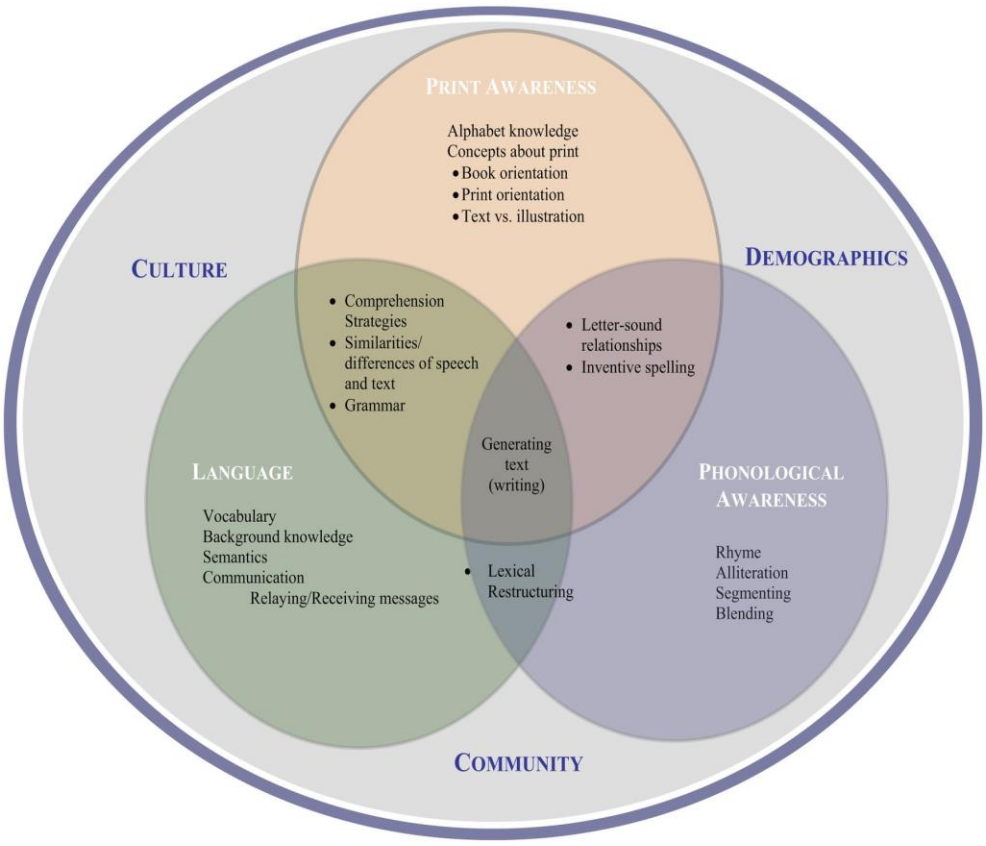

Figure 2. The Comprehensive Emergent Literacy Model, 2015.

The model goes beyond a set of skills to create an alliance between the three components of reading. First, print awareness leads to word identification. Second, phonological awareness is closely related to listening comprehension. Phonological awareness includes skills like rhyming and segmenting sounds. The third component, oral language, leads to silent reading comprehension. Early literacy learning opportunities are more likely to happen when teachers have a solid knowledge base of emergent literacy and child development. Research has shown that preschool teachers with limited knowledge about literacy development are significantly less able to provide such experiences for children.

Emergent Themes

There were four major themes that emerged throughout the review of the literature that affects the acquisition of phonological awareness skills: student motivation, student engagement, student behavior, and student attendance in school.

The phonological awareness skills of segmenting and blending are the most highly correlated with beginning reading acquisition (Snow, Burns, & Griffin, 1998). The literature has demonstrated numerous doctrines regarding the relationship between phonological awareness and reading ability, proponents across the board concur that each theory regarding phonological awareness is central to learning to read.

While there have been many definitions of student engagement, there is little consensus among scholars as to how to define it (Farmer-Dougan & McKinney, 2007). Furthermore, student engagement includes different categories that are equally striking. Educators consider intrinsic motivation to be more desirable and result in better learning outcomes than extrinsic motivation (Deci, Koestner, & Ryan, 1999).

Summary

This chapter consisted of research that supported the need for each variable to be examined. Also, this literature review examined the acquisition of phonological awareness skills. It described the relation between phonological awareness skills and student motivation, student engagement, student behavior, and student attendance. Lastly, the theoretical foundations of emergent literacy for early childhood education were described to include the attainment of phonological awareness skills.

CHAPTER III

THEORETICAL FRAMEWORK

According to Phillips, Menchetti, and Lonigan (2008), "One key goal of instruction and intervention in the preschool period is to minimize the number of children who develop later problems by maximizing the number who enter kindergarten with sufficient phonological skills" (p. 3). The acquisition of phonological awareness is often a major concern in educating students in the 21st century because it is a reliable predictor for success in reading and spelling development. Phonological awareness is critical for learning to read any alphabetic writing system.

In order to examine the effectiveness of the HearBuilder Phonological Awareness computer program on the acquisition of phonological awareness in African-American preschool children, a mixed method approach including the use of descriptive statistics were employed. This study was based on the constructivist theories of two leading pioneers in learning: Lev Vygotsky's (1976) sociocultural theory and Jean Piaget's (1955) Stages of Cognitive Development. These theories were chosen because of their doctrines regarding the creation of knowledge and meaning from experiences. The theory of constructivism has the potential to enlighten our understanding of the way students reflect on their own experiences and then construct their own understandings of the world around them.

Vygotsky's Sociocultural Theory

Vygotsky's sociocultural theory (1976) suggests that individual development is a product of cultural influences such as beliefs, customs, and skills of the cultural that is learned from parents, teachers, and caregivers. The theory emphasizes that interactions between people, as well as interactions between people and their environments, influence learning. Vygotsky contended that some researchers treat education and cognitive development as a cultural process. With that, learning is not an individually process, but also shared amongst peers in the classroom. Children construct their understandings jointly, through interacting with knowledgeable students, adults, teachers, and learning activities. In the preschool and kindergarten years, children acquire emergent literacy principally through exploration and adult support. Additionally, collaborative learning, interactive and shared learning events, modeling, and scaffolding are strategies for supporting intentional learning. Specifically, the influences of the home environment and family support contributes to young children's language and emergent literacy acquisition, and children may benefit from exposure to a variety of reading and writing activities. Moreover, Vygotsky's sociocultural perspective provides a theoretical framework for investigating play-literacy relationships (Vygotsky, 1976). Phonological awareness develops primarily through different types of word play. Reading books to children that focus on sounds, alliteration, and rhyming promotes awareness of the sounds that different letters make, builds vocabulary, and increases awareness of the beginning and ending sounds of words. Playing word games that start with a certain letter are very helpful in developing an awareness of phonics as well as understanding syllables and blended sounds. In a Vygotskian framework, children are capable of far more

competent performance when adult gatekeepers facilitate their zone of proximal development in a reactive and participatory role. Teachers and peer tutors have a highly interactive role, and children learn through participating and sharing another person's view. In conclusion, Vygotsky theory supports that idea that learners should be provided with socially rich environments in which to explore knowledge with their fellow students, teachers and outside experts.

Piaget's Stages of Cognitive Development

Jean Piaget's (1955) cognitive developmental stage is one of the most regnant theory on cognitive development. In his earliest investigations, Piaget was most concerned with the role of language in cognitive development. He later concluded that language was insignificant in the young child's intellectual growth. Instead, he contend that major cognitive advances take place as children learn about their physical world by trial-and-error and revise them to create a better understanding with external reality. Piaget argued the process of development is the same regardless of culture. In addition, an individual's ability to organize and interpret information changes with age. In the process of acquiring knowledge, the child passes through four major stages, namely sensory-motor, preoperational, concrete operational and the formal operational stages, according to Piaget (Berk, 1997).

In the sensory-motor period from birth to two years old, children's thinking is based on sensory motor intelligence. One of the most important concepts in this period is "object permanence;" the child come realizes that the object continues to exist even

though the object does not appear in front of the eyes. This stage requires children to possess the ability to form a mental representation (schema) of the object.

According to Piaget (1955), the pre-operational period from two to seven years old marks a time in which children develop the ability of "representation. In this period, children are able to think about things symbolically, whereby they have the ability to make one thing stand for something other than itself. Piaget posited that in this period, language is acquired between the ages of two and four. It is well known that there are some limitations, such as egocentrism. Children cannot fully understand other individual's point of view between themselves and others. What's more, children cannot think from other people's perspective. Ultimately, they believe that others must see situations according to the way they see situations.

Piaget considered the concrete operational stage of cognitive development to be a major turning point in a child's cognitive development. This stage began between the ages of 7 to 11 years and the child's thinking becomes more logical and organized, but still very concrete. They begin to understand the concept of conservation; the amount of liquid in a short, wide cup is equal to that in a tall, skinny glass. Additionally, children can work things out internally in their head, rather than physically try things out in the real world.

The formal operational stage of cognitive development takes place when children are twelve years of age and older and lasts into adulthood. This stage of development is recognizable when individuals can think logically (abstractly) about problems and is no

longer restricted to concrete objects or events. Child-centered classroom are direct practices of Piaget's views (Piaget & Inhelder, 1969).

In closing, Piaget (1955) and Vygotsky (1976) differ in their viewpoints regarding cognitive development, but their theories have been particularly influential in the pedagogy of teaching and learning. Further, Piaget suggested that an individual's active exploration of the world generates their knowledge about it and their thinking becomes more advanced and sophisticated with maturity. Vygotsky's theory, sociocultural, implied that learners construct their knowledge and develop theories they hold through experiences and their social interactions with others. In short, Vygotsky argued that social learning promotes cognitive development.

Definition of Selected Terms

Early Childhood Education (ECE) refers to theories, strategies, and best practices that focus on the social, emotional, physical, and cognitive development of children ages 0-8 years old.

Emergent Literacy involves the skills, knowledge, and attitudes that are developmental precursors to conventional forms of reading and writing. Emergent literacy skills in this study will focus on phonological awareness skills such as sentence segmentation, syllable segmentation and blending, phoneme identification, phoneme blending and segmentation, phoneme addition and deletion, and phoneme manipulation.

HearBuilder is a systematic learning software program for Pre-K to eighth-grade students that provides individualized in basic concepts, following directions, phonological awareness, sequencing, and auditory memory.

H-PAT refers to the HearBuilder Phonological Awareness Test.

OWL refers to Opening the World of Learning that is a comprehensive curriculum that covers all domains of early learning. The content of each unit is built around a daily routine within an activity-center day. Themes, skills, and concepts are developed through quality children's fiction and nonfiction trade books.

Phonemic awareness refers to the specific ability to focus on and manipulate individual sounds (phonemes) in spoken words.

Phonological awareness refers to identifying and manipulating units of oral language – parts such as words, syllables, and onsets and rimes.

Preschool describes formal education before kindergarten, and generally refers to programs for three- and four-year-old children.

Relationship among the Variables refers to the identification by the researcher of a connection between a teacher's technology usage and the ways in which it is used in the classroom; this connection was based on the results of the literature review (see Figure 3.)

School Readiness reflects a child's ability to succeed both academically and socially in a school environment.

Definition of Variables

Student Behavior refers to a student's manner of conducting themselves. Also, student behavior is anything that a student does involving action and response to stimulation.

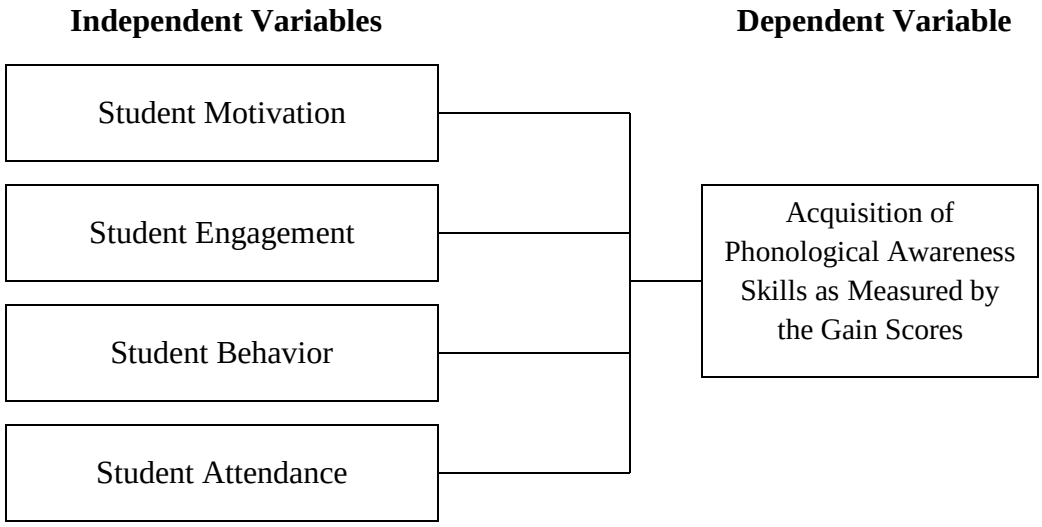

Figure 3. Relationship among the variables.

Student Daily Attendance refers to the total days of student attendance divided by the total days of instruction.

Student Engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education.

Student Motivation refers to a students' mental state, internal need, or outward goal that causes them to act. A desire or want that energizes and directs goal-oriented behavior; a desire to participate in the learning process.

Limitations of the Study

The research for this study was limited by a number of factors, including:

1. The sample size is too small to find significant relationships from the data.
2. The study is based on a single private preschool early learning center sample and therefore may not apply to all preschools establishments.

3. The researcher served as the agent for data collection.
4. Teachers were overwhelmed by the many task of the classroom. Their focus was on the day-to-day routines, lesson plan preparation, and behavior management, leaving no time to administer the pretest nor posttest.
5. The study did not represent a diverse cultural of the area of study that was conducted.
6. The results of this study are not generalized beyond the private preschool participating in this study.
7. Correlations do not necessarily represent a causal relationship.

Summary

There are broad ranges of theoretical perspectives on young children's emergent literacy development and software learning programs. This study included at least two paradigms, cognitive and sociocultural perspectives. The chapter defined the key terms thought out the dissertation that will be valuable to the reader. All of the aforementioned theories provided clear comprehension of the possible effectiveness of improving phonological awareness skills. In addition, the researcher further explained the selection of the independent variables and the limitations of the study were noted.

CHAPTER IV

RESEARCH METHODOLOGY

Introduction

This study was designed to examine the effectiveness of the HearBuilder Phonological Awareness computer program on the acquisition of phonological awareness in African-Americans preschool children. Additionally, the objective of this action research was to determine if there were a significant difference in the performance of the experimental and control groups, those who learned phonological awareness by receiving technology intervention, using a (Kindle Fire tablet), and those who did not. The researcher used a mixed methods research design to investigate the relationship between the independent variables of student engagement, student motivation, student behavior, and student attendance on the dependent variable of acquisition of phonological awareness as measured by the post test scores in African-American children. Descriptive research and correlation methodologies were utilized as the quantitative method, which focused on the primary research question. Interviews were employed as a qualitative data source. These results will inform educators of the educational tools, relevance and importance of teaching phonological awareness in prekindergarten.

Research Design

This study was conducted at one private preschool located in the ninth largest metropolitan area in the United States. A mix methods study was selected in order to draw on Creswell and Plano Clark's (2011) theory. The researchers deemed it necessary to explain the advantages of using two data sources in order to tell the whole story for the purpose of minimizing weaknesses and maximizing strengths of each type of method used. Mixed method designs further expound on the use of one type of data to more fully explain the other (in this case), using the qualitative data to shed light on quantitative findings). This process was accomplished by collecting, analyzing, and integrating qualitative and quantitative data at specified phases within this single study. The core premise of this research design was the use of a combination of qualitative and quantitative approaches will result in a more complete understanding of the research topics under study than either approach would in isolation (Creswell & Plano Clark, 2011).

The data sources included pre/posttest assessment, classroom observation checklists, teacher interviews, and attendance data. Utilizing the strengths of both quantitative and qualitative forms of research helped to validate results of the study, ensure that pre-existing assumptions from the researcher is less likely, and answer research questions from more than one perspective. The nature of the study necessitated an experimental pre-test/post-test design. The purpose of this design facilitated the collection of data in order to explore the effectiveness of a phonological awareness computerized program on the acquisition of phonological awareness skills in African-American prekindergarten children and allow outcomes of the experimental and control

groups to be compared. For this research study, the researcher was the key agent in data collection, and the interpreter of data findings (Stake, 1995).

Description of the Setting

This study was conducted in a private preschool that contained four pre-K classrooms. The preschool was located in the ninth largest metropolitan area in the United States. The organization is a National Associations for the Education of Young Children (NAEYC) accredited program for young children that represents the mark of quality in early childhood education. Additionally, it was licensed by the Georgia Department of Early Care and Learning that is the agency responsible for meeting the child care and early education needs of Georgia's children and their families. All staff were CPR certified and teachers were credentialed. The school has an active enrollment of 200 students. Additionally, the school had four prekindergarten classrooms. The prekindergarten teacher's teaching experiences range from one to twenty-five years. The school also used the *Opening the World of Learning TM (OWL)* curriculum, which was an approved curriculum for Georgia's Bright to Start Pre-K Programs, as the foundation for its pedagogical instructions and to collect academic developmental data. Moreover, school readiness was a paramount goal and the administration worked closely with local elementary schools to ensure that children experience a positive and smooth, and seamless transition from prekindergarten to elementary school. The preschool accepted government subsidies to offset the cost of the tuition. The participants were from low to middle-income families. The median household income of the families who bring their children to this pre-K learning center ranged between zero and $125,000 per year.

Sampling Procedures

Purposeful sampling was used in this mixed methods research investigation. Patton (2015) explained that purposeful sampling involves selecting information rich cases. The quantitative data comprised of pre and posttest results, classroom observation checklists, and the attendance records of students who participated in the study. The qualitative data were based on teacher interviews. Data collection was conducted over the course of 4 consecutive weeks at 5 times per week for 30-minutes. Fifteen pupils constituted the experimental group and the other 15 students comprised the control group.

The researcher scheduled a meeting with the preschool director and reviewed the purpose of the dissertation. An estimated timeline for the study, possible challenges, and solutions for completing the investigation was discussed. The preschool director identified all teachers employed at the preschool that interacted with children between 4 and 5 years of age. Consent forms were given and signed by the preschool administrator, teachers, and parents prior to the start of the study (see Appendices A, B, and C). Prior to the investigation, careful consideration was given to establish a rapport with young participants and preschool staff in attempt to elicit higher quality data. At the beginning of the study, a pretest was individually administered to thirty prekindergarten students. During the study, the researcher observed each participant group twice for thirty minutes. In order for the researcher to gain insight of how student motivation, student engagement, student behavior, and student attendance impact the attainment of phonological awareness skills several teachers were interviewed. At the end of the study, a posttest was administrated to both experimental and the control group.

Working with Human Subjects

Protection from harm is of utmost importance in research so to maintain a high level of integrity and ethical considerations, the researcher sought the approval of the preschool director, parents, teachers, and Clark Atlanta University Institutional Review Board (IRB) before working with the young children. Participants were given informed consent forms and assured that they would not be put in danger from participating in the research. The written consent form identified the researcher, what the researcher proposed to do, and the purpose of the study. Moreover, the participants were informed that participation in the process was going to be voluntary and they reserved the right to withdraw from part or all of the study at any time. The researcher conveyed to the preschool director that students were going to be observed during the instructional time taught by the researcher. Identifiers, such as names, were not used in the research to protect the anonymity and confidentiality of the participants. All teachers and participants groups were assigned pseudonyms, numbers, and alphabets in the study. Information that could lead to potential recognition of schools and/or teachers that participated in the study was not provided in the report.

Finally, the researcher mentioned that the three Kindle Fire tablets were purchased for the purpose of the study. At the end of the study, all three Kindle Fire tablets and the HearBuilder online subscription were donated to the preschool as an incentive for students' participation in the investigation and further upward mobility in acquiring skills in phonological awareness.

Instrumentation

The instruments used in this research study included: pre-and posttest, classroom observation checklist, teacher interviews, and attendance records. A HearBuilder Phonological Awareness pretest and posttest were developed by a HearBuilder's speech language pathologist. The pretest was used as an assessment tool to measure the outcome variable before the experimental manipulation was implemented. The posttest was used to measure the learning after intervention occurred. The pretest/posttest included 15 total subtests to assess the following: letter-sound identification; rhyming (awareness and production); initial sound identification; blending words, syllables, and sounds; segmenting words, syllables, and sounds; deleting initial and final sounds; and substituting initial and final sounds. For the purpose of this study, the researcher only administered six of the subtests that were age appropriate. The following subtests were administrated to participants: letter-sound identification, rhyming awareness, initial sound identification, blending words and syllables, and segmenting words. The H-PAT is norm-referenced, valid, and reliable instrument that includes standard scores, confidence intervals, percentile ranks, and age equivalents. The standardization sample includes over 1,200 children ages 4 to 9; from 40 states in the U.S. Additionally, the standardization sample closely resembles the U.S. Census Bureau's data (Statistical Abstract of the U.S. 2003). This sample included children with identified language and learning disorders, as well as children receiving remediation in reading. In order to obtain scores, the researcher choose which subtests of the H-PAT they wants to administer, depending upon the child's area(s) of difficulty. H-PAT allows test administrators to obtain standard scores

for Rhyming, Blending, Segmenting, Deletion, and Substitution. Finally, standard scores, confidence intervals, percentile ranks, and age equivalents are available for the total test.

The researcher developed the classroom observation checklist that focused on student motivation, student engagement, and student behavior to examine the effects of them on the dependent variable. The observation checklist comprises of 16 items that assessed the independent variables of student motivation, student engagement, and student behavior as it related to the independent variable. Each item on the classroom observation checklist was measured according to a rating scale of 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, and 5 = Very Often. In addition, the classroom observations were developed to provide the researcher with easy-to-digest documentation with respect to the independent variables (see Appendix D). In order to test for face validity of the observation checklist instrument, two faculty members who were expert at creating observations were recruited to give feedback on the structure and design of the observation checklist during the design process. Individual student attendance data were collected by accessing the school's system database. In addition, the researcher kept an attendance rooster on a daily basis for each participant. Participants' daily attendance was recorded by the teacher/researcher to serve as a document analysis tool to record absenteeism and determine possible causes of frequent non-attendance. Attendance codes were established, students present in class were coded with a letter of (P) for present, conversely, students that were absent were coded a letter of (A).

The researcher developed an interview protocol which was made up of 11 open-ended questions to explore how phonological awareness is taught in their classrooms and if they perceived student motivation, student engagement, student behavior, and student attendance as factors that impacts the acquisition of phonological awareness (see Appendix E). The interview questions guided the discussion and align with research questions 3, 4, and 5 in this study.

Participants/Location of Research

This project took place in the most populous metro area in the United States of Georgia and the ninth-largest metropolitan statistical area in the United States. The neighborhoods contained mix traditional neighborhoods and several groups of diverse subdivisions. The members of the targeted group for this action research project were thirty prekindergarten students between 4 and 5 years of age in one selected private preschool program located in Georgia. Two groups of prekindergarten students from four different classrooms participated in the study. Additionally, four prekindergarten teacher and four assistant teachers were part of the study. A large percentage of the student participates were of African-American ethnicity, economically disadvantaged, and lived in the same socioeconomic area of Georgia. The observed learning environment reflected that participants received daily classroom instructions from a lead teacher and an assistant teacher. Both, the experimental and control groups contained males and females. The experimental group comprised of 8 boys and 7 girls and the control group comprised of 9 boys and 6 girls (see Figure 4).

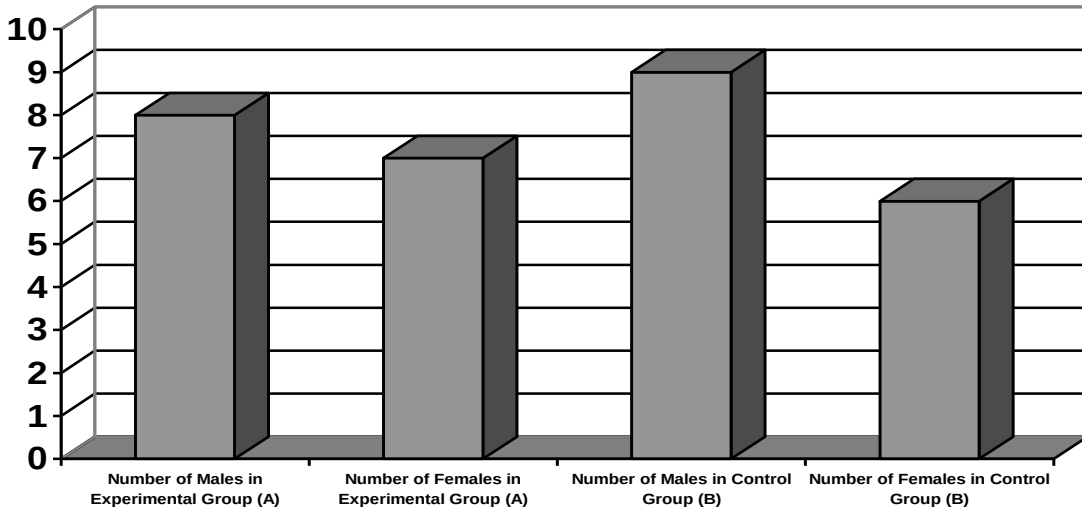

Figure 4. Number of students in the class by gender.

The researcher developed a four-week unit lesson plan for the study (see Appendix F). The unit plan included lessons in auditory discrimination, rhyming, syllable and sentence segmentation, blending syllables, and identifying and blending phonemes. Since the researcher was an experienced teacher employed by a local school district, she served as teacher of record for both the experimental and control groups.

There were 15 participants in the experimental group and only three Kindle Fire tablets available for the researcher's use. In order to meet the learning needs of the experimental group, the researcher divided participants into 5 groups with no more than 3 students in each learning setting. Each small group rotated daily and worked with a hand-held device to develop phonological awareness skills five times a week for thirty minutes a session. The rotational model was implemented in order to assign each participant a Kindle Fire tablet individually; therefore, learning was individualized and engaging. A

pull-out model was also used to remove participants from the classroom to work in a small group setting in another location to avoid distractions of any kind.

Additionally, there were 15 participants in the *control group*. They were taught phonological awareness skills in a traditional whole classroom learning model for 4 weeks /five days a week. The researcher delivery model included a unit lesson plan that encompassed appropriate, motivational, and engagement strategies (see Appendix F). The *control group* did not receive individualized instructions and no hand-held technology was used to develop phonological awareness skills. The attendance was taken for both the experimental and control groups daily to ensure an accurate daily attendance count during the study.

Data Collection Procedures

Since the purpose of this research was to examine the effectiveness of the HearBuilder Phonological Awareness program on the acquisition of phonological awareness in African-America pre-k children as measured by posttest scores, several data collection strategies were used for this investigation. This research exploited the following methods of collecting data: pre/posttests, classroom observation checklists, interviews, and attendance records as a strategy to employ various methods and tapped various sources for data, also multiple perspectives of the same phenomena were considered through analysis of different data sources (Denzin, 2006). The qualitative data would allow for triangulation of information obtained from other sources and, thus, increase the credibility of study findings (Emerson, Fretz, & Shaw, 1995; Merriam, 2002; Stake, 1995). The following steps were exploited to collect data:

Step 1: The researcher administered the pretest to both experimental and control groups and documented the daily attendance of participants the first day the intervention was administered.

Step 2: The researcher interviewed preschool teachers that were willing to participate.

Step 3: The teacher/researcher provided explicit instructions for the control group and served as a facilitator of phonological awareness technological instructions for the experimental group.

Step 4: The researcher completed two classroom observation checklists on each student.

Step 5: The researcher administered the posttest to both experimental and control groups and collected all relevant data.

Step 6: The researcher transcribed and coded all data as needed, and exported into the Statistical Package for the Social Sciences (SPSS) for analysis.

Step 7: The researcher identified and reviewed all data for (concepts) emergent themes and provided a label or code that describes them.

Statistical Application (Quantitative)

Primary data were collected from results from pre-and posttests, attendance data, and two classroom observations on each of the student participants. The data collected from the classroom observations were used to quantify the impact that student motivation, student engagement, and student behavior had on the acquisition of phonological awareness. After the data collection was completed, the data were

organized, coded, as needed, in Microsoft Excel spreadsheets, and exported into the statistical Package for the Social Sciences (SPSS) to generate a summary analysis. A paired sample t-test was utilized to compare the results from pretest to posttest for students in both groups combined. Additionally, a paired sample correlation was used to test for significant differences between the results of the pre and posttests. Additionally, an independent t-test of gain scores by gender was applied to measure growth in response to instructional phonological awareness intervention. Finally, the Pearson correlation coefficient was employed to measure the strength of a linear association between the independent and dependent variables.

Description of Data Analysis Methods (Qualitative)

The researcher used the qualitative data to analyze any emergent themes. The researcher conducted four teacher interviews. Two teachers and two assistant teachers agreed to participate in the teacher interviews. Prior to conducting the interviews, a spreadsheet was created with categories of key words drawn from the literature review. After each interview had been conducted and transcribed, the researcher read all of data carefully to find key words or phrases that matched the proposed categories, and to see if any new themes or patterns emerged. Once key words or phrases were determined and highlighted, these were added to the spreadsheet under the appropriate category or under a new category systemically. Afterwards, the data were coded, displayed, organized, and interpreted.

Summary

This chapter described the research methodology utilized in conducting a study in one select preschool establishment. Descriptive statistics was applied to describe, analyze, and summarize the data in the study. This study examined the effectiveness of the HearBuilder Phonological Awareness computer program on the acquisition of phonological awareness in African-American preschool children. Triangulation was used in the study to strengthen the validity of the investigation. The data used in the study were primary, with the exception of existing attendance data retrieved from the student information system. Structured open-ended interviews were conducted to facilitate in-depth understanding of the preschool teacher's perception regarding whether or not student motivation, student engagement, student behavior, and student attendance impacts the acquisition of phonological awareness skills in African-American students.

CHAPTER V

ANALYSIS OF THE DATA

Introduction

This chapter presents an analysis of the data obtained from a number of research instruments: pre and posttests, daily attendance data, two observation checklists, and teacher interviews. Additionally, the chapter presents the data collected from all 30 participants for the 7 phonological measures identified in this research study: letter-sound identification, rhyming awareness 1, rhyming awareness 2, and initial sound identification, blending words, blending syllables, and segmenting words. Moreover, this chapter highlights the data that formed the basis of the researcher's investigation. The purpose of this mixed methods study was to determine the effectiveness of a select software program, HearBuilder phonological awareness, on the acquisition of phonological awareness skills in African-Americans prekindergarten children. A data analysis was conducted based on the research questions and any relationships that may have existed between the independent variables: student motivation, student engagement, student behavior, student attendance, and the dependent variable: acquisition of phonological awareness as measures by the gain scores.

Quantitative Data Analysis

A pretest was given to the 30 participants prior to starting the phonological awareness interventions to measure the variables of phonological awareness skills, and subsequently a posttest was administered to measure the same variable of phonological awareness skills after the intervention. The pretest assessment was administered in early fall 2106 and the posttest was administered in winter 2016. The researcher established a quiet and orderly testing environment one that was relatively free of distractions to administer the pretest. The same assessment was used for both pre and posttest in this study. Additionally, the experimental and control groups' participants were administered the pre and posttest at the same time. The HearBuilder Phonological Awareness pre and posttest is composed of 15 total subtests to assess the following: letter-sound identification; rhyming (awareness and production); initial sound identification; blending words, syllables, and sounds; segmenting words, syllables, and sounds; deleting initial and final sounds; and substituting initial and final sounds. The researcher only administered six of the fifteen subtests. Some of the subtests were not age appropriate for the majority of the participants. The researcher made professional choices, based on years of teaching experience in the public school system, about which subtest to administer and obtained standards scores for rhyming, blending, and segmenting. Standard scores, confidence intervals, percentile ranks, and age equivalents were computed for all of the student participants. After the pretest session was completed, the researcher provided explicit instructions for the control group and served as a facilitator and supervisor of PA technological instructions for the experimental group. In order to identify an appropriate instructional app, the researcher read several instructional technology reviews, talked

with parents and other educators, and communicated with the developers of several apps prior to selecting a specific app for this research instructional component. The researcher chose a phonological awareness software program based on the following criteria: well-designed app focused on teaching phonological awareness skills, age appropriateness, fun-based strategies, and the high probability to increase phonological awareness skills in early childhood.

Two classroom observation checklists were conducted on each participant for the purpose of focusing on developing a deeper understanding of the learning process of prekindergarten age children, to gain additional information on individual learner, to document an in-depth description of events, and to collect information regarding the relationship among independent and dependent variables. Also, during the observations, the researcher acted as a participant observer participating fully in the interactions under investigation. Moreover, the qualitative observational data were analyzed in an intense effort to discover themes emerging during the phonological awareness interventions. The observations were completed the week before the administration of the posttest. Student participants' daily attendance was recorded by the teacher/researcher as a qualitative data source to document absenteeism and determine possible causes of frequent non-attendance. Attendance codes were established for analysis to determine if there was a correlation with the dependent variable. The Statistical Package for the Social Sciences (SPSS) software was used to generate the summary analysis. While using the SPSS software, the following procedures were utilized: Pearson Correlation and a paired t-test. The gain scores were calculated using a gain score calculation spreadsheet in Excel. The

spreadsheet calculated the learning outcome of each student participant out of the total possible outcomes from pretest to posttest.

Qualitative Data Analysis

Before the intervention began, the students from the experimental group and control group were given a phonological awareness pretest to obtain a baseline on seven of the subtest. The phonological awareness test served as both pre and posttest. Upon completion of the intervention strategies, the students in the experimental group and control group were re-assessed on the same subtests used in the pretest. The test contained the following subtests: Subtest 1 - letter-sound identification subtest required the participants to identify the sound that a particular letter makes. Subtest 2 - rhyming awareness, Part-1 asked the participants to identify two pictures that rhyme. Subtest 3 - rhyming awareness, Part-2 required participants to listen to three words and identify a set of words that sound the same. The participants were asked to identify the sounds at the beginning of words in Subtest 5 - initial sound identification. Subtest 6 - blending words required combining two words to make a new word. Subtest 7 - blending syllables challenged participants to listen to a word said in two small parts and combine the two parts to make a new word. In Subtest 9 - segmenting words, the participants were told that they would hear a long word; afterwards they were given the task to separate the word into two words.

Descriptive statistics for the sample of 30 participants on the seven phonological awareness skills were tested and outcomes are discussed in the following analysis:

RQ1: Is there a difference in the performance of the experimental group and the control group as measured by the mean gain scores?

Table 1 shows the mean scores, standard deviation, and the gain score results for the pre and posttest between groups. The researcher used a gain score calculation spreadsheet in Excel to calculate the gain score between the two groups. Both, the experimental and control groups' mean scores results indicated an increase from pretest to posttest. The control group's mean score increased by 13.80% and the experimental group's mean score increased by 21.85%. Although, the control group's mean score increased by 13.80%, it is important to note that the control group demonstrated less improvement on phonological awareness skills than the experimental group who received phonological awareness training using the HearBuilder's phonological awareness program via Kindle Fire tablets. The differences in mean scores could be explained by factors such as instructional strategies, the use of the phonological awareness program by means of the Kindle Fire tablets.

Table 1

Gain Scores for the Experimental and Control Groups

	Pretest Mean	(Std.) Deviation	Posttest Mean	(Std.) Deviation	Mean Gain Score
Experimental Group	83.4	17.91	105.25	15.85	21.85
Control Group	72.8	6.64	86.6	14.1	13.8

The scores for each subtest for both the experimental and control groups are presented in Tables 2 and 3. Each correct answer is worth one raw point. The total raw score is the number of questions answered correctly on the complete test. Also, the standard score was derived from the total number of raw points. In the final analysis, there was a difference in the performance of the experimental and control groups as measured by the mean scores. Equally important, the experimental group scored higher on all of the subtests: letter sound identification, rhyming awareness, blending words and syllables, and segmenting words, than the control group. The experimental group posttest mean score is 105.25 (SD=15.85) and the control group posttest mean score is 86.6 (SD =14.10).

Table 2

Experimental Group Subtest Mean Scores

	Maximum Points	Pre Assessment Mean	Post Assessment Mean
Letter-Sound Identification	10	2.06	3.8
Rhyming Awareness 1	7	1.86	6.33
Rhyming Awareness 2	12	3.4	8.13
Initial Sound Identification	12	3.13	4.66
Blending Words	7	2.25	6.4
Blending Syllables	8	1.6	6.2
Segmenting Words	7	1.33	4.5

Table 3

Control Group Subtest Mean Scores

	Maximum Points	Pre Assessment Mean	Post Assessment Mean
Letter-Sound Identification	10	0.866	2.66
Rhyming Awareness 1	7	1.2	1.8
Rhyming Awareness 2	12	1.8	3.33
Initial Sound Identification	12	0.66	2.33
Blending Words	7	0.73	7.8
Blending Syllables	8	0.2	4.33
Segmenting Words	7	0.66	4.1

RQ2: How effective is the HearBuilder Phonological Awareness app via the Kindle Fire tablet in improving the posttest scores for students in the experimental group?

Table 4 shows the correlation between the pre and posttest and the results of the paired t-test for the groups combined. The results suggested that there is a positive correlation between the pre and posttest scores. Both the experimental and control group scores increased from pretest to posttest suggesting there is a difference between pretest and posttest scores. The differences between these two tests suggest that the HearBuilder Phonological Awareness app is effective in improving the posttest scores for the experimental group, pretest (M=78.10, SD=14.33) and posttest (M=95.93, SD=17.5) conditions; t= (29) = -7.92, p=.000.

Table 4

Results of the Paired Samples T-test

Paired Samples Correlations					
		N	Correlation	Sig	
Pair 1	Pretest & Posttest	30	.718	.000	
Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	78.10	30	14.329	2.616
	Posttest	95.93	30	17.530	3.201

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Pretest - Posttest	- 17.833	12,332	2.251	-22.438	-13.229	-7.921	29	.000

RQ3: Is there a significant relationship between the acquisition of phonological awareness skills and student motivation?

A Pearson Correlation was conducted to determine of there were a significant relationship between the acquisition of phonological awareness and student motivation. The analysis in Table 5 shows that there was no significant relationship between the acquisition of phonological awareness skills and student motivation as indicated by the gain score. The table shows a significance of .806 which is above the acceptable level of .05.

Table 5

Correlations: Student Motivation

		Gain Score	Perc Attd	Motivat	Engage	Behavior	Pretest	Posttest
Gain Score	Pearson Correlation	1	.029	.025	.097	-.279	-.148	.582**
	Sig. (2-tailed)		.879	.898	.611	.136	.434	.001
	N	30	30	30	30	30	30	30
Perc Attd	Pearson Correlation	.029	1	-.003	.003	.099	-.040	-.016
	Sig. (2-tailed)	.879		.988	.986	.602	.834	.935
	N	30	30	30	30	30	30	30
Motivat	Pearson Correlation	.025	-.003	1	.621**	-.428*	.034	.047
	Sig. (2-tailed)	.898	.988		.000	.018	.860	.806
	N	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

RQ4: Is there a significant relationship between the acquisition of phonological awareness skills and student engagement?

Table 6 shows the level of significance between the acquisition of phonological awareness and student engagement. The significance level of .647 does not meet the acceptance level. Therefore, the findings proposed that there is no significant relationship between the acquisition of phonological awareness and student engagement as indicated by the gain score.

Table 6

Correlations: Student Engagement

		Gain Score	Perc Attd	Motivat	Engage	Behavior	Pretest	Posttest
Gain Score	Pearson Correlation	1	.029	.025	.097	-.279	-.148	.582**
	Sig. (2-tailed)		.879	.898	.611	.136	.434	.001
	N	30	30	30	30	30	30	30
Perc Attd	Pearson Correlation	.029	1	-.003	.003	.099	-.040	-.016
	Sig. (2-tailed)	.879		.988	.986	.602	.834	.935
	N	30	30	30	30	30	30	30
Motivat	Pearson Correlation	.025	-.003	1	.621**	-.428*	.034	.047
	Sig. (2-tailed)	.898	.988		.000	.018	.860	.806
	N	30	30	30	30	30	30	30
Engage	Pearson Correlation	.097	.003	.621**	1	-.769**	.020	.087
	Sig. (2-tailed)	.611	.986	.000		.000	.915	.647
	N	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

RQ5: Is there a significant relationship between the acquisition of phonological awareness skills and student behavior?

The analysis in Table 7 shows that the level of significance between the acquisition of phonological awareness and student behavior has a coefficient of -300 indicating that as one variable increases, the other decreases. The data show a significance level of .107 which does not meet the acceptance level. The data show that there is no significant relationship between the acquisition of phonological awareness and student behavior, therefore no relationship exists between the acquisition of phonological awareness and student behavior as indicated by the gain score.

Table 7

Correlations: Student Behavior

		Gain Score	Perc Attd	Motivat	Engage	Behavior	Pretest	Posttest
Gain Score	Pearson Correlation	1	.029	.025	.097	-.279	-.148	.582**
	Sig. (2-tailed)		.879	.898	.611	.136	.434	.001
	N	30	30	30	30	30	30	30
Perc Attd	Pearson Correlation	.029	1	-.003	.003	.099	-.040	-.016
	Sig. (2-tailed)	.879		.988	.986	.602	.834	.935
	N	30	30	30	30	30	30	30
Motivat	Pearson Correlation	.025	-.003	1	.621**	-.428*	.034	.047
	Sig. (2-tailed)	.898	.988		.000	.018	.860	.806
	N	30	30	30	30	30	30	30
Engage	Pearson Correlation	.097	.003	.621**	1	-.769**	.020	.087
	Sig. (2-tailed)	.611	.986	.000		.000	.915	.647
	N	30	30	30	30	30	30	30
Behavior	Pearson Correlation	-.279	.099	-.428*	-.769**	1	-.125	-.300
	Sig. (2-tailed)	.136	.602	.018	.000		.512	.107
	N	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

RQ6: Is there a significant relationship between the acquisition of phonological awareness skills and student attendance?

The correlation between the acquisition of phonological awareness and student attendance is present in Table 8. The data display a negative correlation coefficient of -0.16 and significance level of .935. It was determined that a significance of .935 did not meet the acceptable level of .05, a significant relationship did not exist between the two variables.

Table 8

Correlations: Student Attendance

		Gain Score	Perc Attd	Motivat	Engage	Behavior	Pretest	Posttest
Gain Score	Pearson Correlation	1	.029	.025	.097	-.279	-.148	.582**
	Sig. (2-tailed)		.879	.898	.611	.136	.434	.001
	N	30	30	30	30	30	30	30
Perc Attd	Pearson Correlation	.029	1	-.003	.003	.099	-.040	-.016
	Sig. (2-tailed)	.879		.988	.986	.602	.834	.935
	N	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Although no significant relationship existed between the independent and dependent variables, it is conceivable that the reason for the improvement in the performances of the participants does not lie in the variables selected as independent variables, but in other variables not included in this study such as instructional strategies

Table 9 shows the correlations between the independent variables of student motivation, student engagement, student behavior, and student attendance. The data were further examined for findings that could be useful to the study. Useful significant relationships existed between student motivation, student engagement, and student behavior. The National Research Council (2004) argued that engagement and motivation are synonymous. Newman (1992) suggested that whereas motivation and engagement are related, engagement is much more because it involved active interest, effort and concentration in school work.

Table 9

Correlations: Independent Variables of Student Motivation, Student Engagement, Student Behavior, and Student Attendance

		Perc Attd	Motivat	Engage	Behavior
Perc Attd	Pearson Correlation	1	-.003	.003	.099
	Sig. (2-tailed)		.988	.986	.602
	N	30	30	30	30
Motivat	Pearson Correlation	-.003	1	.621**	-.428*
	Sig. (2-tailed)	.988		.000	.018
	N	30	30	30	30
Engage	Pearson Correlation	.003	.621**	1	-.769**
	Sig. (2-tailed)	.986	.000		.000
	N	30	30	30	30
Behavior	Pearson Correlation	.099	-.428*	-.769**	1
	Sig. (2-tailed)	.602	.018	.000	
	N	30	30	30	30

Comparatively, Schlechty (2004) supported Newman‘s claims, but contended that in order for students to experience engagement, it is essential that commitment is present, persistence and attention given to the work or task that is expected in school. Additionally, Schlechty declared that engagement is active. It requires the students to be attentive as well as in attendance; also the act of being engaged requires students to be diligent and enthusiastic about the task assigned. Equally important, find some intrinsic value in what he or she is being asked to do.

According to Fredricks et al. (2004), engagement is important because an increase in engagement leads to improvements in students’ academic performance, promote school attendance, and impede risky youth behaviors. Further, Fredricks et al. (2004) purported that emotional engagement includes interests, values and overall emotions;

cognitive engagement employs motivation, effort and strategy; and behavioral engagement includes aspects of work and following rules and principles.

Gunuc (2013) theoretically explained his Campus-Class-Technology (CCT) Model as the relationships between class engagement and technology. He inserted that effective integration of technology in class is important for increasing students' student engagement or have a facilitator role in the development of student engagement. An increase in class engagement not only increases students' level of academic achievement but also leads to positive outcomes.

RQ7: What are the opinions of preschool teachers regarding student motivation, student engagement, student behavior, and student attendance in student's pursuit of phonological awareness skills?

Interviews provide researchers an opportunity to gain rich data and to make meaning in qualitative research (Warren, 2002). In particular, interviews allow the researchers to obtain important information from participants that are not easily observable or that allows for greater insight into the personal feelings or beliefs of the individual.

The researcher conducted structured face-to-face interviews with two female lead teachers and two female assistant teachers in order to gain an in-depth understanding of their opinions regarding the impact that student motivation, student engagement, student attendance, and explicit phonological awareness instructions has on pre-k students acquiring phonological awareness skills. All names were changed to protect participant confidentiality. Although the interviews were structured; there was flexibility in order to allow participants to explore their thought on the referenced behaviors. Also, the

interview consisted of 11 questions that focused on the independent variables in this study. Data from the teacher interview was collected and transcribed within 24 hours of each interview. The following interview questions and responses read as follow:

In the context of this study, categorizing and coding the data from the interviews entailed reviewing all of the teacher's responses to the interview and reflecting on them. As the researcher gathered answers to the question, "What are the opinions of preschool teachers regarding student motivation, student engagement, student behavior, and student attendance in student's pursuit of phonological awareness skills?" Four overarching recurring themes became apparent. These themes were:

1. The importance of teaching phonological awareness in the pre-K classroom;
2. Creating a technological environment promotes student motivation and supports the development of phonological awareness;
3. Provide a plethora of hands-on phonological awareness activities facilitates student engagement; and
4. Students that exhibit negative behavior can hinder their own academic achievement and the achievement of other students as well.

Analysis of the Interviews

Upon receiving approval to begin the research project, the researcher conducted structured face-to-face interviews with two female lead teachers and two female assistant teachers. All names were changed to protect participant confidentiality.

The interview consisted of 11 questions related to the independent variables: student motivation, student engagement, student behavior, and student attendance. The

researcher conducted a thematic content analysis becoming familiar with the data that required reading and re-reading. Next, coding or labeling the interview responses and searching for themes with broader patterns of meaning were implemented. After that, themes were reviewed to be certain appropriate themes were included. The process of defining and naming themes was completed. Finally, a coherent narrative became the score of this qualitative analysis.

The researcher noted that the teachers' years of experience varied from 1 to more than 25 years. Of the 4 respondents, one of the teachers indicated that she has been teaching for 1 year, 1 had taught for 5 years, and the remaining 2 had taught for 15 to 25+ years. There were a consensus among all of the teachers that phonological awareness facilitates the growth of early reading skills and spelling. Phonological awareness instruction is conducted in small groups and occurs frequently and for short periods of time. The teachers are mandated to follow a daily schedule to incorporate teaching phonological awareness for 30 minutes. Equally important, in order for students to learn phonological awareness well, the school allocates sufficient time for explicit phonological awareness instruction, and the time allotted must be used effectively. The teachers promoted motivation in their students to acquire phonological awareness skills by providing a technological environment and making certain that the lessons via computers are fun and sparks student interest. Also giving students the options to choose their favorite games and books foster student motivation also. In order to promote student engagement in acquiring phonological awareness skills, teachers prize themselves on providing a plethora of hands-on fun activities. There was a unanimous agreement that students' misbehavior can negatively impact and hinder

the acquisition of phonological awareness. Most importantly, the consequence of misbehaving students is their potential to serve as a roadblock to the building of other student's achievement and a successful preschool.

Summary

The purpose of this research study was to examine the effectiveness of the HearBuilder's phonological awareness computer program on the acquisition of phonological awareness skills as measured by the gain scores in African-Americans prekindergarten children. This chapter revealed the findings of the data that were collected from the pre and posttest, classroom observations, attendance records, and interviews conducted by the researcher. The researcher analyzed the data in an effort to identify any significant relationships or themes that were apparent in the findings.

A Pearson Correlation was used to examine the relationship between the independent variables of student motivation, student engagement, student behavior, and student attendance and the dependent variable, the acquisition of phonological awareness as measured on the posttest. A paired t-test was implemented to test significances. Further, an independent t-test was used in the analysis of gain scores. Although no relationship existed between the independent and dependent variables, findings did reveal that there were a significant relationship between behavior, motivation, and engagement. Further, there was no significant difference between pre and posttest by gender. All things considered, there were a significant difference between the pre and posttest, suggesting that the HearBuilder Phonological program

were effective in improving the performance of the participants in the experimental group.

CHAPTER VI

FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

The purpose of this mixed methods study was to determine the effectiveness of the HearBuilder phonological awareness computer program on the acquisition of phonological awareness skills in African-Americans prekindergarten children. The acquisition of phonological awareness was the dependent variable that was studied while examining the independent variables of student motivation, student engagement, student behavior, and student attendance. The benefits of phonological awareness can serve as a platform for existing classroom curriculums and provide educators, researchers and policy makers with valuable information to support national and international initiatives focused on raising student achievement and reducing inequalities in reading outcomes for identified under served and underachieving children. This chapter discusses the researcher's findings of the investigations and moreover, conveys the conclusions, implications, and recommendations of the study.

Findings

The researcher examined the findings of this study to determine if the independent variables of student motivation, student engagement, student behavior, and student attendance affected the dependent variable of acquisition of phonological awareness in

African-American children. By conducting a mixed methods study, the researcher also examined whether or not relationships existed between the dependent and independent variables. After the quantitative data collection was completed, the data were organize, coded as needed, in Microsoft Excel spreadsheets, and exported into the statistical Package for the Social Sciences (SPSS) to generate a summary analysis. Using a quantitative approach, a Pearson correlation was utilized to measure the correlation between the independent variables and the dependent variable. Key results revealed, the lack of statistical significance in the findings suggested that student motivation, student engagement, student behavior, or student attendance did not correlate with the acquisition of phonological awareness as measured by the gain score. But there were propitious significant relationships that existed between the independent variables of student behavior, student motivation, and student engagement. According to Bogren (2009), students that are engaged are more likely to be motivated to learn more and to work to their fullest potential. When students are motivated, their quality of work increases.

In this study, pre and posttest were administered to both the experimental and control groups. At the conclusion of the research, the results of the HearBuilder Phonological Awareness Test (HPAT) were analyzed. The gain scores on the HearBuilder Phonological Awareness test were used to measure student outcomes. In addition, the researcher used a gain score calculation spreadsheet in Excel to calculate the gain score to determine if there was a difference in the posttest scores between the two groups (see table 1). The data showed that the standard scores on the posttest for the both groups combined ranged from 63 to 129, which means that one student answered only four items correctly and another student answered 62 items correctly on the posttest. The

experimental group mean score was 83.4 (SD= 17.90), and the control group mean score was 72.80 (SD =6.65) prior to the intervention. After the intervention, the experimental group mean score increased to 105.25 (SD= 15.85) with a positive gain score of 21.85% (SD=15.83) at posttest. The control group mean score increased to 86.6 (SD=14.10) with a positive gain score of 13.80% (SD=14.11). Findings such as this would suggest that the experimental group performance exceeded the performance of the control group as indicated by the mean gain scores. The individualized instructions that the experimental group received during their intervention could be considered a factor in the increase of the gain score. Furthermore, the results indicated that the participants in the experimental (technology) group scored higher on the posttest than participants in the control (technology-free) group. However, there were some encouraging trends as evidenced by the improvement or increase in phonological awareness skills based on the pre and posttest scores. Specifically, the mean scores of the experimental group increased more than the mean score of the control group: The experimental group mean difference from pre-to-posttest was +21.85, compared to +13.8 from pre-to-posttest, respectively, for the control group. Taken together, the phonological awareness program had a positive effect on the academic performance for the experimental group.

Although all of the participants were randomly selected, the mean score of the experimental group was nearly fourteen points higher than the mean score of the control group, prior to intervention and seventeen higher after the intervention. This is an indication that the achievement gap between the experimental group and the control group continued to widen. Scores on the subtest were recorded for analysis. The students from the experimental group made the most gains in the area of rhyming

awareness. On the contrast, they made the least amount of gain in initial sound identification. Students in the control group made the most gains in the area of blending words and the least amount of gain in rhyming awareness. Additionally, the differences in the mean score propose that there is a significant difference in the performance of the experimental group and the control group as measured by the means gain score.

A secondary purpose to examine the findings of this study was to determine the effectiveness of the HearBuilder Phonological Awareness software program in improving the posttest scores for students in the experimental group. A paired samples t-test indicated that the participants in the experimental and control group combined made some increases and growth over the 4-week time period as indicated by their scores from pretest to posttest. More importantly, the growth on the posttest suggested that the HearBuilder Phonological Awareness software program was effective in improving scores for the experimental group. An independent t-test was performed and the findings showed the difference in gain scores from pretest to posttest for the groups combined was -17.83 (SD= 12.33). Gains of several points are good evidence that the participants benefitted greatly from the phonological awareness computer program.

During the interviews, the teachers expressed the importance of teaching phonological awareness in the prekindergarten classroom. They conveyed that it fosters early reading and spelling skills. Also, creating a technological environment in the classroom is paramount. All of the preschool teachers expressed that technology in the classroom makes learning fun, engages students, and promote student motivation. All participating teachers contended that the development of phonological awareness is taught on a continuum progression from spoken word and syllable identification to

blending and segmenting phonemes. Additionally, each of the participating teachers stated that children developed an awareness of larger chunks of sound before developing an awareness of smaller sound pieces. Each teacher asserted that they were mandated to follow a daily schedule to incorporate teaching phonological awareness for 30 minutes on a daily basis. Additionally, all four teachers expressed that in order for students to learn phonological awareness with proficiency, the school should allocate sufficient time for explicit phonological awareness instruction, and the time allotted must be used effectively. One of the teachers added that she taught the skill 30 minutes in the morning and provide extra support by reviewing five additional minutes before nap time. All four teachers stated they provided explicit systematic instructions using preschool manipulatives to include such things as developing creative lessons, hands-on activities that targets phonological awareness skill, computers, books, games, and picture word cards. Moreover, one of the teachers contended that she incorporated the white board to play online games and book, but concluded the content must be age appropriate in order for students to benefit from them. The primary resource used in the classrooms was the OWL Curriculum, a comprehensive curriculum that covers all domains of early learning. There was a consensus among all teachers that the computer center served as a motivator for developing phonological awareness skills in their classrooms. Other motivators included student interest, fun instructional technology to engage students, and reinforced competency. All of the teachers confirmed that regular school attendance was essential for student achievement. Even though this study did not provide conclusive evidence that student motivation, student engagement, student behavior, and student attendance were

important variables that impacted the acquisition of phonological awareness; they were all identified as critical elements of which student learning was based.

Two classroom observation checklists were completed on each student participants. The researcher took note that four of the children in the experimental group knew how to use the Kindle Fire tablet and were very eager to help others. The students in the experimental group seemed to have enjoyed the phonological awareness games and often challenged themselves with more difficult levels and activities as time progressed. The animated characters kept the student's attention during the daily sessions. The students commented that the game rewards were the most appealing to them. The incentives in the game appeared to have inspired student motivation and engagement for this group which the researcher believes led to increased learning outcomes.

The students in the control group enthusiastically participated in the traditional phonological awareness instructions in the classroom. While several children were unable to detect and engage in some of the sound manipulations after receiving instruction, nonetheless, they were delighted with the activities and benefited from exposure to the lessons taught by the researcher as shown by outcomes on the group's gain score. The qualitative data collected from the classroom observations explored quantitative findings. Nevertheless, the quantitative findings from this classroom observation suggested there were no significant relationships between the means gain scores and the independent variables.

Conclusions and Implications

The purpose of this study was to examine the effectiveness of the HearBuilder software program on the acquisition of phonological awareness skills, as measure by the gain scores in African-American students. The researcher also examined the impact of each of the independent variables on the acquisition of phonological awareness in African-American children. The findings of this investigation concluded that the results from a correlation analysis revealed that the independent variables of student motivation, student engagement, student behavior, and student attendance did not significantly correlate with the acquisition of phonological awareness, as measured by the gain score. Although, there was no significant relationship found between the independent variables and the dependent variable, the Pearson correlation analysis yielded useful findings. Positive correlations and significant relationships were founded between student motivation, student engagement, and student behavior. The results of a paired t-test showed an increase in the gain score from pretest to posttest for both groups combined. The increase indicated that there was a significant difference between the two tests, suggesting that the program was effective in improving student performance in the experimental group. Gain scores were calculated to measure growth in response to instructional literacy approaches. The researcher used a gain score calculation spreadsheet program in Excel to calculate the percentage of gain between the experimental and control group. The difference in the posttest gain score showed that the experimental group outperformed the control group. The experimental group gain score were higher than the control's group means gain scores. Any phonological awareness program that has the potential to improve the performance in all the above ways should

be carefully considered for implementation into the curriculum in preschools and at the elementary school level.

There was no significant difference however between pre and posttest based on gender. The effectiveness of the HearBuilder Phonological Awareness software program can be seen based on the increase from pretest to posttest for the combined groups. The reason for the improvement in performance does not lie in the variables selected as independent variables, but in other variables not included in the study such as teaching strategies.

It is widely agreed upon that the ability to read proficiently is a fundamental skill that affects the learning experiences and school performance of children. Children who struggle with reading and reading comprehension also often have deficits in spoken language (Myers & Botting, 2008). Therefore, preschools should make early literacy such as phonological awareness, one of their top priorities. The findings of this study have important classroom implications for effective instructions in preschool children. Due to the limited human resources and the demands of the pre-k classroom settings, how to allocate resources within the classroom to accommodate the phonological awareness instruction needs to be addressed. One solution to this concern is the use of technology. The importance of accommodating phonological awareness instruction in the classroom can't be over stressed. Technology, including handheld devices, can assist in teaching phonological awareness, such as with letter-sound identification, rhyming words, initial sounds, and other phonological awareness skills. But it is extremely important that teachers act as facilitators of technology and learning by creating experiences that promote the development in phonological awareness skills.

As stated before, technology has the potential to increase learning in young children. It is evident in this study that the experimental group learning was enhanced by the phonological awareness software program and Kindle Fire tablets. A great number of preschool educators possess inadequate pedagogical knowledge of phonological awareness and how to promote its development in young children. In an attempt to counteract this dilemma, professional development sessions focusing on phonological awareness could result in better preparation for teachers working with young students. Also, training teachers to integrate technology in the classroom can provide a breakthrough for educational technology success. "It is now widely accepted that the primary cause of reading disability for a majority of children lies in phonological processing that interfere with the development of phonological skills, such as phoneme segmentation, verbal memory, and name retrieval" (O'Shaughnessy & Wanson, 2000, p. 1). It is vitally important that young children be analyzed for reading impairments by measuring their phonological processing abilities. In addition, it is essential that early childhood educators, parents, and policy makers address impediments that hinder the acquisition of phonological awareness. Even more, it is paramount to administer comprehensive assessments of phonological processing to identify the cause of difficulties with phonological awareness skills and implement research-based approaches to remediate children immediately.

Recommendations

Recommendations for Early Childhood Administrators

- Early childhood educational leaders must learn more about research findings regarding early literacy and how it promotes future academic success in order to make informed decisions.
- It is imperative that administrators of early childhood education seek ways to provide sufficient funding for early literacy resources that result in high-quality education including technology as an assisted learning tool.
- Be certain that prekindergarten teachers receive professional development in how to effectively teach early literacy skills especially in phonological awareness.
- Instructional leaders must ensure that teachers are assessing prekindergarten children in phonological awareness skills in order to identify students who appear to be at-risk for difficulty in acquiring beginning reading skills.

Recommendations for Classroom Teachers

- Phonological awareness instruction is no longer limited to traditional methods; teachers of young children must be flexible and creative when teaching these skills and seek strategies to include more student active engagement.
- Teachers can provide the research-based, effective instruction that students need to develop literacy and find success both inside and outside of the classroom.

- More emphasis on integrating technology into daily lessons allows teachers to differentiate instruction and meet the needs of all students.
- When implementing a technological based learning program, the teacher must be careful to focus on the needs of his or her student's and not simply the use of technology in the classroom.

Recommendations for Future Research

The results of this study suggest several areas for future research.

1. The racial characteristics of the participants who took part in this study were restricted to four and five year old African-American prekindergarten children; therefore, future research should duplicate this study to include a larger sample of different ethnicity and compare the results with a control group that received no phonological awareness intervention.
2. As a result of the information obtained from this study, further research is needed to develop a deeper understanding of instructional approaches that effectively prepare preschoolers for early reading.
3. How technology can be used appropriately in early childhood settings that promote the acquisition of phonological awareness in all children.
4. Empowerment of parents of early childhood students to appropriately use technology as a teaching tool for phonological awareness skills.

Limitations of the Study

There are several limitations inherent in this study. While there are encouraging findings from this present study with regards to the effectiveness of the HearBuilder Phonological Awareness Program, there are also several limitations that can be identified.

1. The researcher was the sole teaching agent, therefore no inter-observer able reliability was evident.
2. The researcher was unable to visit the classrooms of teachers that were interviewed to observe classroom activities. Therefore, the data concerning the teachers' phonological awareness instructional practices and personal skills only reflected self-reports from the interviews.
3. The investigation included a small sample size; therefore, it was difficult to find significant relationships from the data regarding the relationship between the independent variables and the dependent variable.
4. Some of the preschool teachers expressed that they were overwhelmed with the day-to-day task of the classroom; therefore, the researcher became the agent of the data collection process.

Summary

When observing the data, it was clear that students in both experimental and control groups demonstrated an increased understanding of phonological awareness skills taught; however, the mean gain scores were higher in the experimental group that used the phonological awareness app by means of Kindle Fire tablets. This suggests that the technology-based instructions were more effective in supporting student learning in

acquiring phonological awareness skills than the traditional classroom phonological awareness instructions that the control group received. The findings align themselves with the current research on technology integration in the classroom. A larger number of studies have shown that students achieve greater academic success when technology is integrated with classroom instructions compared to classrooms that do not integrate technology. As a result of receiving phonological awareness lessons that were motivating and engaging, students in the control group were able to demonstrate a better understanding of early phonological awareness skills shown by an increased gain score. There were not statistical significant differences between the independent variables of student motivation, student engagement, student behavior, student attendance and the dependent variable, acquisition of phonological awareness. Respectively, there was a significant correlation between the independent variables of student motivation, student engagement, and student attendance. Student motivation leads to student engagement; student motivation and engagement lead to positive student behavior. Consequently, these interrelated components are a fundamental ingredient for improving early literacy. After comparing pretest and posttest standard scores and computing the mean gain score for the whole group, the researcher concluded there were significant differences in the mean gain score, which implies that the HearBuilder Phonological Awareness program was effective in improving the gain scores of the experimental group. The themes that derived from the teachers interviews were:

- Creating a technological environment promotes student motivation and the development of phonological awareness;

- Provide a plethora of hands-on phonological awareness activities facilitates student engagement; and
- Students that exhibit negative behavior can hinder their own academic achievement and the achievement of other students as well.

The findings of this investigation provided recommendations for Early Childhood administrators to advance their instructional leadership skills and teachers to improve their pedagogical practices. Additionally, this study offered suggestions for further research. It is the desire of the researcher to continued research in the area of phonological awareness, but to include a much larger sample with children from other ethnicities and backgrounds.

APPENDIX A

Consent Form for Preschool Director

Title: The Effectiveness of HearBuilder Software Program on the Acquisition of Phonological Awareness Skills for African-American Children in Pre-kindergarten: Implications for Educational Leaders

Introduction

The purpose of this form is to provide you information that may affect your decision as to whether or not to participate in this research study. The person performing the research (Janice Elaine Adams) will answer any of your questions. Read the information below and ask any questions you might have before deciding whether or not to take part. If you decide to be involved in this study, this form will be used to record your consent.

Purpose of the Study

You have been asked to participate in a research study regarding the effective of HearBuilder Phonological Awareness program. The purpose of this study is to examine the effectiveness of HearBuilder Phonological Awareness program on the acquisition of phonological awareness skills for African-American prekindergarten children as they interact and explore a reading app while using tablet touch-screen (Kindle fire) tablets. This research will help educators and parents better understand the impact that reading apps such as HearBuilder Phonological Awareness reading programs and the opportunities tablet touch-screen devices (i.e. Kindle Fire) might provide. As more schools begin to include this type of technology in the classroom, it's important to understand how children explore and create with these new 21st century digital literacy tools and skills.

What will you to be asked to do?

If you agree to participate in this study, you will be asked to

- Allow the researcher to observe your teacher's classroom (and take field notes) during literacy centers time
- Participate in an informal interview about students' phonological awareness and technology experiences in the classroom

- During literacy centers time, allow the researcher to set-up and conduct an Kindle fire tablet station (researcher-provided Kindle fire tablets) in which 2 students at a time will come over and learn (with assistance from the researcher) to use HearBuilder Phonological Awareness program. The researcher-led tablet station will last for approximately four weeks and each student will come to the station up to sixteen times total. The researcher will work with the teacher to determine the best time and space for the tablet station. Those students who have consented will have their tablet work screen-captured, and may have their interactions video-taped. Those students who do not consent will be provided with a traditional lesson on phonological awareness.
- Your informal interview will be not audio-recorded
- **Total estimated time to participate** in this study is not more than 2.0 hours per day, 5 days per week, for not more than 5 weeks total.

What are the risks involved in this study?

- There are no foreseeable risks to participating in this study, as the study will follow along with daily school learning activities.

What are the possible benefits of this study?

- There is no guaranteed benefit to participating in this study, though participation will help us add knowledge to the field about children's phonological awareness and literacy processing skills using technology. While there are no guaranteed benefits, participants might benefit from learning about new applications they could use with students, and might gain insight on their students' phonological awareness and technology skills as evidenced through utilization of the study applications. Additionally, the researcher will donate 2 Kindle Fire tablets to the preschool at the end of the study.

Do you have to participate?

- No, your participation is voluntary. You may decide not to participate at all or, if you start the study, you may withdraw at any time. Withdrawal or refusing to participate will not affect your relationship with the preschool in any way.

- While this project has been reviewed by the Preschool director at your school, the preschool director is not conducting this project activity

Will there be any compensation?

- You will not receive any type of payment for participating in this study.

What are my confidentiality or privacy protections when participating in this research study?

- Interviews of the teachers will not be audio-recorded
- Your participation in this study will be kept confidential and stored securely, and your name and likeness will be removed from all transcriptions and presentations of data. Transcriptions and data presentations will be coded so that no personally identifying information is visible.
- The students who participate in this study, **may not be** video-recorded. The data resulting from the students' participation may be used for future research or be made available to other researchers for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you/your students with it, or with you/your students' participation in any study.
- The participants' application work **will be** screen-captured. Any screen-capture videos will be stored securely and only the research team will have access to the recordings. Screen-capture recordings will be kept until no longer needed for research dissemination, and then erased. The data resulting from students' participation may be used for future research or be made available to other researchers for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you/your students with it, or with you/your students' participation in any study.
- Students who do not consent to participating in the study will still receive traditional lessons in phonological awareness.
- The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

The records of this study will be stored securely and kept confidential. All publications will exclude any information that will make it possible to identify you as a participant. Throughout the study, the researcher will notify you of new information that may become available and that might affect your decision to remain in the study.

Whom to contact with questions about the study?

Prior, during or after your participation you can contact the researcher **Janice Elaine Adams** at **(404) 880-880-8505** or send an email to **janice.adams@cau.edu**
This study has been reviewed and approved by **Clark Atlanta University** and **Institutional Review Board (IRB).**

Whom to contact with questions concerning your rights as a research participant?

For questions about your rights or any dissatisfaction with any part of this study, you can contact, anonymously if you wish, the Institutional Review Board by email at **IRB@cau.edu**.

Participation

If you agree to participate, please sign, and return the consent form to the preschool director. The researcher will provide you with a copy of the completed signature page.

You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this form. You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time. You voluntarily agree to participate in this study. By signing this form, you are not waiving any of your legal rights.

Signature: _____ Date: _____

Signature of Principle Researcher: _____ Date: _____

APPENDIX B

Parent-Child Letter of Consent

To Whom It May Concern:

This form is to certify that I, _____ (Name of the Parent), hereby give permission to have my child participate in activities designed to teach beginning reading skills. These reading readiness strategies will include emergent literacy skills such as rhyming, sentence segmentation, and identifying beginning sounds and ending sounds. These skills will be taught by utilizing technology tools to assist the learners. The instructor is conducting research to meet requirements for a Doctoral Degree in school leadership.

I understand that Janice Adams is a graduate student enrolled in the School of Education (Educational Leadership) at Clark Atlanta University and is a certified public school teacher.

Ms. Adams is in charge of teaching all identified instructional skills listed above. These skills are known as emerging (early) literacy reading skills and are helpful to the children to become successful readers.

I also understand that:

1. There are no risks involved for any child who will participates in this study.
2. There are many benefits for your child: Small group engaging technological instructions in a learning center format to facilitate early reading skills, such as rhyming. All instruction will be done at Beacon of Hope Renaissance Learning Center during regular school hours.

   Note: As a participant, your child may be better prepared for a Kindergarten learning experience. There is no cost associated for parents of participating of students.
3. Data will be collected during the duration of the study for 4 weeks.
4. All information collected will remain confidential and private with regard to your child's identity.

Further, as stated above, I understand the benefits of letting my child participate in this research. I understand that my child's participation in this project is voluntary and not a requirement.

I understand that if I have any questions or concerns about anything stated on this form, I may call or write:

Clark Atlanta University, School of Education, Department of Education Leadership,
223 James P Brawley Dr. S., Atlanta, GA 30314
Telephone: (404) 880- 6015

I FURTHER UNDERSTAND THAT I AM FREE TO WITHDRAW MY CONSENT AND DISCONTINUE MY CHILD'S PARTICIPATION AT ANY TIME.

I hereby consent to the participation of,
_____ (child's name) a minor in the investigation herein described.

_____ _____

Date Signature of Minor Subject's Parent or Guardian

APPENDIX C

Teacher Consent

Title: The Effectiveness of HearBuilder Software Program on the Acquisition of Phonological Awareness Skills for African-American Children in Pre-kindergarten: Implications for Educational Leaders

Introduction

The purpose of this form is to provide you information that may affect your decision as to whether or not to participate in this research study. The person performing the research (Janice Elaine Adams) will answer any of your questions. Read the information below and ask any questions you might have before deciding whether or not to take part. If you decide to be involved in this study, this form will be used to record your consent.

Purpose of the Study

You have been asked to participate in a research study regarding the effective of HearBuilder Phonological Awareness program. The purpose of this study is to examine the effectiveness of HearBuilder Phonological Awareness program on the acquisition of phonological awareness skills for African-American prekindergarten children as they interact and explore a reading app while using tablet touch-screen (Kindle fire) tablets. This research will help educators and parents better understand the impact that reading apps such as HearBuilder Phonological Awareness reading programs and the opportunities tablet touch-screen devices (i.e. Kindle Fire) might provide. As more schools begin to include this type of technology in the classroom, it's important to understand how children explore and create with these new 21st century digital literacy tools and skills.

What will you to be asked to do?

If you agree to participate in this study, you will be asked to

- Allow the researcher to observe your classroom (and take field notes) during literacy centers time
- Participate in an informal interview about students' phonological awareness and technology experiences in the classroom

- During literacy centers time, allow the researcher to set-up and conduct an Kindle fire tablet station (researcher-provided Kindle fire tablets) in which 2 students at a time will come over and learn (with assistance from the researcher) to use the HearBuilder Phonological Awareness program. The researcher-led tablet station will last for approximately four weeks and each pair of students will come to the station up to sixteen times total. The researcher will work with the teacher to determine the best time and space for the tablet station. Those students who have consented will have their tablet work screen-captured, and may have their interactions video-taped. Those students who do not consent will be provide with a traditional lesson on phonological awareness.
- Your informal interview will be not audio-recorded
- **Total estimated time to participate** in this study is not more than 2.0 hours per day, 4 days per week, for not more than 5 weeks total.

What are the risks involved in this study?

- There are no foreseeable risks to participating in this study, as the study will follow along with daily school learning activities.

What are the possible benefits of this study?

- There is no guaranteed benefit to participating in this study, though participation will help us add knowledge to the field about children's phonological awareness and literacy processing skills using technology. While there are no guaranteed benefits, participants might benefit from learning about new applications they could use with students, and might gain insight on their students' phonological awareness and technology skills as evidenced through utilization of the study applications. Additionally, the researcher will donate 2 Kindle Fire tablets to the preschool at the end of the study.

Do you have to participate?

- No, your participation is voluntary. You may decide not to participate at all or, if you start the study, you may withdraw at any time. Withdrawal or refusing to participate will not affect your relationship with the preschool in any way.

- While this project has been reviewed by the Preschool director at your school, the preschool director is not conducting this project activity

Will there be any compensation?

- You will not receive any type of payment for participating in this study.

What are my confidentiality or privacy protections when participating in this research study?

- Interviews of the teachers will not be audio-recorded
- Your participation in this study will be kept confidential and stored securely, and your name and likeness will be removed from all transcriptions and presentations of data. Transcriptions and data presentations will be coded so that no personally identifying information is visible.
- The students who participate in this study, **may not be** video-recorded. The data resulting from the students' participation may be used for future research or be made available to other researchers for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you/your students with it, or with you/your students' participation in any study.
- The participants' application work **will be** screen-captured. Any screen-capture videos will be stored securely and only the research team will have access to the recordings. Screen-capture recordings will be kept until no longer needed for research dissemination, and then erased. The data resulting from students' participation may be used for future research or be made available to other researchers for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you/your students with it, or with you/your students' participation in any study.
- Students who do not consent to participating in the study will still receive traditional lessons in phonological awareness.
- The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

The records of this study will be stored securely and kept confidential. All publications will exclude any information that will make it possible to identify you as a participant. Throughout the study, the researcher will notify you of new information that may become available and that might affect your decision to remain in the study.

Whom to contact with questions about the study?

Prior, during or after your participation you can contact the researcher **Janice Elaine Adams** at **(404) 880-880-8505** or send an email to **janice.adams@cau.edu**
This study has been reviewed and approved by **Clark Atlanta University** and **Institutional Review Board (IRB).**

Whom to contact with questions concerning your rights as a research participant?

For questions about your rights or any dissatisfaction with any part of this study, you can contact, anonymously if you wish, the Institutional Review Board by email at **IRB@cau.edu**.

Participation

If you agree to participate, please sign, and return the consent form to the preschool director. The researcher will provide you with a copy of the completed signature page.

Signature

You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this form. You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time. You voluntarily agree to participate in this study. By signing this form, you are not waiving any of your legal rights.

Signature: _____ Date: _____

Signature of Principle Researcher: _____ Date: _____

APPENDIX D

Classroom Observation Form

Date _____

Setting: _____

_____

Participants: _____

_____

Content of the Intervention: _____

_____

	1 Never	2 Rarely	3 Sometimes	4 Often	5 Very Often
SECTION 1: Student Motivation a. Does the student show persistence when attending to challenging tasks?					
b. Does the student appear to be interested in tasks they are engaged in?					
c. Does the student work without refusing?					
d. Does the student begin work without hesitant?					
e. Does the student try hard when given a task?					
f. Does the student seek help when faced with difficult task?					
SECTION 2: Student Engagement					
a. Are the student interacting and working with their peers?					

	1 Never	2 Rarely	3 Sometimes	4 Often	5 Very Often
SECTION 2: Student Engagement b. Are the student engaged and interacting with some form of technology?					
c. Are the students willing to participate in assigned task?					
d. Does the student stay engaged and does not give up easily in the face of challenges?					
e. Does the student exert intense effort and concentration in the implementation of learning tasks?					
SECTION 3: Student Behavior a. Student was able to pay attention and be alert.					
b. Student followed instruction and rules without acting defiant, arguing, or talking back.					
c. Student was cooperative.					
d. Student did not disturb others.					
e. Student treats their peers with kindness?					

Summary of behavior observed in area(s) of difficulty:

_____

_____

_____

_____

APPENDIX E

Teacher Interview Protocol

Acquisition of Phonological Awareness

Background Information

School: _____

Interviewee (Title and Name): _____

Interviewer: _____

1. How long have you been teaching pre-K?
2. What is your perspective on teaching phonological awareness in the pre-K setting?
3. How do you accommodate the progression and development of phonological awareness skills in students?
4. How many minutes do you spend providing systematic explicit instructions in the area of phonological awareness?
5. How do you, as the teacher, provide explicit systematic instruction using research-based materials for phonological awareness?
6. What motivational strategies do you use to promote the acquisition of phonological awareness?
7. What are the primary resources you use for phonological awareness instruction?

8. Do you think regular attendance contributed to pre-K students' emergent literacy acquisition? Why? Why not?
9. Do you see the use of computers and other technological devices as part of an early childhood curriculum as being powerful enough to engage students?
10. Do you see digital media, such as tablets, as a transformational tool that enables phonological awareness development?
11. Do you think students' behavior can positively or negatively impact and hinder the acquisition of phonological awareness?

APPENDIX F

Prekindergarten Unit Lesson Plan

Subject:	**Teacher:**	**Grade:**	**Week of:**
Phonological Awareness	**Researcher**	**Pre-K**	

GELD Standards:	CLL6- The child will acquire early phonological awareness (awareness of the units of sounds**)**
Assessment(s): Formative or Summative	Emergent Literacy and Language Assessment

The students are Learning to: segment sentences into words.	**Notes:**	**Evaluation Criteria -The participant will be successful when they have learned to:**
Monday: Segment sentences into words with nursey rhymes.	**Monday:**	**Monday:** Name the card that has more words.
Tuesday: Segment sentences into words with silly sentences.	**Tuesday:**	**Tuesday:** Taps the number of words in the sentence using the "Silly Sentence Stick."
Wednesday: Play a sentence game and segment sentences into words.	**Wednesday:**	**Wednesday:** Count words in a sentence.
Thursday: Complete a newspaper sentence sort.	**Thursday:**	**Thursday:** Sort and glue sentences under the corresponding number on the paper.

Monday

Learning Objectives: Students count the words in sentences and stack blocks to equal the number of words counted.

Materials/Technology: Nursery rhyme cards, blocks, sentence strips, and markers of different colors

Procedures:
Introduction:
Introduce myself and Birdie, the bird puppet that likes to segment sentences into words. Discuss what sentence segmentation means and model how to count the number of words in a sentence.
Example: I'm going to say a sentence: John gave me the book. [Students echo the sentence pointing to or moving a manipulative as they say each word: John . . . gave . . . me . . . the . . . book.] How many words are in the sentence? [Students count the manipulatives and say: There are five words in the sentence.]

1. Place nursery rhyme cards and blocks in the center.
2. Student selects a nursery rhyme card, says the rhyme, and stacks the number of blocks to equal the number of words in the first sentence. For example, "Humpty Dumpty sat on a wall." There are six words in the sentence and the student stacks six blocks.
3. Places the stack of blocks on the matching picture.

Closure: Continue the activity choosing other nursery rhyme cards. Names the card that has more words.

Extensions and Adaptations: Write or illustrate a nursery rhyme sentence. Make other nursery rhyme cards to use in the activity.

Tuesday
Learning Objectives: The students will segment sentences into words.

Materials/Technology: Boy and girl picture card, Action picture cards (Activity Master PA.015.AM1), Naming picture cards (Activity Master PA.015.AM2a - PA.015.AM2b), Silly Sentence Stick, Make using a pencil and a decorative eraser

Procedures: Students make silly sentences on the overhead projector. 1. Place student photographs, picture cards, and the overhead in the center. 2. Student chooses his photograph, an action picture card (red), and a naming picture card (blue). 3. Places pictures in sequence to form a silly sentence (picture card, red card, blue card). 4. Taps the number of words in the sentence using the “Silly Sentence Stick." 5. Continues the activity.

Closure: Continue to say the number of words in a silly sentence.

Extensions and Adaptations: Write and illustrate a silly sentences

Wednesday

Learning Objectives: The student will segment sentences into words.

Materials/Technology: Sentence Game board (Activity Master PA.016.AM1a - PA.016.AM1b) Copy on card stock and assemble the game board. Sentences (Activity Master PA.016.AM2) Cut into strips. In this activity, the students are not reading the words. They are using the words as units and using the spaces between them to identify the number of words. Game pieces (e.g., counters)

Procedures: Students play a game counting words in sentences. 1. Place the game board and sentence strips face down in a stack on a flat surface. Place game pieces at START on the board. 2. Taking turns, students select the top sentence strip and count the words. 3. Move the game piece as many spaces as there are words in the sentence. 4. Place sentence strip at the bottom of the stack to be used again.

Closure: Continue until all students are at the END of the game board.

Extensions and Adaptations: Make additional sentences or illustrate to use in the game. Read sentences to play the game.

Thursday

Learning Objectives: The student will segment sentences into words.

Materials/Technology: 12" by 18" construction paper. Write a different number at the top of each paper. Print resources (e.g., newspapers, magazines, or pages from old nursery rhyme books) In this activity, the students are not reading the words. They are using the words as units and using the spaces between them to identify the number of words. Scissors and Glue

Procedures: Students cut sentences from print resources and glue to the corresponding page.
1. Place the print resources, construction paper, scissors, and glue on a flat surface.
2. Student cuts sentences from the print resources.
3. Counts the words in a sentence and glue the sentence under the corresponding number on the paper.

Closure: Continues until all the sentences are sorted and glued.

Extensions and Adaptations: Sort sentences by the total number of syllables.

Week of _____

The students are Learning to: blend and segment syllables into words	**Notes:**	**Evaluation Criteria-The students will be successful when they have learned to:**
Monday: Blend syllables into words.	**Monday:**	**Monday:** Display the correct number of fingers to correspond to the number of syllables in picture cards
Tuesday: Blend syllables into words	**Tuesday:**	**Tuesday:** Identify a word and connect their marshmallows to make a "train."
Wednesday: Segment syllables into words	**Wednesday:**	**Wednesday:** Beat out the syllables on the pie plate
Thursday: Segment syllables into words	**Thursday:**	**Thursday:** Make a two-to-four syllable picture cards

Monday

Learning Objectives: Blend syllables into words using blocks

Materials/Technology: Classroom materials, blocks, picture cards

Procedures: Collect objects from the classroom that are named with words containing two or more syllables. Give each child two to four blocks depending on the amount of syllables the words you chose have. Break each word into its syllables will representing each one with a block. Repeat the syllables again, saying them somewhat faster while moving the blocks closer to each other.

Closure: Continue until the blocks are touching and the word is connected.

Extensions and Adaptations: Present students with pictures of item and allow them to name the picture and hold up a finger for each syllable.

Tuesday

Learning Objectives: Blend syllables into words

Materials/Technology: Marshmallows, toothpicks, syllables cards that contains up to three syllables.

Procedures: Marshmallow Trains
Provide the children with several large marshmallows and toothpicks. Instruct the children to push the toothpicks into the sides of the marshmallows. Before giving the children a picture word, tell them how many marshmallows they will need. Place each marshmallow a few inches apart. As you say each syllable, touch each marshmallow with a definite pause in between. As you continue to say the word with smaller pauses, move the marshmallows closer together. When the children can identify the word, their marshmallows can connect and make a "train."

Closure: Students will choose their favorite word and tell how many syllables that word contains.

Extensions and Adaptations: The students will illustrate or write a word that contain one-three syllables and label the picture.

Wednesday

Learning Objectives: Segment syllables into words

Materials/Technology: vehicles, word list, pictures list

Procedures: Words Have Parts
Using the materials provided, introduce a car, semi-truck, and train to the children (you may want to hang the pictures up). Show the children that a car has one part, a semi-truck has two parts (cab and bed), and the train has three or more parts (engine, box car, and caboose). Tell the children that words have parts too. Using words or pictures, assist the children in deciding how many parts each word or picture has. Place each word or picture with the corresponding vehicle.

Tip: Mount each vehicle on the inside of a manila folder and laminate. Place Velcro pieces around the vehicle and on the back side of each word/picture. Have the children Velcro the pieces to the correct folder.

Closure: Allow the students to tell to determine the number of syllables in a word.

Extensions and Adaptations: Give each child a foil pie plate and a marker. Have a list of several objects within a category (e.g., animals, food, clothing, etc). As you read each name, have the children beat out the syllables on the pie plate with the marker and have one child tell you how many beats or parts they counted.

Thursday

Learning Objectives: Segment syllables into words

Materials/Technology: Two-to-four syllable picture cards (Activity Master PA.021.AM1a - PA.021.AM1d) Shoeboxes or containers Attach picture cards found on PA.021.AM1d (i.e., lion, octopus, alligator) to three shoeboxes. Basket Place picture cards in the basket

Procedures: Students count the syllables in words and place cards in the corresponding boxes. 1. Place the shoeboxes and basket of cards on a flat surface. 2. Taking turns, students choose a picture card from the basket, say the word, and clap the syllables. 3. Feed the picture card to the "hungry animal" with the same number of syllables (e.g., place the picture of the lettuce in the lion box).

Closure: Continue until all the picture cards are fed to the animals.

Extensions and Adaptation: Make other two-to-four syllable picture cards

Week of _____

Learning Objectives - The students are Learning to: identify and produce rhyming words.	**Notes:**	**Evaluation Criteria-The students will be successful when they have learned to:**
Monday: Identify and say rhyming words **Tuesday**: Produce words that rhyme **Wednesday:** Phoneme Blending **Thursday:** Phoneme Blending	**Monday:** **Tuesday:** **Wednesday:** **Thursday:**	**Monday:** Record a rhyming word pair **Tuesday:** Produce one word that rhymes **Wednesday:** Say a word and blend its phoneme **Thursday:** Sort cards according to the number of sounds each picture name contains

Monday

Learning Objectives: The students will learn how to identify and say rhyming words by engaging rhyming exercises and matching rhyming cards.

Materials/Technology: A rhyming picture book. Some great book suggestions:
Brown Brown, Brown Bear, What do you see? (By Bill Martin Jr.)
Chicka Chicka, Boom Boom (Bill Martin Jr.)
The three Bears Rhyme Book (By Jane Yolen)
Those Can-Do Pigs (By David M. McPhail)
Rhyming Picture Cards

Procedures: Introduction; Ask students what rhyming words are (words that have the same ending sounds). The teacher will say and combination of words that rhymes and a combination of words that do not rhyme. Tell students to touch their nose when they hear words that rhyme.
Words: (cat, hat) (see, be) (mix, cap) (do, at) (hip, hop)
Assess students' understanding of rhyming.

Do a read aloud with a rhyming picture book. Start with a picture walk and have the students predict the story's main characters, setting, and events. Have student' read the title, author's name and illustrator's name.

Read the story and encourage students to say the predictable/repetitive phrases with the teacher. Pause at the end of a rhyming stanza to see if students' can predict which rhyming words comes next. Write each of these words on index cards and place them in a pocket chart.

Pull out all of the cards, mix them up and place them back in the chart. Call up students to find the rhyming words and then have them stand in front of the classroom holding their pair of cards.
When all of the pairs have been found, have each student at the front of the class read their pair of rhyming words with the rest of the class.

Students can play in pairs or independently during centers, mixing up the cards and finding rhyming pairs.

Closure: Say one rhyming word and point to students in the class to tell the teacher a word that rhymes with it.

Extensions and Adaptations: Post rhyming words all over the classroom and give students magnifying glasses, clipboards and the record a rhyme worksheet. Student will try to find words that rhyme in a book, on poster, etc. They can then record rhyming words pairs.

Tuesday

Learning Objectives: The students will produce words that rhymes independently

Materials/Technology: Chairs and child-oriented music

Procedures: Rhyming Musical Chairs
Discuss the meaning of rhyming words with the students. Then the teacher will read a book such as "My truck is Stuck", By Kevin Lewis and Daniel Kirk. Allow students to identify rhyming words in the book. Teacher will make a rhyming word chart. Review the chart with the students.
Playing child-oriented music, play a variation of "Musical Chairs." Line up chairs for all of the children except one. Start the music and instruct the children to walk around the chairs in a single file line for a few seconds. When the music is paused, all the children scramble to sit in a chair. Whoever is left without a chair draws a picture card from a container and says it aloud. She then makes up a word that rhymes with that word and gets to restart the music.

Closure: Students can write down their rhyming pairs on a record a rhyme worksheet and turn in to teacher.

Extensions and Adaptations: Students will think of a rhyming word for an animal.

Wednesday

Learning Objectives: (Phoneme Blending) Identify and blend phonemes in words

Materials/Technology: Song: "Old McDonald", chart paper, markers, paper, crayons, pencils

Procedures: Introduction: Using a song format to isolate the sound heard in the words, the teacher will sing to Old McDonald. Talk with students about why knowing about beginning sounds can help them read and write words. Teacher will write the words (turtle, time, and teeth on chart paper and ask students, What's the sound that starts these words—turtle and time and teeth?

(Wait for response)

/t/ is the sound that starts these words—turtle, time, and teeth.
With a /t/, /t/ here, and /t/, /t/ there, here a /t/, there a /t/, everywhere a /t/, /t/.
/t/ is the sound that starts these words—turtle and time and teeth.
Next, Ask students to solve riddles that incorporate both rhyming and blending:

- I'm thinking of a word that begins with /t/ and rhymes with *man*.
- What is my word?

Closure: Play a game, "I Say it Slowly, You Say it Fast". Explain to students that you will say the words slowly. Students should repeat the word back to you.

- Example—
  - Teacher says /k/-/ă/-/t/
  - Child says cat.

- Example—
  - Teacher says /r/-/ŏ/-/k/
  - Child says rock.

Extensions and Adaptations: Show students how to make sound boxes on their paper or lap boards.

As the student says a word, then she stretches it out, while sliding a marker into each box as the sound, or phoneme, is heard.

Example—

- dog
- horse
- Lamp
- teeth

Thursday

Learning Objectives: The students will blend phonemes in selected words.

Materials/Technology: Plastic bat and baseball, chart paper, markers

Procedures: Play Blend Baseball
Divide the class into two teams. Say aloud a word in parts (syllable by syllable, onset/rime, or phoneme by phoneme). For example, say "/s/ /a/ /t/." If the child that is "up at bat" can blend the word, he or she advances to first base. The next batter comes up, and the game continues just like baseball.

Closure: Write the "Segmentation Cheer" on chart paper, and teach it to children. Each time you say the cheer, change the words in the third line. Have children segment the word sound by sound. Begin with words that have three phonemes, such as ten, rat, cat, dog, soap, read, and fish.

Segmentation Cheer

Listen to my cheer. Then shout the sounds you hear. Sun! Sun! Sun! Let's take apart the word sun. Give me the beginning sound. (Children respond with /s/.) Give me the middle sound. (Children respond with /u/.) Give me the end sound. (Children respond with /n/.) That's right! /s/ /u/ /n/—Sun! Sun! Sun!

Extensions and Adaptations: Display picture cards of the following: bee, tie, sun, mop, fan, leaf, glass, and nest. Have children sort the cards according to the number of sounds each picture name contains. Then create a graph using the cards.

Week of _____

The students are Learning to: listen to a sequence of separately spoken phonemes, and combine the phonemes to form a word. Additionally, the students will break a word into its separate sounds, saying each sound as they tap out or count it.	**Notes:**	**Evaluation Criteria-The students will be successful when they have learned to:**
Monday: Phoneme Blending **Tuesday: Phoneme Segmentation** **Wednesday: Phoneme Blending** **Thursday: Phoneme Segmentation**	**Monday:** **Tuesday:** **Wednesday:** **Thursday:**	**Monday:** blend picture cards together **Tuesday:** segment a word into its separate sound **Wednesday:** blend separate phonemes into words **Thursday:** make a three letter word and count the number of phonemes in a word

Monday

Learning Objectives: Student will blend 3 phonemes together to create a word using pictures and picture sounds.

Materials/Technology: Picture Cards

Procedures: Teacher will activate prior knowledge by discussing the ideas that words are made up of sounds. Tell students that today we are going to break apart and blend together every sound in the word, "breaking apart a word is like counting the sounds in a word". Have students do this with you as you segment the sounds in the word cat. Put up one finger for each sound /c/ /a/ /t/. Then show them that blending is the opposite. Blending is taking those three sounds and putting it together into a word. Give another examples such as "/m/ /a/ /p/ map". Tell the students "I am going to say two parts of a word and I want you to put it together to tell me the whole word /l/ /ion/". Students should respond "lion". This will be done verbally with the teacher saying a word like "cat" and separating it into the onset /c/ and the rime /at/, then blending is back together and saying "cat". This will be done with five different words so that students remember the idea of separating sounds and blending together. This will activate the knowledge that words are made of sounds and likewise that sounds create words.

Closure: Picture Slide Game: Students will segment all the sounds in a word out and blend all the sounds in a word together. To do this they will use picture cards. This is called Picture Slide. Next, model for students the way to use the cards to segment and blend all the sounds in the word. Take a picture that is previously cut up into pieces that correctly represent the amount of phonemes in that word. For example a picture of a frog will be cut up in four pieces for each segmented sound /f/ /r/ /o/ /g/. Model segmenting the sounds as you move the pieces apart and then model blending the word as you push the pictures back together. After modeling allow student guided practice by having them segment and blend the picture cards with you and then on their own with feedback on their implementation.

Extensions and Adaptations: As independent practice for the student have them segment and blend two and three phoneme words on their own.

Tuesday

Learning Objectives: Student will blend 3 phonemes together related to letters to create verbal words and visual word representations with the letters.

Materials/Technology: Picture Cards of 3-letter animals

Procedures: Head-Hip-Feet
With the children standing, instruct them to listen as you call out words and their sounds. When the first sound is introduced, have the children place their hands on their head. When the second sound is made, the children will place their hands on their hips. As the last sound in the word is made, the children will touch their feet. Use several words containing three sounds until the children consistently identify them.

Closure: Objects for Sounds
With the children seated at tables, give each child five objects such as markers, blocks or Legos. Have each child line up their objects in front of them. While reading a book to the children, occasionally stop and call attention to a word containing one to three sounds. Repeat the word and ask the children to push forward an object to represent each sound in the word (e.g., d-o-g=3 objects). For each child that had difficulties, have them try again while you repeat the word.

Extensions and Adaptations: Have students to draw a picture of a 3-letter animal of their chose.

Wednesday

Learning Objectives: The students will listen to a sequence of separately spoken phonemes, and combine the phonemes to form a word.

Materials/Technology: Picture book;
Technology:
http://www.starfall.com/n/make a word/an/load.htm
http://www.bigbrownbear.com.uk/demo/count.htm

Procedures: Bumper Blocks
Provide each child with three blocks. Explain to the children that they' will be building words with them. Say a three-sound word (e.g., f-u-n) with a definite break between the sounds and point to each block as you say the sound. Repeat the sounds, moving the blocks closer to each other. Repeat the sounds one last time while pushing the blocks together completely. Have the children practice with their own blocks as you provide them with more words that contain three sounds.

Closure: Using the materials provided, the teacher may choose to have the children take turns drawing the next word/picture card.

Extensions and Adaptations: This activity can be used to take roll call or to dismiss the children to center time or any other task. Explain to the children that you will be calling them by saying their name in its parts. The names are then said with definite breaks between the sounds. When a child hears his/her name, they will be asked to stand and be dismiss to centers.

Thursday

Learning Objectives: The students will use tokens to count syllables

Materials: Tokens and Picture Cards

Procedures: Teachers will provide each child with tokens and two or three horizontally connected boxes drawn on a sheet of paper. The children place a token in each box from left to right as they hear each syllable in a word.

Closure: Two students will produce a word for other students to put a token in each box from the left to right as they hear each syllable.

Extensions and Adaptations: The students will clap, snap, or stump as they hear each syllable.

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