

6-3-2015

# Full time attendance in an early childhood education center improves emergent literacy skills

Dana Samuelsen

Follow this and additional works at: <http://rdw.rowan.edu/etd>

 Part of the [Pre-Elementary, Early Childhood, Kindergarten Teacher Education Commons](#), and the [Student Counseling and Personnel Services Commons](#)

---

## Recommended Citation

Samuelsen, Dana, "Full time attendance in an early childhood education center improves emergent literacy skills" (2015). *Theses and Dissertations*. 469.

<http://rdw.rowan.edu/etd/469>

This Thesis is brought to you for free and open access by Rowan Digital Works. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Rowan Digital Works. For more information, please contact [LibraryTheses@rowan.edu](mailto:LibraryTheses@rowan.edu).

**FULL TIME ATTENDANCE IN AN EARLY CHILDHOOD EDUCATION CENTER  
IMPROVES EMERGENT LITERACY SKILLS**

by  
Dana R. Samuelsen

A Thesis

Submitted to the  
Department of Psychology  
College of Science and Mathematics  
In partial fulfillment of the requirement  
For the degree of  
Masters of Arts in School Psychology  
at  
Rowan University  
2015

Thesis Chair: Roberta Dihoff, Ph.D.

© 2015 Dana Ray Samuelsen

## **Dedication**

*I dedicate this thesis to my fiancé and family who have continuously showered me with love and support.*

## **Acknowledgment**

I would like to thank Dr. Roberta Dihoff for her continued guidance through this study.

## **Abstract**

Dana Samuelsen  
FULL TIME ATTENDANCE IN AN EARLY CHILDHOOD EDUCATION CENTER  
IMPROVES EMERGENT LITERACY SKILLS

2014-2015

Roberta Dihoff, Ph.D.  
Master of Arts in School Psychology

The purpose of this study was to examine whether the predetermined amount of attendance of preschool per week had an effect on the present understanding of early literacy skills in preschool aged children. Archival data, of forty-nine participants, was used to identify amount of attendance in a private early childhood education program. Early literacy skills were assessed by the child care center's previous academic reviews reported by teachers from 2010 to 2014. The 'PreK Academic Review' was used to collect data on early literacy skills and oral language abilities. The teachers recorded the students' abilities by marking each category as 'mastered', 'progress shows', or 'not mastered'. These abilities were then matched up with the amount of predetermined attendance per week to search for any correlations. The results of this study showed significant differences for the average score of emergent literacy skills at .012, but did not reveal a significant difference (.142) for the average score of oral language. Post Hoc (Tukey's HSD) showed significant differences for full time and part time attendance (.009) on early literacy skills, but not for half time and part time attendance (.342). This shows that full-time attendance, when compared to half-time or part-time, improves emergent literacy skills.

## Table of Contents

Abstract	v
Chapter 1: Introduction	1
Need for Study	1
Purpose	1
Hypothesis	2
Operational Definitions	2
Assumptions	2
Limitations	2
Summary	3
Chapter 2: Literature Review	4
Social and Emotional Benefits of Attendance	5
Health Benefits of Attendance	6
Cost Effective Benefits	7
Academic Achievement	8
Amount of Attendance	11
Early Literacy Skills	14
Types/Aspects of Early Literacy Skills	17
Screening for Early Literacy Skills	19
Oral Language	20
Reading Achievement	24
Chapter 3: Methods	29
Subjects	29
Variables	29
Instrumentation	29
Procedures	32

## Table of Contents (Continued)

Statistical Analysis	32
Chapter 4: Results	33
Chapter 5: Conclusions and Discussion	36
Summary of Findings	36
Conclusions Drawn by Results	37
Limitations/Recommendations for Future Research	38
References	40



## **Chapter 1**

### **Introduction**

#### **Need for Study**

Since attendance of an early childhood education program and early literacy skills have been shown to be beneficial in many different ways for students, further research on the amount of attendance could also be beneficial. There seems to be a lack of literature on the positive or negative impacts of the amount of time per day or per week of predetermined preschool attendance. Some research suggests that students will have better kindergarten readiness scores, including early literacy skills, and higher academic achievement the more they are exposed to an early childhood education program (Gibbs, Slate & Taylor, 2000; Iqbal, Khalid, Rashid, and Sanaullah, 2013). A study by Allensworth et al. (2014) shows that chronic absenteeism of preschool aged children results in lower scores on the kindergarten readiness assessment. This assessment includes testing social and emotional behaviors, as well as academic knowledge. The authors also suggest that the students may have had lower scores not because of the amount of attendance, but possibly because of why the students were absent. The present study aimed to determine if the predetermined amount of attendance has an impact on early literacy skills.

#### **Purpose**

The purpose of this study was to examine whether the predetermined amount of attendance of preschool per week had an effect on the present understanding of early literacy skills in preschool aged children.

## **Hypothesis**

Students with full-time enrollment in an early childhood education program will show a better understanding of early literacy skills than students who are enrolled in that same program for only half-time or part-time.

## **Operational Definitions**

Full-time was defined as five full days and half-time was defined as three full days or five half days. Part-time attendance was considered any attendance less than three full days or five half days. Early literacy skills was examined on abilities such as letter identification, listening comprehension, rhyming ability, phonological awareness, graphemic awareness, sequencing ability, oral language, name writing ability, and short-term memory.

## **Assumptions**

It was assumed that the measure used was an effective tool to assess early literacy skills. It was also assumed that teachers' ratings were recorded accurately and without bias. Another assumption of this study was that children attended preschool based on their predetermined schedule.

## **Limitations**

Unfortunately, this study had many limitations. One limitation is that long-term effects were not recorded or examined. Also, all results were from one single early childhood education center in rural Southern New Jersey, which cannot be applied to children in different areas. The results of this study also relied heavily on teacher observations and may have had a lack of construct validity of the measure for early literacy skills. The measure used to examine early literacy skills was composed by the

director of the facility and is not a universal measure. This study also did not include children who did not attend preschool nor was the total length of time of attendance, in years, factored into the results. Absenteeism was not factored into scheduling, which could have an impact on the development of early literacy skills (Allensworth et al., 2014). One strong limitation was also the lack of knowledge of the home literacy environment, which some research has shown to be important for the development of early literacy skills (Melhuish, Phan, Sammons, Siraj-Blatchford, Sylva, & Taggart, 2008). Also it is important to note that there was a very small sample size, with only forty-nine participants.

### **Summary**

Archival data was used to identify amount of attendance in the private ECE program. Early literacy skills were assessed by the child care center's previous academic reviews reported by teachers from 2010 to 2014. These skills included phonological awareness, letter identification, rhyming ability, listening comprehension, sequencing ability, oral language, memory, and graphemic skills. The teachers recorded the students' abilities by marking each category as 'mastered', 'progress shows', or 'not mastered'. These abilities were then averaged and correlated with the amount of predetermined attendance per week to search for any significant differences. The results showed that there was a significant difference between emergent literacy skills and full-time attendance in an ECE program, when compared to half-time and part-time.

## **Chapter 2**

### **Literature Review**

The benefits of early childhood education (ECE) and emergent literacy skills are abundant in literature. Attendance of early childhood education has shown to be beneficial for academic achievement in both short term and long term research (Aguilar & Tansini, 2012; Gibbs, Slate, & Taylor, 2000). Attendance of preschool has also shown to have positive impacts to social and emotional, behavioral, and even long-term health aspects of a child's life (Adelstein, Gormley, Newmark, Phillips, & Welti, 2011; D'Onise, Lynch, & McDermott, 2010). The literature further suggests that preschool is also cost-effective (Bjornstad, Drake, Edovald, Lee, & Pennucci, 2012). Compared to children with no preschool attendance, students with preschool attendance have shown higher kindergarten readiness and academic achievement (Gibbs, Slate & Taylor, 2000; Iqbal, Khalid, Rashid, and Sanaullah, 2013); Magnuson, Meyers, Ruhm, & Waldfogel, 2004).

Early literacy skills have been shown to be helpful for students in later years of their education and across all subject matters (Anthony, Burgess, & Lonigan, 2000). Early literacy skills have also been shown to produce reading achievement in short-term and long-term evaluations (Butler, Marsh, Sheppard, & Sheppard, 1985; Bracken, Fischel, & Spira, 2005; Cunningham & Stanovich, 1997). Early literacy skills may lead to long-term reading achievement as much as ten years later (Murdoch, Patton, & Sparks, 2014). Vacca (2008) even argues in a review of literature that "crime can be prevented if schools teach juvenile offenders to read" (p. 1055).

## **Social and Emotional Benefits of Attendance**

A study performed by Adelstein et al. (2011) examined over three hundred kindergarteners from Tulsa, Oklahoma to show the social and emotional benefits of preschool attendance. Thirteen hundred of which attended the preschool through the public school system and about three hundred attended a Head Start program. The researchers used the Adjustment Scales for Preschool Intervention to assess positive and negative behaviors including attention, focus, daydreaming, and sitting quietly. The scale also included aspects of relationships with teachers and other students. The scale was filled out by the kindergarten teachers and a supplemental questionnaire was completed by the parents. The results of this study show that children who attended the public school preschool or Head Start program exhibited less timidity. This study also shows that the children who attended the public school preschool program showed more attentiveness. The results of this study help to show that children who attend preschool show better social skills and more proper classroom behavior. Although these findings are significant, it is important to note that participants from the control group could have attended another type of early childhood education program. Also, the Tulsa public school prekindergarten program and the Tulsa Head Start may be a higher quality early childhood program compared to other private, Head Start, or public school district preschool programs.

A study by McClelland and Morrison (2003) aimed to investigate the development of specific 'learning-related' social skills during preschool, which included executive functioning, self-regulation, independence, and cooperation. These specific skills are important to examine because it helps to expose classroom behavior, which

could affect academic achievement. There were seventy-two participants from six different early childhood education programs which were all National Association for the Education of Young Children (NAEYC) accredited. This is important to note in that all centers accredited through NAEYC are considered high quality programs. Participants were tested once during three to four years of age and once between four to five years of age, which helped to show that learning-related social skills did develop during the preschool years. Teacher ratings of both time periods and predictions of the last time period also helped to show that individual differences do exist and can possibly be predicted over time.

### **Health Benefits of Attendance**

Another important benefit of preschool attendance has been shown to be long-term health behaviors (D'Onise et al., 2010). The authors examined general well-being, risk factors for diseases and the presence or absence of diseases in adults that attended different types of preschools. This study is important to mention because the authors used data from twelve different studies to compile the results. Some of these studies include the Perry Preschool study, Project CARE, Chicago Child Parent Center, and Head Start studies. Five to six of the studies found that adults who attended preschool were less likely to smoke cigarettes and marijuana. Three studies found an increased amount of physical activity for those who attended preschool. Six studies inspected mental health and well-being and all found that preschool attendance may have an effect on decreased depression symptoms. Although the data for chronic diseases did not support the attendance of preschool, the results could be inaccurate because of low sample sizes. It is also important to note that health outcomes could be more influenced

by education, availability of services, or genetic factors, but the results support the long term health benefits of preschool attendance.

### **Cost Effective Benefits**

Bjornstad et al. (2012) aimed to investigate whether early childhood education programs for children in lower socioeconomic statuses (SES) were cost effective. The researchers reviewed literature that defined the benefits of early childhood education programs and also investigated whether or not the effects could be explained by the ECE programs by comparing them to a control group. This study also included an examination of the High/Scope Perry Preschool study and the Chicago Child Parent Centers, which showed that preschool can lead to higher high school graduation rates, college enrollment, employment status, and decreases in dropping out of school, welfare use and crime rates. The researchers of this study state that in 2007 additional funding has been provided in the state of Washington for prevention of crime programs and the prison system, while the ECE programs consistently has had the same amount of funding for years. This study shows that ECE programs could be cost effective in that it saves money by resulting in less criminal activity and better educational outcomes. Although the results are important, the researchers caution that this is an estimation and may not be applied to all people or areas. Another review of literature by Reynolds & Temple (2008) also found similar results in that ECE programs could provide two to four dollars per invested dollar in the program. The authors' results confirm the results of Bjornstad et al. (2012) and Berlinski et al. (2008) which help to show that ECE programs are cost-effective.

In a longitudinal study, Goodman and Sianesi (2005) aimed to assess the long-term outcome of preschool attendance on social and cognitive skills and to investigate if these factors attributed to educational outcomes and amount of salary earned. This study found that preschool had a positive effect on educational outcomes; on average, test scores for preschool children were higher than those who did not attend preschool but tapered off and was considered weak by the age of sixteen. This study not only found no significance between social skills and preschool, but found a negative effect between the ages of seven and eleven, which contrasts to the results found by Adelstein et al. (2011). It is important to note that this study found a slightly significant difference between the amount of salary earned by the age of thirty-three of those who did and did not attend preschool.

### **Academic Achievement**

Although social-emotional and long term health benefits, along with long term cost effective results, show the benefits of preschool, academic achievement is of more importance to this study. Gibbs et al. (2000) used the Georgia Kindergarten Assessment Program (GKAP) scale to assess kindergarten readiness of about one hundred and seventy children, half of which attended preschool and half of which did not attend preschool. The scale includes communication, social, personal, physical, and logical-mathematical categories. The communication category included emergent literacy skills. Almost 94% of the children who attended preschool passed the GKAP, while only 84% of children passed who did not attend preschool and students whom attended preschool outperformed children whom did not attend preschool in every category. Although the results show an importance for preschool attendance, the communication and logical-



mathematical categories did not show a statistically significant difference. The researchers also further observed differences in the type of preschool; school district, Head Start, or private, but found no significant differences. These results differ from the social emotional results discovered by Adelstein et al. (2011). As momentous as these results appear, the researchers caution that individual differences or abilities before preschool were not measured in this study. Similar results were found in Uruguay by Berlinski, Galiani, and Manacorda (2008). Berlinski et al. (2008) found that preschool attendance had an effect on later academic achievement and also prevented grade retention, which helps to show that preschool can be cost effective.

Another study by Magnuson et al. (2004) showed significant differences in academic achievement in reading and mathematics between students that did and did not attend preschool up to the end of the first grade. The authors also found a reduction in grade retention of kindergarten in students who attended preschool compared to those who did not attend preschool, which supports the results found by Berlinski et al. (2008). This study did account for individual differences and other factors, unlike the previously mentioned study, which provides even more support for ECE programs. These results were even more profound for children in a low SES, which confirms additional literature by Bjornstad et al. (2012) that states that ECE programs were cost effective for students in a low SES. Similar results in reading and mathematics were also found by Lahaie, Magnuson, and Waldfogel (2006). These results were also significant for children of immigrants and gains from preschool were also evident in language aspects for children of immigrants.

A study by Iqbal et al. (2013) found similar results and conclusions about higher academic achievement for students who attended preschool compared to students who did not attend preschool. These results are also consistent with the results found by Bandy, Cryan, Sheehan, and Wiechel (1991). Iqbal et al. (2013) utilized more than five hundred participants that were separated into groups such as ‘preschoolers’ and ‘non-preschoolers’ and based on the amount of years of preschool attendance. The authors also found that social skills were higher for those students who attended preschool, which helps to validate the specific results found by Adelstein et al. (2011), but differs from the results found by Goodman & Sianesi (2005). It is also important to note that Iqbal et al. (2013) found that the more amount of years in attendance of an ECE program, the higher the academic achievement appeared which will be further discussed in the ‘Amount of Attendance’ section of this study.

A study by Aguilar and Tansini (2012) aimed to investigate not only the short-term academic benefits, but also the long-term benefits of ECE programs. Data was recorded for nine hundred households in the first and sixth years of school, for a pass or fail for the grade year. The researchers examined which factors lead to better academic performance. They tested preschool attendance, school factors, parents’ education, home life, and home literature experience. Of all these variables, preschool attendance seemed to have the biggest impact on academic performance. Along with preschool attendance, home life and school factors also had an effect on the first year of school. The sixth year performance was also affected by the attendance of preschool, along with previous academic performance. Since previous academic performance shows to be more

beneficial with preschool attendance, this study strengthens the need for preschool attendance for academic success.

### **Amount of Attendance**

There is a limited amount of literature to show whether the amount of attendance or the amount of exposure to an ECE program is beneficial. A study performed by Reynolds (1995) offers some evidence that the amount of attendance in years may not have a significant long-term impact, but there are some cautions and limitations. The researcher examined about eight hundred and eighty African American children to see whether no preschool, one year of preschool, or two years of preschool had an effect on academics and school adjustment. School adjustment was recorded by teachers and academics were assessed by a kindergarten readiness scale, mathematics, and an after kindergarten reading readiness scale. The results showed that children with some attendance of preschool outperformed children with no attendance of preschool in all measures, and even more significantly so for the academics factors. It is also important to note that academic achievement succeeded through until the second grade. The evening out of achievement after second grade was not because of a lower achievement by preschool students, but by a rise in achievement by those who did not attend preschool. From grades four to six, students that attended preschool once again demonstrated academic achievement over those who did not attend preschool. Although the results also show better academic performance for children that attended two years of preschool when compared to students who attended only one year of preschool, this was not to a significant degree and the slight difference only appeared during the kindergarten year. The participants of this study were only those that attended a Child Parent Center

program, which may not yield the same results for other types of ECE programs. Also, if the curriculum is the same yearly themes and topics, this could give an explanation as to why the second year was not as significant. Although there are limitations to this study, it is still important in that it shows that more exposure to preschool may lead to better academic achievement.

These previously mentioned results differ slightly than those found by Iqbal et al. (2013) because that found a difference in academic achievement based on the amount of years of attendance of preschool. These results are to be taken with caution in that the authors included five hundred and two participants; eighty-three of which attended two years of preschool and only two of which attended three years of preschool. This shows that the significance of the results could be skewed based on the low amount of participants representing more than one year of attendance of preschool.

A study by Tracey and Valenti (2009) also gives little support for more exposure to an ECE program, but still not to a significant degree. The researchers examined first grade reading achievement of two hundred and thirty two students divided into three groups; full-day preschool experience, half-day preschool experience, and no preschool experience. It is important to note that within this study the group that attended the full-day program all attended the same public school district program while the half-day students attended all different, undefined, preschool programs. This is an imperative limitation that could argue that the results could be attributed more to the type of program rather than the amount of attendance. The results showed that reading achievement was higher for students that attended a full-day ECE program when compared to students who did not attend an ECE program. The results further showed that full-day attendance

outperformed half-day attendance and half-day attendance outperformed no preschool attendance, but neither to a significant degree. Future research could include an examination of children with different amounts of attendance that attended the same, or even the same type, of ECE program.

Magnuson et al. (2004) found results to support the benefits of more exposure to different types of ECE programs. The authors examined students who attended a predetermined amount of preschool based on more than or less than part-time, defined as twenty hours per week. The results showed better academic achievement in reading and mathematics during kindergarten for students who attended preschool when compared to no preschool experience. The results also showed higher academic achievement for full-time attendance compared to part-time attendance. These differences existed in 'prekindergarten', 'day care', and 'preschool', but not for 'center-based day care' or 'preschool participation'. It is important to note that type and classification of an ECE program was defined by parents, who may not completely understand the differences of ECE programs. Future studies could aim to examine the differences of these skills throughout properly defined and verified types of ECE programs. Although this study may not show that all types of ECE programs show benefits in school readiness for full-time attendance, it does offer some support for the amount of time exposed to an ECE program.

The literature may be lacking strong support for or against the amount of attendance of ECE programs, but a strong research report by Allensworth et al. (2011) examined twenty-six thousand students enrolled in Chicago's ECE programs over a period of four years. They found that chronic absenteeism is more common in African

American children and children in a low socioeconomic status, and is also more common in preschool and lower grade levels. Children with the lowest skills entering preschool were the students whom benefitted greater for more attendance, but these students were also more likely to be absent. Preschool students with more absences in the school year scored worse on the kindergarten readiness scale when compared to students with fewer absences. The letter recognition portion of the kindergarten readiness scale was recorded with the most differences depending on the amount of attendance, when compared to the mathematics and social-emotional portions. According to Allensworth et al. (2011) “Differences across attendance levels were largest on the letter recognition subscale; regular attenders knew about 90 percent of the letters and sounds assessed, while students who missed between 10 and 15 percent of school knew only 84 percent, and those who missed the most school only knew about 68 percent.” (p. 17). Similar results were found by Justice, Logan, Petrill, Piasta, and Schatschneider (2011) in expressive language of preschoolers within a high quality ECE program. Although the results from Justice et al. (2011) also provide some support for more exposure to an ECE, it is also important to note that the authors did not decipher predetermined attendance from absenteeism. The results from Allensworth et al. (2011) show that early literacy skills may be impacted by the amount of attendance in preschool, but further research is needed to determine if the reasons the children were absent is not more of a factor than attendance itself.

### **Early Literacy Skills**

Dennis and Horn (2011) state “emergent literacy reflects the intertwined knowledge about reading, writing, and language that is gained prior to formal literacy and reading instruction” (p. 30). They also define specific skills for early literacy; oral

language, print awareness, letter knowledge, and phonological awareness. The authors state that the National Reading Panel found that children between the ages of three and five with more early literacy skills exhibited better reading skills in later grades. The authors stress the importance for reading skills because other literature states that lower reading levels could result in a wider range of school subject failure, more delinquency, and even drug abuse. The authors offer suggestions to early childhood educators while reading books to children; start a conversation, ask questions, print referencing, and recall parts of the story. The authors also suggest getting parents involved in early literacy development at home is important, as well as in a classroom setting. Haggard (2014) also defined some skills for early literacy such as phonological awareness, print awareness, oral language, beginning letter knowledge, and the desire to learn and enjoy literacy activities. These certain aspects of emergent literacy skills all agree with Dennis and Horn (2011) but is also expanded upon by adding the desire to learn and enjoyment of literacy activities. Baroody and Diamond (2010) found that interest of literacy activities had a positive impact on letter-word identification and alphabet knowledge, which provides additional support for the advanced development of early literacy skills based on desire, interest, and/or enjoyment of literacy activities.

As the classroom environment has shown to help develop early literacy skills, it is important to determine which aspects of the classroom help to develop these skills. Guo, Justice, Kaderavek, and McGinty (2012) aimed to explore whether the physical environment or psychological environment of ECE programs had a positive effect on the development of early literacy skills. The physical literacy environment includes a rich and diverse library, books at all centers including the science center, along with a writing

center equipped with multiple writing tools and examples of print material. The psychological environment included teacher instruction and peer interactions. Literacy achievement was assessed through letter identification, ability to write their names, and some aspects of the Phonological Awareness and Literacy Screening-Pre-k scale. The results of this study show that the best outcome of literacy for children is a mix of both the psychological and physical environment. This study found no significant gains of alphabet knowledge with the ability to write their own name, which differs from the results found by Lonigan and Puranik (2012). This study also found that children showed less literacy progress with a strong physical environment but a weaker teacher instruction, or psychological environment. This study helps to show that the classroom environment, along with supportive instruction can help a student achieve early literacy skills.

Although the classroom environment has shown to have positive impacts on developing emergent literacy skills, research further suggests that the home environment may also play a part. A study by Melhuish et al. (2008) aimed to investigate how important the preschool environment and home learning were to long-term literacy and numeracy achievement. Children were assessed at five years of age by completion of the British Ability Scales II, which included verbal comprehension, early number concepts, block building, picture similarities, vocabulary, the Letter Recognition Test, and certain aspects of the Phonological Awareness assessment. Students were again assessed by age seven on reading and mathematics achievement in school by their teachers. Parents were also asked a number of questions about the child; home life, parents' education, routines, bed times, preschool experience, and visits to the library or frequency of reading to their



children. The results of this study show that socioeconomic status and mothers' education have an impact on educational achievement, but even stronger of a relationship is the home learning environment. Preschool experience also had a positive effect on the five and seven year assessments. The results of this study help to show the short-term and long-term benefits of preschool on literacy development and reading level. The home literacy environment was evaluated by number of books read, playing with numbers, being taught letters, painting and drawing, and songs/poems. All of these factors are part of a daily practice at most ECE programs, which further supports achieving reading skills through preschool. A similar study by Bennett, Martin, and Weigel (2010) also helps to show some home environment aspects which can be transferred to a classroom environment as well. This study showed that stress and family resources could have an impact on early literacy skills, but the strongest results of this study show that the home routine impacts emergent literacy skills the most. This also provides support for development of early literacy skills through an ECE program in that there are normally routine schedules each day.

### **Types/Aspects of Early Literacy Skills**

Anthony et al. (2000) aimed to investigate the relationships between print knowledge, phonological awareness, and oral language along with the relationship of these early literacy skills between preschool and later decoding abilities. Almost two hundred children from thirteen different private preschools were divided into two groups. A younger group of two to five year olds and an older group of four to five year olds were assessed through a number of oral language, phonological sensitivity, nonverbal

cognitive abilities, letter knowledge, and decoding tasks standardized tests. The phonological sensitivity tests included tasks such as rhyming, blending and elision, and alliteration oddities. The results of this study show that environmental print and print concepts were evident in the preschool years but showed no significant link to future decoding success. Oral language, phonological sensitivity and more specifically, letter knowledge appeared to be the most important factors in students for the ability of decoding. Lonigan and Whitehurst (1998) also suggest that these three factors are the most important while discussing early literacy skills. It is also important to note that while the authors found a significant impact on phonological sensitivity from late preschool to later grades, there was no such evidence between early and late preschool. This is important because it shows that the development of phonological awareness is evident within the preschool level. It also shows that oral language, phonological awareness, and letter knowledge have an impact on later decoding and reading success, which is similar to the results found by Bracken et al. (2005). Costa et al. (2013) also found similar results that showed that phonological awareness, letter knowledge, and oral language have a positive impact on reading achievement, even longitudinally, up to fifth grade of French children. This study is important to mention because not only does it agree with previous literature, it also offers some support of these results in different areas or within different languages.

Another study that may show universality by Kim and Petscher (2011) investigated phonological awareness, letter identification, rapid serial naming, and vocabulary in over two hundred Korean children. The results of this study show that letter identification had the most impact on word reading and spelling ability. Although

vocabulary had a weak effect, phonological awareness and rapid serial naming showed some effect on later spelling and reading achievement. These results agree with previous literature that shows that phonological awareness and letter identification are important factors for early literacy skills (Bracken et al., 2005; Anthony et al., 2000) This study is important to mention because while it agrees with other literature, it also offers some support for the universality of these results on different languages, such as Korean.

### **Screening for Early Literacy Skills**

For this study it is important to not only consider the learning and effects of early literacy skills, but also to confirm how the skills are identified and measured. Konold and Townsend (2010) aimed to investigate if the Phonological Awareness Literacy Screening for Preschool (PALS-PreK) measure was accurate and effective for measuring early literacy skills in students aged four to five years old. The authors utilized PALS-PreK with just over four thousand five hundred preschool students. The assessment can be administered by teachers with little to no training and consists of eight categories; upper case and lower case letter knowledge, letter sounds, beginning sound awareness, print and word awareness, and rhyme and nursery rhyme awareness, and name writing. The authors found that all the categories can accurately assess early literacy skills. The authors also provide additional verification for the importance of letter knowledge and phonological awareness, which agrees with the results found by Dennis and Horn (2011) and Anthony et al. (2000). A similar study by Abbott, Aguayo, Good, Kaminski, and Latimer (2014) aimed to assess the validity and reliability of the Preschool Early Literacy Indicators (PELI) measure. The measure includes five activities based on ten different

storybooks; phonological awareness, alphabet knowledge, oral language, comprehension, and vocabulary. The authors, along with previous studies, found the measure to be accurate and reliable. This helps to show that phonological awareness, letter identification, comprehension, and oral language can be effectively used to assess early literacy skills. It also offers some evidence that knowledge of rhyming words and name writing ability may also be factors to assess early literacy skills.

### **Oral Language**

Oral language, along with phonological awareness, has been shown to be an important factor for early literacy skills (Anthony et al., 2000; Bracken et al., 2005; Butler et al., 1985; Dennis & Horn, 2011; Melhuish et al., 2008). Justice and Pullen (2003) also define oral language and phonological awareness, along with print awareness, the most crucial factors for early literacy skills and later reading achievement. A strong longitudinal study of over six hundred students by Storch and Whitehurst (2002) aimed to investigate code-related skills and oral language on later reading achievement levels. The authors define 'code-related skills' as a mixture of phonological awareness, print concepts, and emergent writing skills. Early literacy skills were assessed once every year from preschool to fourth grade. In preschool and kindergarten students were assessed with a school readiness scale specifically measuring early literacy skills; sections involved the categories of auditory, memory, print concepts, and writing and drawing concepts. The authors assessed oral language by five different tests that measured receptive and expressive language and vocabulary. A plethora of standardized tests were

used to measure reading comprehension and reading accuracy including, the SAT Word Reading, Word Attack, and WRAT Word Reading.

The results of this previously mentioned study by Storch and Whitehurst (2002) show that there is a strong relationship between code-related skills and oral language during preschool. During the first and second grades, code-related skills but not oral language, is a significant factor on reading achievement. The authors suggest that poor reading comprehension could lead to many difficulties in many different subject areas, which is also found in other literature and discussed further in this study under the 'Reading Achievement' section. After the second grade, oral language appears again as a strong predictor of reading achievement. This study is important in that it helps to show that oral language and early literacy skills combine to form a predictor of later reading success. It also helps to show the strong relationship between oral language and early literacy skills during preschool.

A study by Barron, Brunello, and Frijters (2000) aimed to investigate if home literacy and interest in literacy had an impact on oral vocabulary, phonological awareness, and written language. Written language was defined as the ability to name and identify sounds of letters. Literacy interest was assessed by children's reports of 'liking' or 'disliking' literacy activities, such as independent or group reading. The participants also reported 'liking' or 'disliking' the activities as 'a little' or 'a lot'. Home literacy was not only assessed by parents' questionnaires, but also parent quizzes that involved identifying correct or incorrect titles of children's books. The results of this study show that home literacy and literacy interest accounted for significant differences in written

language, but even more strongly for oral vocabulary. Baroody and Diamond (2010) and Haggard (2014) also found similar results with interest in literacy. Also phonological awareness, but not oral language, was a mediator between home literacy and the ability of naming letters and sounds of letters. Home literacy was found to have an impact on oral receptive vocabulary, but not on written language. The results of this study found a slightly significant relationship between literacy interest and the ability to name and identify sounds of letters. The results also showed no relationship between home literacy and literacy interest. This study helps to show that early literacy skills do play a part on oral vocabulary and writing skills. It also shows the importance of home literacy on oral language; which could be universal for the same activities in an ECE program. For example, the amount of books at home and the amount of books read to the child per week were used to assess home literacy, which could also be argued as similar aspects carried out at a preschool environment.

A study by Bowyer-Crane et al. (2008) aimed to improve language and early literacy skills with two different interventions; phonology with reading and oral language. Just over one hundred and fifty students who were defined as struggling in verbal reasoning skills and vocabulary were divided into two groups for the school based interventions. The results showed that the phonology with reading group improved their decoding skills after the intervention. The results also showed improvement for the oral language group in vocabulary and grammatical skills. The authors state that the results of both interventions are important in that all of the improvements of skills are critical for reading comprehension. Although almost half of all participants still required need after the interventions, the results show that phonological awareness and oral language can

have an impact on early literacy skills. These results provide some support that these early literacy skills are also important for later reading skills. This also offers more support to the importance of oral language on early literacy skills and later reading achievement. A similar study by Chin, Hutchinson, Reed, and Xu (2013) also aimed to improve language and early literacy skills through one instructional intervention for preschool aged children. The intervention included daily explicit instruction on oral language, phonological awareness, letter identification, and print awareness based on the school's curriculum. The results of this study, similar to Bowyer-Crane et al. (2008), showed that there was a significant difference between the pre- and post-tests which help to show that early literacy skills, including oral language, can have an impact on later academic success.

A strong study by Fabiano et al. (2006) aimed to investigate if oral language had an impact on reading achievement in bilingual speaking children. This study included over fifteen hundred students from kindergarten to third grade who predominantly spoke Spanish. Participants retold a story in their own words in either English, Spanish, or both English and Spanish. Students were also assessed on reading comprehension and reading word effectiveness. The results of this study show better oral language skills in both Spanish and English led to higher reading achievement. This study helps to show that oral language skills in Spanish have an impact on reading in Spanish and these results also reveal the same for English. This study is important in that it not only shows that English oral language has an effect on English reading achievement, but that there may be universality among other languages.

## **Reading Achievement**

Butler, Marsh, Sheppard, & Sheppard (1985) performed a longitudinal study to assess which skills in kindergarten were relevant for later reading success up to the sixth grade. The authors defined six predictive factors for reading achievement along with parents' language and gender; psycholinguistic abilities, figure drawing, language, rhythm, perceptual motor skills, and spatial/form perception. Of all the predictive factors, language was the strongest predictor for future reading achievement. Language was assessed by the students' abilities to retell a story in their own words, repeating words, sentences, and paragraphs, and distinguishing between word pairs. Psycholinguistic abilities, spatial form/perception, and figure drawing were all significant factors as well. It is also important to note that the researchers found poor reading skills in early grades resulted in poor reading skills in older grades. Although the significance was mostly for first and second grades, this study is important to show that early literacy skills, specifically language, play a major role in later reading skills.

Bracken et al. (2005) aimed to investigate which other factors lead to long-term reading achievement. The researchers used almost one hundred and fifty students who showed poor reading achievement in the first grade. The Developing Skills Checklist was used to assess early literacy skills in kindergarten. Phonological awareness, print knowledge, letter knowledge, and emergent writing skills were assessed in this scale, including a different vocabulary scale, and observed behavior in the classroom as well. Then at the end of first grade, reading achievement was rated by standardized tests. At this time students were also tested with vocabulary scales, reading assessments, and tests



of expressive and receptive language skills. Students were assessed again in the second, third, and fourth grades with similar scales and tests, but with increasingly advanced assessments of skills and abilities related to reading, vocabulary, and language. The results of this study show that some factors were significant in predicting reading achievement growth after showing poor reading skills in kindergarten; oral language, print knowledge, letter and word identification, phonological awareness, and behavior in the classroom. This study is important to show that early literacy skills can help a struggling student achieve higher standards for reading in future grades. It is also important to note the specific defined aspects of early literacy skills (oral language, phonological awareness, letter and word identification, print knowledge) are important in long-term reading success.

A study performed by Catts, Fey, Tomblin, and Zhang (2001) offers additional support for phonological awareness, letter identification, and even other predictive factors on later reading achievement. Out of over six hundred participants, three hundred and twenty eight were identified as having a language or cognitive impairment. Students were first assessed in kindergarten with a variety of tests that measured language abilities, narration, phonological awareness, letter identification, and nonverbal cognitive skills. Then in the second grade, children were assessed on reading achievement. The results of this study show that phonological awareness, rapid naming, letter identification, sentence imitation, and mother's education are all predictive factors for later reading achievement. These results agree with that found by Bracken et al. (2005), but exclude the classroom behavior and oral language predictors, which strongly differ from the importance of the oral language results found by Butler et al. (1985).

It has been shown that early literacy skills are important predictors for later reading success, but only to a small long-term period of one to six years (Bracken et al., 2005; Anthony et al., 2000). Murdoch et al. (2014) aimed to investigate reading achievement in students in first grade and followed them all the way up to the tenth grade. Fifty four high school students were assessed in the first grade by spelling, listening comprehension, vocabulary, and cognitive ability. In the tenth grade, students were assessed by cognitive ability, language, reading, print exposure, and general knowledge. The results of this study show that early reading skills in first grade were associated with tenth grade declarative knowledge, and reading and language skills. These results are important because it shows how critical early literacy skills are when considered in a larger long-term review. Children that have excellent early literacy skills continue to show this excellence as far as ten years later.

A similar study by Cunningham & Stanovich (1997) also found similar results when comparing first grade reading level on eleventh grade outcomes. This study also references *Matthew Effects* recognized by Stanovich (1986) which refers to a 'rich get richer and poor get poorer' mentality about education achievement based on reading skills. This similar effect was also found by Butler et al. (1985) and Storch and Whitehurst (2002). It is hypothesized that stronger readers may read more, challenge themselves more, and then excel not only in reading, but other educational aspects. Stanovich (1986) claims that "The concept of Matthew effects springs from findings that individuals who have advantageous early educational experiences are able to utilize new educational experiences more efficiently" (p. 37). This helps to show the long term benefits of early literacy skills within an educational setting. A review of literature by

Reschly (2010), who also references *Matthew Effects*, suggests that difficulties with reading may result in grade retention, referrals to special education, and lower high school graduation rates. This helps to show how important reading achievement can be on a students' academic career, especially in long-term outcomes.

Reading achievement has been shown to be beneficial in educational aspects, but it is important to inquire if other aspects could show a significant link as well. Vacca (2008) argues in a review of literature that “crime can be prevented if schools teach juvenile offenders to read” (p. 1055). First the author explains the low reading levels of juvenile offenders; the average age of a juvenile offender is at about a ninth grade reading level, while their ability is at a fourth grade reading level. The author also notes that seventy percent of people with the lowest literacy skills have no stable employment. This helps to show the long-term importance of reading achievement in life after formal education. The author makes a claim that, due to a large amount of literature on this topic, that “literacy deficits are a major cause of crime” (p. 1056). The literature further suggests that academic achievement is a more predictive factor for habitual offenders when compared to IQ. This helps to show that reading achievement can not only linked to future academic success, but also to other aspects later in life. Reading achievement can help reduce criminal misconduct of juvenile offenders and help adults to find more stable career opportunities.

There are many benefits of attendance of an ECE program, which is copiously recorded throughout literature. Preschool attendance can have a positive effect on social, emotional, health, and more importantly, academic aspects in short term and long term outcomes. Early literacy skills are well defined and there are many suggestions to build

upon these types of skills. Early literacy skills, including oral language, can have a positive effect on reading achievement and academic achievement across all subject matters and in the short and long term. Although the literature may be lacking on the argument for or against the predetermined amount of attendance per week, there are a few studies that have offered some support for the negative outcomes of absenteeism on the amount of years of preschool attendance, but this research is weak, unexplained, and scarce. For example, children with higher rates of absenteeism may suffer in academic achievement based on the reason why they are chronically absent, not just solely based on attendance itself. Future studies are needed to help better understand the academic impact of the amount of predetermined attendance of ECE programs.

## **Chapter 3**

### **Methods**

#### **Subjects**

All subjects attended the same private early childhood education center in New Jersey. All participants that attended during the prekindergarten year from 2010 to 2015 were included in this assessment. There were a total of forty nine participants, twenty two of which were female and twenty seven of which were male. All participants were aged between thirty eight and sixty three months old. Of the forty nine participants, the majority were Caucasian (34), with eight African Americans, six Hispanic children, and one Pacific Islander. Twelve children participated in the Child Care Network (CCN) program, which defines state assistance with paying for child care. For this study, the children on CCN were considered to be of low SES.

#### **Variables**

Predetermined attendance (per week) was recorded based off of the contract that was filled out by the parents at the time of enrollment. Full-time was defined as five full days and half-time was defined as three full days or five half days. Part-time attendance was considered any attendance less than three full days or five half days.

#### **Instrumentation**

The 'PreK Academic Review' was used to assess early literacy skills. This academic review was composed by the owner of the facility based on specific educational milestones defined by The National Association for the Education of Young Children (NAEYC). 'Basics of Developmentally Appropriate Practice: An introduction for Teachers of Children 3 to 6' and 'Developmentally Appropriate Practice in Early

Childhood Programs: Serving Children From Birth through Age 8' by Bredekamp and Copple (2009) were two books that were used to help develop the scale. The reviews are recorded from observations and completion of tasks by primary teachers and reviewed by the director. Two out of ten categories will be recorded; 'Literacy' and 'Language'. The categories were scored based on a 'mastered', 'progress shown', or 'not mastered' scale. The 'Literacy' section included 'identifying beginning sounds', 'identifying letters and sounds', 'matching spoken wording that begin with the same letter', 'demonstrates an understanding of rhyming words', 'names first letter of printed words', 'claps or taps for each syllable', 'listens to a book, story, or poem', 'predicts what will happen next in a story', 'retells story in their own words', 'recognizes own name', 'recognizes a group of letters as a word', and 'attempts to write own name'. The 'Language' section contained 'demonstrates understanding of new vocabulary words by following directions', 'uses new vocabulary words in a conversation', 'repeats short rhyme or song', 'speaks in 5 to 6 word sentences', and 'uses verbal commands to claim things'.

Since the 'PreK Academic Review' was made by the owner of the owner of the center, there may be some issues with reliability and validity of the scale. Konold and Townsend (2010) aimed to investigate if the Phonological Awareness Literacy Screening for Preschool (PALS-PreK) measure was accurate and effective for measuring early literacy skills in students aged four to five years old. The authors utilized PALS-PreK with just over four thousand five hundred preschool students. The assessment can be administered by teachers with little to no training and consists of eight categories; upper case and lower case letter knowledge, letter sounds, beginning sound awareness, print and word awareness, and rhyme and nursery rhyme awareness, and name writing. The

authors found that all the categories can accurately assess early literacy skills. The authors also provide additional verification for the importance of letter knowledge and phonological awareness, which agrees with the results found by Dennis and Horn (2011) and Anthony et al. (2000). All of these areas are also included in the 'PreK Academic Review' utilized in this study. The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) scale is a widely used assessment in the public school system that examines early literacy and reading skills in children (Good & Kaminski, 2011). This tool is effective from kindergarten to the sixth grade and has shown to be a valid measure (Good & Kaminski, 2011). DIBELS includes reading comprehension, language and vocabulary skills, fluent reading, phonics, phonemic awareness, and letter sounds. (Good & Kaminski, 2011). Language skills, letter sounds, and phonemic awareness are all also included in the 'PreK Academic Review' utilized in this study.

Similar to results found by Konold and Townsend (2010), Abbott, Aguayo, Good, Kaminski, and Latimer (2014) aimed to assess the validity and reliability of the Preschool Early Literacy Indicators (PELI) measure. The measure includes five activities based on ten different storybooks; phonological awareness, alphabet knowledge, oral language, comprehension, and vocabulary. The authors, along with previous studies, found the measure to be accurate and reliable. This helps to show that phonological awareness, letter identification, comprehension, and oral language can be effectively used to assess early literacy skills. It also offers some evidence that knowledge of rhyming words and name writing ability may also be factors to assess early literacy skills.

## **Procedures**

Archival data from the ‘Literacy’ and ‘Language’ portions of the ‘PreK Academic Review’ and information regarding the predetermined schedule per week were collected. Since only archival data was used, there were no risks for participation. All children enrolled in the child care center, that had an academic review completed for the prekindergarten level, were included in this study. Gender, ethnicity, age, and the amount of time enrolled in the child care center were recorded. Child care network, which is a subsidy for low socioeconomic families was also recorded.

## **Statistical Analysis**

Correlations were analyzed to understand if there was a link between the amount of predetermined attendance per week and each skill listed under the ‘Literacy’ and ‘Language’ portions of the ‘PreK Academic Review’. Averages were also calculated for the total amount of scores on both the ‘Literacy’ and ‘Language’ categories of the review. After the averages were found, they were then analyzed with the schedule of each participant with a one way ANOVA. Post Hoc (Tukey’s HSD) and Kruskal-Wallis tests were also performed and analyzed on the predetermined amount of attendance and the average literacy and language scores. Although gender, ethnicity, age, the amount of time enrolled in the child care center and SES were all recorded there were not enough participants in each group to perform any statistical analyses.



## Chapter 4

### Results

The stated hypothesis was that students with full-time enrollment in an early childhood education program will show a better understanding of early literacy skills than students who are enrolled in that same program for only half-time or part-time. All participants attended the same private early childhood education center in New Jersey. All participants that attended during the prekindergarten year from 2010 to 2015 were included in this study. There were a total of forty nine participants, twenty two of which were female and twenty seven of which were male. All participants were aged between thirty eight and sixty three months old. Of the forty nine participants, the majority were Caucasian (34), with eight African Americans, six Hispanic children, and one Pacific Islander. Twelve children were considered to be of low SES.

There were eleven participants in both the part and half time groups and twenty-seven participants in the full time group. Overall, the average scores on the literacy portion were positively correlated with the amount of attendance,  $r(47)=.419$ ,  $p=.003$ , but not for oral language. Correlations were found significant ( $p=.05$ ) for schedule and the following sections of the early literacy portion of the 'PreK Academic Review': 'identifying letters and sounds',  $r(47)=.317$ ,  $p=.028$ , 'matching spoken wording that begin with the same letter',  $r(47)=.305$ ,  $p=.035$ , and 'predicts what will happen next in a story'  $r(47)=.357$ ,  $p=.013$ . There was also a significant difference between schedule and the 'repeats short rhyme or song',  $r(47)=.325$ ,  $p=.024$ , identifier within the oral language section of the 'PreK Academic Review'. Even more importantly, two abilities within the review were found to be strongly positively correlated ( $p=.01$ ) with the amount of

attendance per week; 'claps or taps for each syllable in a word'  $r(47)=.386$ ,  $p=.007$  and 'retells story in their own words'  $r(47)=.392$ ,  $p=.006$ . Relationships between schedule and 'identifying beginning sounds', demonstrates an understanding of rhyming words', 'names first letter of printed words', 'listens to a book, story, or poem', 'recognizes own name', 'recognizes a group of letters as a word', and 'attempts to write own name' were not significant at the .05 level. For the language portion of the review, relationships between schedule and 'demonstrates understanding of new vocabulary words by following directions', 'speaks in 5 to 6 word sentences', and 'uses verbal commands to claim things' were also not significant at the .05 level.

An analysis of variance showed that the effect of schedules and the average score of emergent literacy skills was significant,  $F(2,46)= 4.91$ ,  $p=.012$  but did not (.142) for the average score of oral language. Post hoc analyses using the Tukey's HSD post hoc criterion for significance showed that there was a difference of early literacy skills for full time and part time attendance ( $p=.009$ ), but not for half time and part time attendance ( $p=.342$ ). There was also no significant difference between full time and half time attendance in early literacy skills ( $p=.348$ ). No significant differences existed between amount of attendance per week and average scores for oral language. Upon further review, The Kruskal-Wallis revealed significant differences for schedule and average scores of early literacy skills at the .017 level, but no significant differences were revealed for schedule and average scores of oral language.

The results of this study showed that full-time attendance improved emergent literacy skills. Half-time or part-time attendance was shown to have no significant differences. It is also important to note that no significant differences existed for any

level of attendance and oral language. Although there were no differences for oral language or less than full-time attendance, this study still makes an important contribution to the literature. It is also important to note that while age, ethnicity, gender, and SES were recorded there were not enough participants in each group to perform any statistical analyses. The results of this study help to show that full-time attendance in an ECE program is important while discussing early literacy skills.

## Chapter 5

### Conclusions and Discussion

#### Summary of Findings

The purpose of this study was to examine whether the predetermined amount of attendance of preschool per week had an effect on the present understanding of emergent literacy skills in preschool aged children. The hypothesis was that students with full-time enrollment in an early childhood education program will show a better understanding of early literacy skills than students who are enrolled in that same program for only half-time or part-time. The results of this study showed that full-time attendance improved emergent literacy skills. Half-time or part-time attendance was shown to have no significant differences. It is also important to note that no significant differences existed for any level of attendance and oral language. Although there were no differences for oral language or less than full-time attendance, this study still makes an important contribution to the literature. The results of this study help to show that full-time attendance in an ECE program is important.

All items of phonological awareness, except one, on the 'PreK Academic Review' were found to have a significant difference between full-time and all other attendance. Interestingly enough attendance had no impact on 'identifying beginning sounds', but there was an impact for 'identifying letters and sounds', 'matching spoken wording that begin with the same letter'. Phonological awareness has been shown to be an important aspect of emergent literacy skills (Dennis & Horn, 2011; Guo et al., 2012; Haggard, 2014). There was also a very significant difference with full-time attendance and 'claps or taps for each syllable of a word'. Although no significant differences existed with the

overall oral language section, some skills were found to be significant with full-time attendance. These skills included 'predicts what will happen next in a story', 'repeats short rhyme or song', and 'retells story in their own words'.

### **Conclusions Drawn by Results**

While Lonigan and Whitehurst (1998) claimed that oral language, phonological awareness, and letter knowledge were the three main factors while discussing emergent literacy skills, Anthony et al. (2000) and Costa et al. (2013) suggest that the three factors are the most important predictors for later reading achievement. This helps to show the significance of phonological awareness in this study, which has been shown to improve with full-time attendance. Kim and Petscher (2011) also suggest that phonological awareness has an effect on later reading achievement, as well as spelling. Schedules were not found significant while discussing overall oral language and print awareness, which Justice and Pullen (2003) identify as two out of three important predictors for later reading achievement. The third factor was identified as phonological awareness, which helps again to show the significance of this study. It seems the literature may be in agreement with the importance of phonological awareness, especially for later reading achievement. This study may suggest that full-time attendance, when compared to half-time or less, may help to increase reading achievement.

Butler et al. (1985) suggested that language was the single most important predictor for later reading achievement. The 'retells story in their own words' skill was found very significant with a full-time schedule within this study and was categorized as language in the study performed by Butler et al. (1985). Although overall oral language was not found to be significant with more attendance, the 'repeats short rhyme or song'

skill in this study was found to be significant, which would also be categorized as language by Butler et al. (1985). This study also found full time attendance to be very significant with the 'claps or taps for each syllable' skill. A study by Cho (2009) offers some support for the importance of syllable knowledge. This study found syllable identification to be linked with phoneme and letter knowledge (Cho, 2009).

The 'predicts what will happen next in a story' skill from this study may include such skills as language, memory, and sequencing and could help to enhance reading comprehension (Bryant, Cain, & Oakhill, (2004). Reading achievement in early years has been shown to improve language and reading achievement in high school (Murdoch et al., 2014). Difficulties with reading could lead to special education referrals, grade retention, lower high school graduation rates, and even higher juvenile delinquency (Reschly, 2010; Vacca, 2008). All of these factors help to show that emergent literacy skills are imperative because they build better reading skills, which leads to future educational success. This study helps to show that full-time attendance in an ECE center could ultimately lead to a more successful life.

### **Limitations/Recommendations for Further Research**

Unfortunately, this study had many limitations. One limitation is that long-term effects were not recorded or examined. Future research could include long term research, which would strengthen the results. Also, all results were from one single early childhood education center in rural Southern New Jersey, which cannot be applied to children in different areas. The results of this study also relied heavily on teacher observations and may have a lack of construct validity of the measure for early literacy skills. The measure used to examine early literacy skills was composed by the director of the facility and is

not a universal measure. Future studies could include children of all ethnic, cultural, SES, and locations with reliable and valid measures.

This study also did not include children who did not attend preschool nor was the total length of time of attendance, in years, factored into the results. Absenteeism was not factored into scheduling, which could have an impact on the development of early literacy skills (Allensworth et al., 2014). One strong limitation was also the lack of knowledge of the home literacy environment, which has been shown to be important for the development of early literacy skills (Melhuish, et al., 2008). Also it is important to note that there was a very small sample size, with only forty-nine participants. Future studies should aim at recording absenteeism and the home literacy environment while including children who have had no ECE program experience with a larger sample size.

## References

- Abbott, M., Aguayo, K. B., Good, R. H., Kaminski, R. A., & Latimer, R. (2014). The preschool early literacy indicators validity and benchmark goals. *Topics in Early Childhood Special Education, 34*(2), 71-82. doi:10.1177/0271121414527003.
- Adelstein, S., Gormley Jr, W. T., Newmark, K., Phillips, D. A., & Welti, K. (2011). Social-emotional effects of early childhood education programs in Tulsa. *Child Development, 82*(6), 2095-2109.
- Allensworth, E. M., Ehrlich, S. B., Gwynne, J. A., & Pareja, A. S. (2014). Preschool Attendance in Chicago public schools: Relationships with learning outcomes and reasons for absences. Retrieved from <http://ccsr.uchicago.edu/sites/default/files/publications/Pre-K%20Attendance%20Report.pdf>
- Aguilar, R., & Tansini, R. (2012). Joint analysis of preschool attendance and school performance in the short and long-run. *International Journal of Educational Development, 32*(2), 224-231.
- Anthony, J. L., Burgess, S. R., & Lonigan, C. J. (2000). Development of emergent literacy and early reading skills in preschool children: Evidence from a latent-variable longitudinal study. *Developmental Psychology, 36*(5), 596-613. doi:10.1037/0012-1649.36.5.596
- Bandy, I. G., Cryan, J. R., Sheehan, R., & Wiechel, J. (1991). Factors contributing to success in elementary schools: Research findings for early childhood educators. *Journal of Research in Childhood Education, 6*(1), 66-75.
- Baroody, A. E., & Diamond, K. E. (2012). Links among home literacy environment, literacy interest, and emergent literacy skills in preschoolers at risk for reading difficulties. *Topics in Early Childhood Special Education, 32*(2), 78-87.
- Barron, R. W., Brunello, M., & Frijters, J. C. (2000). Direct and mediated influences of home literacy and literacy interest on prereaders' oral vocabulary and early written language skill. *Journal of Educational Psychology, 92*(3), 466-477. doi:10.1037/0022-0663.92.3.466
- Bennett, K. K, Martin, S. S., & Weigel, D. J. (2010). Pathways to literacy: Connections between family assets and preschool children's emergent literacy skills. *Journal of Early Childhood Research, 8*(1), 5-22.
- Berlinski, S., Galiani, S., & Manacorda, M. (2008). Giving children a better start: Preschool attendance and school-age profiles. *Journal of Public Economics, 92*(5), 1416-1440.



- Betts, J., Heistad, D., Marston, D., Missall, K., McConnell, S., Pickart, M., . . . Sheran, C. (2007). Examination of the predictive validity of preschool early literacy skills. *School Psychology Review, 36*(3), 433-452.
- Bjornstad, G., Drake, E., Edovald, T., Lee, S., & Pennucci, A. (2012). Economic evaluation of early childhood education in a policy context. *Journal of Children's Services, 7*(1), 53-63. doi:10.1108/1746666121121367
- Bowyer-Crane, C., Carroll, J. M., Duff, F. J., Fieldsend, E., Gotz, K., Hulme, C., . . . Snowling, M. J. (2008). Improving early language and literacy skills: Differential effects of an oral language versus a phonology with reading intervention. *Journal of Child Psychology and Psychiatry, 49*(4), 422-432.
- Bracken, S., Fischel, J. E., & Spira, E. (2005). Predicting improvement after first-grade reading difficulties: The effects of oral language, emergent literacy, and behavior skills. *Developmental Psychology, 41*(1), 225-234. doi:10.1037/0012-1649.41.1.225
- Bredenkamp, S., & Copple, C. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. (3<sup>rd</sup> ed). Washington, DC: National Association for the Education of Young Children.
- Butler, S. R., Marsh, H. W., Sheppard, J. L., & Sheppard, M. J. (1985). Seven-year longitudinal study of the early prediction of reading achievement. *Journal of Educational Psychology, 77*(3), 349-361. doi:10.1037/0022-0663.77.3.349
- Bryant, P., Cain, K., & Oakhill, J. (2004). Children's reading comprehension ability: Concurrent prediction by working memory, verbal ability, and component skills. *Journal of Educational Psychology, 96*(1), 31.
- Chin, C., Hutchinson, C., Reed, E., & Xu, Y. (2013). The Effects of a Comprehensive Early Literacy Project on Preschoolers' Language and Literacy Skills. *Early Childhood Education Journal, 1*-10.
- Cho, J. R. (2009). Syllable and letter knowledge in early Korean Hangul reading. *Journal of Educational Psychology, 101*(4), 938.
- Catts, H. W., Fey, M. E., Tomblin, J. B., & Zhang, X. (2001). Estimating the risk of future reading difficulties in kindergarten children: A research-based model and its clinical implementation. *Language, Speech & Hearing Services in Schools, 32*(1), 38-50. doi:10.1044/0161-1461(2001/004)

- Costa, H. C., Cusin, F., Dellatolas, G., Perdry, H., Pulgar, S., & Soria, C. (2013). Emergent literacy skills, behavior problems and familial antecedents of reading difficulties: A follow-up study of reading achievement from kindergarten to fifth grade. *Research in Developmental Disabilities, 34*(3), 1018-1035.
- Cunningham, A. E., & Stanovich, K. E. (1997). Early reading acquisition and its relation to reading experience and ability 10 years later. *Developmental Psychology, 33*(6), 934-945. doi:10.1037/0012-1649.33.6.934
- Dennis, L. R., & Horn, E. (2011). Strategies for supporting early literacy development. *Young Exceptional Children, 14*(3), 29-40. doi:10.1177/1096250611420553
- D'Onise, K., Lynch, J. W., & McDermott, R. A. (2010). Does attendance at preschool affect adult health? A systematic review. *Public Health, 124*(9), 500-511.
- Fabiano, L., Francis, D. J., Heilmann, J., Iglesias, A., Miller, J. F., & Nockerts, A. (2006). Oral language and reading in bilingual children. *Learning Disabilities Research & Practice, 21*(1), 30-43.
- Gibbs, A. S., Slate, J. R., & Taylor, K. K. (2000). Preschool attendance and kindergarten readiness. *Early Childhood Education Journal, 27*(3), 191-195. doi:10.1007/BF02694234
- Good, R. H., & Kaminski, R. A. (2011). *DIBELS Next assessment manual*. Longmont, CO: Cambium Learning Group.
- Goodman, A., & Sianesi, B. (2005). Early education and children's outcomes: How long do the impacts last?. *Fiscal Studies, 26*(4), 513-548.
- Guo, Y., Justice, L. M., Kaderavek, J. N., & McGinty, A. (2012). The literacy environment of preschool classrooms: contributions to children's emergent literacy growth. *Journal of Research in Reading, 35*(3), 308-327.
- Haggard, G. L. (2014). Setting the stage for purposeful communication: Fostering emergent literacy. *Delta Kappa Gamma Bulletin, 80*(3), 45-48.
- Iqbal, M. Z., Khalid, N., Rashid, K., & Sanaullah, R. (2013). Pre-school attendees and non-preschool attendees academic achievement and social skills. *Interdisciplinary Journal of Contemporary Research in Business, 4*(9), 1146-1157
- Justice, L. M., Logan, J. A., Petrill, S., Piasta, S. B., & Schatschneider, C. (2011). Children's attendance rates and quality of teacher-child interactions in at-risk preschool classrooms: Contribution to children's expressive language growth. *Child & Youth Care Forum, 40*(6), 457-477.

- Justice, L. M., & Pullen, P. C. (2003). Enhancing phonological awareness, print awareness, and oral language skills in preschool children. *Intervention in School and Clinic, 39*(2), 87-98.
- Kim, Y. S., & Petscher, Y. (2011). Relations of emergent literacy skill development with conventional literacy skill development in Korean. *Reading and Writing, 24*(6), 635-656.
- Konold, T. R., & Townsend, M. (2010). Measuring early literacy skills: A latent variable investigation of the Phonological Awareness Literacy Screening for Preschool. *Journal of Psychoeducational Assessment, 28*(2), 115-128.
- Lahaie, C., Magnuson, K., & Waldfogel, J. (2006). Preschool and school readiness of children of immigrants. *Social Science Quarterly, 87*(5), 1241-1262.
- Lonigan, C. J., & Puranik, C. S. (2012). Name-writing proficiency, not length of name, is associated with preschool children's emergent literacy skills. *Early Childhood Research Quarterly, 27*(2), 284-294.
- Lonigan, C. J., & Whitehurst, G. J. (1998). Child development and emergent literacy. *Child development, 69*(3), 848-872.
- Magnuson, K. A., Meyers, M. K., Ruhm, C. J., & Waldfogel, J. (2004). Inequality in preschool education and school readiness. *American Educational Research Journal, 41*(1), 115-157.
- McClelland, M. M., & Morrison, F. J. (2003). The emergence of learning-related social skills in preschool children. *Early Childhood Research Quarterly, 18*(2), 206-224.
- Melhuish, E. C., Phan, M. B., Sammons, P., Siraj-Blatchford, I., Sylva, K., & Taggart, B. (2008). Effects of the home learning environment and preschool center experience upon literacy and numeracy development in early primary school. *Journal of Social Issues, 64*(1), 95-114.
- Murdoch, A., Patton, J., & Sparks, R. L. (2014). Early reading success and its relationship to reading achievement and reading volume: Replication of '10 years later'. *Reading and Writing, 27*(1), 189-211.
- Reschly, A. L. (2010). Reading and school completion: Critical connections and Matthew effects. *Reading & Writing Quarterly, 26*(1), 67-90.
- Reynolds, A. J. (1995). One year of preschool intervention or two: Does it matter? *Early Childhood Research Quarterly, 10*(1), 1-31.

- Reynolds, A. J., & Temple, J. A. (2008). Cost-effective early childhood development programs from preschool to third grade. *Annual Review of Clinical Psychology*, 4, 109-139.
- Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading research quarterly*, 360-407.
- Storch, S. A., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal structural model. *Developmental Psychology*, 38(6), 934-947. doi:10.1037/0012-1649.38.6.934
- Tracey, D. H., & Valenti, J. E. (2009). Full-day, half-day, and no preschool: Effects on urban children's first-grade reading achievement. *Education and Urban Society*, 41(6), 695-711. doi:10.1177/0013124509336060
- Vacca, J. S. (2008). Crime can be prevented if schools teach juvenile offenders to read. *Children and Youth Services Review*, 30(9), 1055-1062.