**Abstract**

The Effects of Using a Storybook Reading Intervention in Developing Emergent Literacy Skills in Kindergarten Students.

Topic and Goal: Education Research: Reading and Writing, Efficacy Goal 3

**Purpose**

The purpose of this study is to examine the effects of using the storybook reading intervention on developing emergent literacy skills in kindergarten students from low-income families with limited literacy skills.

**Intervention**

There are 3 main components (Phonemic awareness, print awareness and vocabulary) for the intervention for the treatment group. All three components will be taught during the storybook reading intervention. The interventionist will read the same storybook to children three times a week. On day 1the focus for the storybook intervention will be on alphabetic Knowledge, on day 2 the focus will be on print awareness and on day 3 the focus will be on developing vocabulary knowledge.

**Setting**

The study will be conducted in a suburban elementary school with three kindergarten classrooms. Storybook reading intervention sessions will take place in the school library. However, if the school library is not available, sessions will take place in the hallway of the school.

**Population and Sample:**

The target population will be kindergarten students in a public school system in Maryland. The sample size will be 100 students per condition, with classes randomly assigned to control or treatment conditions. Cluster random sampling is the sampling procedure that would be used for this study.

**Primary Research Method**

The primary research method is a randomized controlled trial research design. Kindergarten classes will be randomly assigned to either a control or treatment condition. Participants will complete a pre-test as well as complete different assessments that measure children’s phonological awareness skills, vocabulary knowledge and print awareness. Upon completion of these assessments, participants will undergo an intensive storybook reading intervention focusing on the skills previously mentioned. A post-test will be administered after the intervention to determine if there is an improvement in children’s academic performance by comparing the results of the pre-test to the results of the post-test.

**Measures and Key Outcomes**

The Initial Sound Fluency (ISF) subtest of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) will be used to assess students’ knowledge of beginning sounds. The Alphabet Knowledge Ability Measure is used to assess children’s knowledge of all the lower case and upper case letters of the alphabet. The Preschool Word and Print Awareness (PWPA) measure is used to assess children’s knowledge of concepts about print and the Peabody Picture Vocabulary Test (PPVT) is used to assess receptive vocabulary of children.

**Data Analytic Strategy**

The Multivariate analysis of covariance (MANOVA) will be used for data analysis. The MANOVA will compare different groups, or levels of the independent variable.

**Project Narrative**

**Type of Study**

An Efficacy study is proposed for this large grant.

**Significance**

Emergent literacy skills are the foundational literacy skills that occur prior to engaging in conventional reading (Schryer, Sloat & Letourneau, 2015). According to Schryer, Sloat & Letourneau (2015) emergent literacy skills such as phonological awareness, concepts of print and vocabulary are needed for later reading. Kindergarten children are at an increasing risk if they experience difficulties in emergent literacy development (Justice, & Pullen, 2003).

According to Justice & Ezell (2001), most children by the age of six can demonstrate emergent literacy knowledge. In order for children to be able to read, young children need to understand the form and function of print as well as other emergent literacy skills which form the foundation to conventional literacy instruction (Justice & Ezell, 2001). Young children who may not have the necessary emergent literacy skills may be children reared in poverty, or may be children with developmental disabilities, and may also include children with language delays (Justice & Ezell, 2001). According to Justice & Ezell (2001), emergent literacy skills include print awareness, word awareness and phonological awareness. Justice and Ezell (2001) further describe print awareness as the ability to recognize the function and form of print and the relationship between oral and written language. Word awareness is the ability to recognize words and phonological awareness is the ability to identify and manipulate sounds (Justice & Ezell, 2001).

According to Coyne, Simmons, Kame’enui & Stoolmiller (2004), “children who enter kindergarten have significant differences in early literacy skills. This puts young children at a risk for failing to learn how to read especially since they may have limited knowledge in literacy” (Coyne, Simmons, Kame’enui & Stoolmiller, 2004, p.146). According to the National Education Association (2015), children who are read to have an advantage over children who are not. Data from the National Education Association (2015) indicate that 26 percent of children who are read to are able to recognize all the letters of the alphabet compared to 14 percent of children who were read to less frequently. According to the National Education Association (2015), only 53 percent of children ages 3 to 5 have family members reading to them. Information from the National Education Association (2015) also indicate that children from low income families are less likely to be read aloud everyday compared to children in families with incomes at or above the poverty level.

According to the Center for Education Statistics (2016), the 2015 reading data reveals that the reading scores of fourth grade students are not significantly different and that the 2015 reading scores of eighth grade are lower than in 2013. According to the National Center for Education Statistics (2016), the reading scores for grade four were higher in 2015 in 13 states (Utah, Oklahoma, Nevada, Wyoming, Kentucky, Rhode Island, Mississippi, North Carolina, South Carolina, District of Colombia, Vermont, Alaska, and Louisiana) compared to 2013. This suggest that importance of laying a strong foundation in emergent literacy skills at a younger age in order for children to be able to read fluently at a later stage.

**Importance of Storybook Reading Intervention**

Research indicates that storybook reading intervention contributes to the development of emergent literacy skills. Bellon & Ogletree (2000) indicates that storybooks provide opportunities to learn skills such as letter-sound pattern recognition, and development of vocabulary. Furthermore, storybooks exposes children to different settings, characters, and events (Bellon & Ogletree, 2000). According to Pullen, Tuckwiller, Konold, Maynard & Coyne (2010), older children are able to engage in independent reading activities in order to expand their vocabularies. However, young children especially children in pre-kindergarten to second grade depend on oral language experiences that provide exposure to core vocabulary words (Pullen, Tuckwiller, Konold, Maynard & Coyne, 2010). The best way for young children who are now learning how to read is to expose children to new vocabulary through shared storybook reading (Coyne, Simmons, Kame’enui, & Stoolmiller, 2004). Storybook reading intervention provides children with opportunities to learning new novel words and is an effective way for developing vocabulary in young children (Pullen, Tuckwiller, Konold, Maynard & Coyne, 2010).

A study conducted by Hargrave & Senechal (2000) indicate that shared storybook reading is an evidence based practice that facilitates the acquisition of new vocabulary. Research suggest that storybooks reading intervention promotes language development and emergent literacy skills (Lefebvre, Trudeau, & Sutton, 2011).

**Prior Studies that have used the Intervention**

Justice & Ezell (2002) conducted a study to examine the impact of participation in shared book reading that focused on print awareness of preschool children from low income families. Participants included thirty children. Fifteen girls and fifteen boys with an age range of forty one to sixty two months. All the children spoke English as their first language. In terms of ethnicity twenty seven children were Caucasian, two were Asian and one was African American. All the participants attended preschool. A pre-test and post-test research design was used for this study. Children were randomly assigned to an experimental group or control group. All the children had to complete an eight week book reading intervention. Children in the experimental group took part in shared reading sessions that focused on print awareness. Children in the control group took part in shared reading sessions that focused on pictures. The results indicate that children who participated in the storybook reading intervention emphasizing print awareness performed better than peers in the control group.

A study conducted by Lefebvre, Trudeau, & Sutton (2011) compared the effects of two shared storybook reading interventions on language and emergent literacy skills of low income preschoolers. Participant included forty two French speaking children from low income families and higher income families. A quasi-experimental research design was used in this study. The control group focused on language and print awareness skills during storybook reading. The experimental group focused on phonological awareness during storybook reading. The results indicate that the experimental group performed better on phonological awareness but not on vocabulary and print awareness.

Kelley, Goldstein, Spencer, & Sherman (2015) conducted a study to examine the effects of an automated storybook intervention designed to promote school readiness among at risk pre-kindergarten children. The participants included 18 children, 11 girls and 7 boys with a mean age of four years six months recruited from three prekindergarten classrooms. All the participants were African American (Kelley, Goldstein, Spencer, & Sherman, 2015). None of the participants had an identified disability or received services through an Individualized Education Program. All the children spoke English as their first language. Many of the children in these classrooms had limited oral language skills. Two research designs were employed in this study. A randomized control group design and an embedded single subject design. Eighteen children from public prekindergarten programs serving families with low income were randomly assigned to the Story Friends treatment or a business-as-usual comparison. Participants in groups completed measures of vocabulary and comprehension (Kelley, Goldstein, Spencer, & Sherman, 2015).  Participants in the treatment group completed measures of instructional content for each book. The duration of the study, including pretesting, and post testing was 14 weeks \* Review books were included after three instructional books. After completing the three lessons for the three instructional books, participants listened to the review book one more time and completed the unit post-test. Participants in the treatment group completed measures of instructional content for each book as part of the embedded single- case experimental design (Kelley, Goldstein, Spencer, & Sherman, 2015).  The Assessment of Story Comprehension was used to measure improvements in questioning answering.  Story friends’ participants had significantly higher scores on measures of vocabulary than the comparison group and the effect sizes were larger, whereas more modest effects were shown for comprehension measures.  Results show a feasible means of teaching pre-kindergarten children challenging vocabulary that has the potential to facilitate later literacy development (Kelley, Goldstein, Spencer, & Sherman, 2015).

Justice, Kaderavek, Fan, Sofka, & Hunt (2009) conducted a study to examine the impact of teacher use of a print referencing style during classroom-based storybook reading sessions conducted over an academic year. The lead teachers of twenty three classrooms were affiliated with four early childhood programs in two states (Ohio and Virginia). Of the participating teachers, twenty two percent held an advanced or graduate degree (n=5), fifty six percent held a bachelor (n=10) or associate degree (n=3), and twenty two percent held high school diploma (n=5).  Most of the teachers majored in early childhood education (n=8) or elementary education (n=5) and the remainder (n=10) majored in another area.  The average teacher had 10.5 years of teaching experience and was forty four years of age. Six children were selected from each classroom for a total sample size of 142 (Justice, Kaderavek, Fan, Sofka, & Hunt, 2009). Out of the one hundred and forty two children selected only children who had both pre and post measures of the outcome variables (i.e. measures of print concept, alphabet knowledge, and name writing) were included, reducing the sample size for the present set of analysis to 106 children. Children who were eligible to enroll in this study exhibited risk factors, which generally included poverty, documented family stress (e.g. unemployment, homelessness), or suspected/diagnosed developmental problems. The sample included 59 boys and 47 girls (Justice, Kaderavek, Fan, Sofka, & Hunt, 2009). The average age of the children in the fall of the year was four years four months.  Sixty seven children were non-Hispanic White, twenty four were black, nine were Hispanic White, two were Native American, and two were Asian. The majority of the children spoke English at home.  Seventy six percent of the children’s mothers did not have a college or university degree and approximately one third of the mothers (34%) had no education beyond high school. Approximately, one half of the children’s families had an annual household income in the range of five thousand to twenty five thousand dollars, and the majority (75%) of families had annual incomes below forty thousand dollars. Six children received special education services (Justice, Kaderavek, Fan, Sofka, & Hunt, 2009). A randomized controlled trial was the research design used in this study. Fourteen classrooms were randomly assigned to the print referencing condition and nine were assigned to the shared storybook reading condition. The teachers implemented a thirty week shared reading program using thirty books. Majority of the books were fictional, although there were alphabet books. Two types of measures were used in this study (Justice, Kaderavek, Fan, Sofka, & Hunt, 2009). The child print knowledge outcomes and the classroom quality.  To measure children’s print knowledge outcomes, three standardized criterion reference tools were used.  All measures were administered in English.  The first two measures were the Upper-Case alphabet Knowledge and Name Writing Ability subtests of the Phonological Awareness Literacy Screening. The alphabet measure was administered by asking children to produce the name of all 26 letters presented in random order.  Children received one point for each correct name (Justice, Kaderavek, Fan, Sofka, & Hunt, 2009). The name writing measure is administered by asking children to produce a portrait of themselves and then to sign it.  Children’s name-writing representations were scored on a seven-point scale based on a developmental continuum of early writing development. The third measure was the Preschool Word and Print Awareness Assessment which examined children’s knowledge of concepts about print and words.  To implement this task, an examiner and child read a book together and the examiner embeds a series of structured tasks into the reading routine (e.g. the examiner ask child to show just one word on a page to demonstrate his or her ability to represent words as units of a written language. Results indicate that children whose teachers used a print referencing style during storybook reading performed better than teachers who did not use a print referencing style (Justice, Kaderavek, Fan, Sofka, & Hunt, 2009).

**Description of the Intervention**

Storybook reading intervention involves interactions between an adult and a child during reading and this forms a critical foundation for the development of later reading skills (Lefebvre, Trudeau, & Sutton, 2011). According to Lefebvre, Trudeau, & Sutton, 2011), storybook reading intervention allows an adult to engage in meaningful interactions with children in order to promote emergent literacy skills.

Prior to the intervention, participants will complete a pre-test that assesses children’s knowledge of the letters of the alphabet, the sounds associated with the letters, vocabulary knowledge and print awareness. Upon completion of the assessments, participants in the intervention group will undergo an intensive intervention using storybooks to develop phonological awareness skills, vocabulary, and print awareness. The intervention will take place over a period of 17 months. Sixty eight children books will be used for the storybook reading intervention. Each storybook will be read to the children three times a week. The books will be developmentally appropriate and will include books that focus on family, animals, and friends. The interventionist will read the book three times to children on three different days. The storybooks will be selected based on the following criteria: First of all the storybooks will be appropriate for kindergarten children. Secondly, the books should have lots of colorful illustrations that help narrate the text. Thirdly, the books should contain words in the text that were unlikely to be known by the children. Finally, the books must have challenging vocabulary words. For each book two words will be selected. The targeted words will be selected based on the following criteria: The words that will be chosen are words that a normal kindergarten student might not know. Secondly the targeted words will be age appropriate and easily embedded in the story text.

According to Hargrave & Senechal (2000), the interventionist who are introduced to this technique must introduce children to storybooks and must ensure that children are actively interacting with the interventionist as the story is being read to the children. The interventionists must ask children questions based on the story being read. The interventionist will begin by informing children that she will be reading a story to them. The interventionist then begins by telling the children the title of the book. The interventionist goes on to state the author and the illustrator of the book. It is important for the interventionist to ask children to explain what the author and the illustrator does before asking children to predict what the story will be about based on the illustrations on the cover of the book. The interventionist then will have to do a picture walk by going through each page of the storybook and showing the pictures on each page to the children in order for them to tell what is going on in the story.

After the picture walk, the interventionist must read the story with intonation and must stop to ask children questions in order to engage the children and to make it as interactive as possible. During the reading the interventionist must focus on print awareness. Print awareness includes introducing children to the front of the book, the back of the book, reading from left to right and continuing reading from the next line. The interventionist must also focus on developing two core vocabulary words as she reads the book and using illustrations and examples to explain the meaning of the two words. The interventionist will write core vocabulary words on the blackboard for students to see and the teacher will spend time introducing these new words to the students and providing explicit instruction in vocabulary. All the target words will be chosen from the books that will be read to the students. The interventionist will explain or define the words based on the context in which these words were found in the book. Flash cards will be created with these new words written on it and will be displayed on the word wall for children to have easy access to the words during instruction.

The interventionist may also use this opportunity to ask children to identify one or two letters of the alphabet in the text. It is always a good idea for the interventionist to ask children to retell the story or to tell what they learned from the story.

Participants in the treatment group will be put into small groups. There will be ten participants in each group. Therefore there will be ten groups of children in the treatment condition.

**Materials**

* All interventionist will be trained on storybook reading intervention prior to implementing the intervention. The interventionists will watch a **video** that demonstrates how to use storybooks to develop phonological awareness, vocabulary and print awareness.
* Classroom teachers, and research assistants for the treatment group will be provided with the **storybooks** that they will use for the intervention.
* A box of pencils will be provided to all classroom teachers (both treatment and comparison group).
* All interventionist will receive a **camcorder**. They will use the camcorder to video tape themselves during instruction.
* All interventionist will receive **printed worksheets** for students to complete.
* All interventionist will receive **flashcards** with vocabulary words written on them.
* The following assessments are needed for implementation

1. The Initial Sound Fluency (ISF) subtest of the Dynamic Indicators of Basic

Early Literacy Skills-Sixth Edition (DIBELS)

1. The Alphabet Knowledge Ability Measure
2. The Preschool Word and Print Awareness (PWPA)
3. The Peabody Picture Vocabulary Test (PPVT)

**Evidence that the Intervention is Fully Developed**

According to Swanson, Wanzek, Petscher, Vaughn, Heckert, Cavanaugh, Kraft, & Tackett (2011), reading aloud to children is a common practice in homes and schools for years. Research on shared storybook reading and read alouds practices in preschool and elementary grade levels has been developed over the past decades (Swanson, Wanzek, Petscher, Vaughn, Heckert, Cavanaugh, Kraft, & Tackett, 2011). Justice & Pullen (2003) indicated that storybook reading intervention is an evidence based practice in that this intervention approach has adequate scientific evidence to support its implementation. To implement this intervention, storybooks are needed and most schools have school libraries equipped with storybooks that teachers could have access to. In addition, classrooms teachers have access to reading specialists and librarians in their schools and can receive some support on a regular basis on how to develop emergent literacy skills as they read aloud to children.

**Description of the Intervention context**

The target population will be kindergarten students in a title 1 public school system in Maryland. The study will be conducted in an elementary school with three or more kindergarten classrooms. Storybook reading intervention sessions will take place in the school library. However, if the school library is not available, sessions will take place in the hallway of the school. Sessions in the hallway would be located at the end of the hallway, away from bathrooms and other busy areas to reduce distractions and disruptions.

**End Users of the Storybook Reading Intervention**

The end users of the storybook reading intervention are classroom teachers. According to Fisher, Flood, Lapp, & Frey (2004), there are different components of an effective read aloud. Teachers must select books that are appropriate for the students and that match their developmental level. The books selected must be previewed by the teachers prior to reading it to the children (Fisher, Flood, Lapp, & Frey, 2004). Teachers must model fluent oral reading, must read with expression and must stop periodically to ask questions (Fisher, Flood, Lapp, & Frey, 2004). According to McGee & Schickedanz (2007) teachers must allow children to make predictions about what the story is going to be about. McGee & Schickedanz (2007) encourage teachers to allow children to retell the story and suggests that teachers ask questions that allow children to talk about the events occurring in the story.

**Ideal or Routine Condition under which the Intervention will be Implemented**

Ideal conditions for this study will be to have a lot of personnel to ensure adequate fidelity of implementation. It would be great if we had a homogenous sample of students. For example an ideal condition would be to have a group with an equal number of male and female students represented, as well as to have a wide variety of ethnic groups represented in the sample. This will allow us to make compare data based on the different demographics.

Routine condition reflect the everyday practices that occur in schools. Most read alouds or shared storybook reading experiences occur in large group settings at the beginning or end of the school day. The children in prekindergarten, kindergarten or first grade normally sit on the carpet and the teacher reads a book to the children. In a typical class, there will be about 20 students and the children interact with the teacher by making connections and as the story is being read.

**Theory of Change**

**Inputs**

**Outcomes**

**Outputs (Activities and Participation)**

**Short Term**

Children will be able to identify letters of the alphabet based on the interactive nature of the intervention

**Phonemic Awareness**

The interventionist will introduce a letter of the alphabet for the entire week to the children. The interventionist will show a card with for example the letter “Ee” written on it. The interventionist will say the name of the alphabet and the corresponding sound associated with it. The interventionist will read the storybook to the children. The children will get the opportunity to identify that particular letter by glancing through the text in the storybook for that week.

Human Resources – Staff (teachers and graduate research assistants) with expertise and leadership skills to implement the intervention

Teaching Materials- Ten children storybooks

Time needed for implementation- 20 months

Screening guidelines for selecting participants

**Assessment**

-The Initial Sound Fluency (ISF) subtest of the Dynamic Indicators of Basic Early Literacy Skills-Sixth Edition (DIBELS)

The Alphabet Knowledge Ability Measure

The Preschool Word and Print Awareness (PWPA)

The Peabody Picture Vocabulary Test

**Long Term**

Best predictor of reading and spelling acquisition later and children learn how to recognize words.

**Short Term**

It is also expected that there will be an increase in children’s knowledge about concepts of print

**Print Awareness**

During the reading the, interventionist must focus on print awareness. Print awareness includes introducing children to the front of the book, the back of the book, reading from left to right, reading from top to bottom and making a return sweep in order to continue reading from the next line.

**Long Term**

Print awareness is a prerequisite for learning to read

**Vocabulary**

It must be noted that two core vocabulary words from each book have been selected by the researcher and it is these two words that the interventionists will be focusing on for each book. For example, for the storybook “Brown Bear, brown Bear,” the 2 vocabulary words are frog and bear.

During the storybook reading intervention, the interventionist has to provide explicit instruction of core vocabulary words and opportunities for children to see the illustrations or pictures associated with the vocabulary words. The interventionist should also try to use these words in sentences to provide context for the words.

**Short Term**

It is expected that children will gain a deeper understanding of the meaning of core vocabulary words based on the storybook reading intervention

**Long Term**

Children will be able to learn how to read

**Theory of Change**

For the storybook reading intervention, the goal is to develop emergent literacy skills such as phonological awareness, print awareness and vocabulary.

Phonological awareness is the first component of the intervention. Phonological awareness focuses on the identification of the letters of the alphabet and the sounds associated with the letters of the alphabet (Ziolkowski & Goldstein (2008). According to Ziolkowski & Goldstein (2008) phonological awareness is critical in forming the foundation for the alphabetic structure of words. In teaching phonological awareness through storybook reading intervention, it is important for teachers to explicitly provide instruction on phonological awareness since this leads to gains in reading skills (Ziolkowski & Goldstein, 2008). Ziolkowski & Goldstein (2008) conducted a study with preschool children in which phonological awareness was explicitly taught during shared storybook reading. The results indicated that initial sound intervention enhanced children’s initial sound fluency skills (Ziolkowski & Goldstein, 2008). According to Aram (2006) letter knowledge among pre-kindergarten and kindergarten children are the best predictors of reading acquisition. Aram (2006) indicates that children who learn the letters of the alphabet during storybook reading are able to outperform other groups on letter knowledge. Yaden, Tam, Madrigal, Brassell, Massa, Altamirano & Armendariz (2000) conducted a study using storybooks to teach the letters of the alphabet and results indicate that the preschoolers were able to recognize the letters of the alphabet after the intervention.

According to Justice, McGinty, Piasta, Kaderavek & Fan (2010), children develop print knowledge and understanding of print during shared storybook reading experiences. This means that when teachers read books to children, they can use that opportunity to incorporate print referencing (Zucker, Ward, & Justice, 2009). According to Zucker, Ward, & Justice (2009), there are four main domains of print referencing. These include print as an object of meaning, book organization and print conventions, alphabet knowledge and concept of word (Zucker, Ward, & Justice, 2009). The four broad domains can be subdivided into 15 different components of print referencing (Zucker, Ward, & Justice, 2009). For example for the print meaning domain, there is what is known as print function which focuses on the meaning that the function of print conveys, there is also environmental print in which words present in the environment are portrayed in illustrations (signs, labels, lists recipes) and concepts of reading in which the function of reading is to tell a story (Zucker, Ward, & Justice, 2009). According to Zucker, Ward, & Justice (2009), another domain is the book and print organization domain. It is important for children to be able to identify the front of a book and to read from the first page and then turn to the next page to continue reading. With print referencing, the title of the book plays an important role as a label and this in turn conveys meaning (Zucker, Ward & Justice, 2009). Being able to read from the top to the bottom of a page, reading from left to right and moving to the next line is an important component of print referencing especially in relation to the direction of print (Zucker, Ward, & Justice, 2009). Zucker, Ward & Justice (2009) stresses the importance of knowing the role of an author, in that the author is the one who writes the words in a book. The third domain, focuses on the names of letters of the alphabet, knowing that letters come in two forms, lower case letters and upper case letters and the fourth domain focuses on the concept of words in print. For example, asking children who can identify one word or count the words on a page (Zucker, Ward, & Justice, 2009). Justice and Ezell (2002) conducted a study in which book reading sessions with a print focus on print awareness in preschool children from low-income families was evaluated. Thirty children enrolled in a Head Start program were randomly assigned to control and experimental groups. The children were engaged in small group reading sessions over an 8 week period (Justice & Ezell, 2002). The children in the experimental group focused on shared reading experiences that focused on print awareness while the children in the control group took part in a shared reading experience with a picture focus. The results indicated that children in the experimental group that had a print referencing focus performed better that children in the control group (Justice & Ezell, 2002). Justice, McGinty, Piasta, Kaderavek & Fan (2010) conducted a study in which print referencing style was used during a read aloud session. Children who experienced a print-referencing style of reading performed better than children who were not exposed to the print referencing style (Justice, McGinty, Piasta, Kaderavek, & Fan (2010).

According to Coyne, McCoach, & Kapp (2007), it is widely known that when students are exposed to rich literacy environments that foster vocabulary development they are more likely to succeed in school and to understand or comprehend books that they read as compared to their peers who have limited vocabulary. According to Chlapana and Tafa (2014), the ideal way of introducing words to children is to read storybooks aloud for children to hear. According to Wasik and Bond (2001), children learn vocabulary by reading books and also learn about conventions of print. Moreover, children who engaged in higher level conversations and dialogue about the story do perform better on vocabulary and language measures than children who focused mainly on low level utterances such as describing a page or answering questions that required a yes or a no response. Justice, Meier, & Walpole (2005) suggest that in order for vocabulary instruction to be successful, there is the need to emphasize explicit instruction of the words or core vocabulary needed to succeed in the general education classroom. Research also suggests that there is the need to focus on developing the depth of vocabulary knowledge by providing students with opportunities to discuss and interact with the words they hear during storybook reading (Coyne, McCoach, Loftus, Zipoli, & Kapp, 2009). According to Silverman, Crandell, & Carlis (2013), the social constructivist theory suggests that children learn words by socially interacting with others. Silverman, Crandell & Carlis (2013) indicates that storybook reading experiences can foster social construction of vocabulary knowledge because adults can scaffold children’s understanding of words during shared storybook reading. During shared storybook reading, children are exposed to words indirectly (Silverman, Crandell, & Carlis, 2013). Silverman, Crandell, & Carlis (2013) noted that reading aloud to children has an effect on vocabulary and that it depends on the quantity and quality of interaction between children and their parents or teachers. During shared storybook reading, teachers discuss the target words based on the context by asking questions, providing feedback and extending conversations (Silverman, Crandell, & Carlis, 2013).

**Data Management Plan**

The type of data that will be produced is quantitative. The principal investigator for this project will take responsibility for the collection, management, and sharing of the research data. The research team will be trained in protecting human subjects. Only trained staff members of the research team will have access to the research data. The data in this study will be confidential. Participant’s information, including names and other identifiable information will not be included in this study. The principal investigator will store data on a flash drive and will ensure that the flash drive is kept safe at a location only known to the principal investigator. The principal investigator will not refer to participants by their original names. Pseudonyms will be assigned to each participant.

**Research Plan**

**Research Design**

The research design that would be use for this study is a randomized controlled trial research design (Johnson & Christensen, 2014). Kindergarten classes will be randomly assigned to either a control or treatment condition. Three classrooms will be assigned to the control condition and three classrooms will be assigned to the treatment condition. Participants will complete a pre-test as well as complete different assessments that measure children’s phonological awareness skills, vocabulary knowledge and print awareness. Upon completion of these assessments, participants will undergo an intensive storybook reading intervention focusing on the skills previously mentioned. A post-test will be administered after the intervention to determine if there is an improvement in children’s academic performance by comparing the results of the pre-test to the results of the post-test.

**Sample and Setting**

The target population will be kindergarten students in a public school system in Maryland. First, title 1 public schools in Maryland that have three or more kindergarten classes will be identified. Title 1 schools are public schools that have high numbers or percentages of poor children and receive financial assistance through state educational agencies as well as local educational agencies to help meet academic achievement standards. Second, kindergarten students in those schools will be identified based on two inclusion criteria: students must (a) be from low-income families and (b) have limited literacy skills. A family that earns less than $47,000 is considered low income. Kindergarten students will complete a pre-test that focuses on the letters of the alphabet and their associated sounds, vocabulary and print awareness. Students who get a low score on the pre-test will meet the criteria of having limited literacy skills. The justification for inclusion and exclusion criteria is that poor children are usually faced with overwhelming challenges compared to their peers from families with high incomes and as a result the poor children may not have the resources to enable them to perform academically well in school. In terms of the size of the schools, approximately 600 – 700 students attend one elementary school and about 650 – 800 students attend another school. Both schools are located in suburban areas. The sample size will be 100 students per condition, with classes randomly assigned to control or treatment conditions. Cluster random sampling is the sampling procedure that would be used for this study. According to Johnson and Christensen (2014), a classroom is a cluster because it is a collective unit composed of many single units (i.e., students). Classrooms will be randomly assigned to either treatment condition or comparison condition.

The study will be conducted in an elementary school with three or more kindergarten classrooms. Storybook reading intervention sessions will take place in the school library. However, if the school library is not available, sessions will take place in the hallway of the school. Sessions in the hallway would be located at the end of the hallway, away from bathrooms and other busy areas to reduce distractions and disruptions.

**Strategies for Retaining Participants in the Study**

* Radio advertisements, newspaper advertisements, flyers, newsletter articles will be used for recruiting participants
* An explanation of the benefits for enrolling in the research study will be provided to the participants.
* The results of the study will be shared with the participants.

**Addressing Internal Validity**

* According to Johnson & Christensen (2014), differential selection is a treat to the internal validity of a multi-group study (a research design that includes more than one group of participants) when a difference exists, at the outset of the research study, between the characteristics of the participants forming the various comparison groups (treatment and comparison groups). According to Johnson & Christensen (2014), participants in different groups can differ in many ways based on their age, ethnicity, gender, and ability to do well in tests. Therefore to address this problem, random assignment is important.
* **Attrition** is another treat to internal validity. Attrition occurs when some individuals do not complete the outcome measures. According to Johnson & Christensen (2014), this can occur due to failure to show up at the scheduled time and place or not participating in all phases of the study. Attrition in randomized trials can introduce bias and reduce study power which affects generalizability of results. To address this there is the need to have a larger sample size.

**Procedures for Random Assignment to Intervention or Comparison Condition**

* According to Johnson & Christensen (2014), random selection involves random sampling in which participants are selected from the population.
* The procedure for random assignment for this study will involve pulling classroom names from a hat.
* The first classroom name will be assigned to the treatment condition
* The next classroom name will be assigned to the comparison condition
* This process will continue till all 6 classroom names have randomly assigned. To treatment or comparison conditions.
* Therefore there will be 3 classrooms assigned to treatment condition and 3 classrooms assigned to the comparison condition

**Measures**

**The Initial Sound Fluency (ISF) subtest of the Dynamic Indicators of Basic Early Literacy Skills-Sixth Edition (DIBELS)** will be used to assess students’ knowledge of beginning sounds (Ziolkowski & Goldstein, 2008). This is a standardized test and it is administered individually at the beginning of the school year with children in kindergarten. The child is presented with four picture cards. The examiner names each picture. For example, this is a car, house, man, dog. The child is asked to identify the beginning sound. For example, which picture begins with the /c/ sound? The child will identify the picture that starts with the same beginning sound produced by the examiner or by pointing or labeling the correct picture.

**The Alphabet Knowledge Ability Measure** is administered by asking children to identify all the lower case and upper case letters of the alphabet in a random order. Each letter of the alphabet (both lower and upper case letters) is written on a card. Children receive one point for each correct name making a total of fifty two points.

**The Preschool Word and Print Awareness (PWPA)** measure is an individually administered measure of children’s knowledge of fourteen concepts about print (Justice, Bowles, & Skibbe, 2006). This measure assesses student’s ability to locate the front of the book, locate the title of the book and students should know that we read print from left to right. These tasks are administered during an adult-child shared storybook reading using a picture book. The adult or teacher selects the book to be used. The examiner begins by informing the child that they are going to read a book. The child is asked to show the examiner the front of the book and point to the title of the book. The child is also asked to point to a letter on the page. Children receive a point for each correct response.

**The Peabody Picture Vocabulary Test (PPVT)** is a norm-referenced instrument for measuring the receptive vocabulary of children. There are two versions of this test, Form A and form Band they are both administered individually. Each form contains training items and 228 test items, each consisting of four full-color pictures as response options on a page. For each item, the examiner says a word, and the examinee responds by selecting the picture that best illustrates that word meaning. This test takes approximately 10-15 minutes to complete

**Description of the Intervention for Treatment Group**

There are three main components (Phonemic awareness, print awareness and vocabulary) for the intervention for the treatment group. All three components will be taught during the storybook reading intervention. The interventionist will read the same storybook to children three times a week. On day 1the focus for the storybook intervention will be on alphabetic Knowledge, on day 2 the focus will be on print awareness and on day 3 the focus will be on developing vocabulary knowledge.

**Day 1**

* Phonemic Awareness (alphabetic knowledge and letter sounds): For this component, the interventionist will introduce a letter of the alphabet for the entire week to the children. Interventionist will show a card with for example the letter “Ee” written on it. The interventionist will say the name of the alphabet and the corresponding sound associated with it. The interventionist will read the storybook to the children. The children will get the opportunity to identify that particular letter by glancing through the text in the storybook for that week. A worksheet will be provided to the participants for completion. The purpose of this worksheet will be for participants to circle the letter of the week. The worksheet provides the actual text that was read to the children. An example of a worksheet is provided on the next page.

**Example of Worksheet for Intervention**

|  |  |
| --- | --- |
| **Letter “Ee” worksheet**  **Circle all the letter “Ee”**  **Brown Bear, Brown Bear,**  **What do you see?**  **By Bill Martin and Eric Carle**  Brown bear, brown bear, what do you see?  I see a red bird looking at me.  Red bird, red bird, what do you see?  I see a yellow duck looking at me.  Yellow duck, yellow duck, what do you see?  I see a blue horse looking at me.  Blue horse, blue horse, what do you see?  I see a green frog looking at me.  Green frog, green frog, what do you see?  I see a purple cat looking at me.  Purple cat purple cat what do you see?  I see a white dog looking at me.  White dog, white dog, what do you see?  I see a black sheep looking at me.  Black sheep, black sheep, what do you see?  I see a goldfish looking at me.  Goldfish, goldfish, what do you see?  I see a teacher looking at me.  Teacher, teacher, what do you see?  I see children looking at me.  Children, children what do you see?  We see a brown bear, a red bird, a yellow duck, a blue horse, a green frog, a purple cat, a white dog, a black sheep, a goldfish and a teacher looking at us. | [Image result for brown bear brown bear text](https://www.google.com/imgres?imgurl=https://s-media-cache-ak0.pinimg.com/236x/13/bb/da/13bbda506714802362b8500c4527d513.jpg&imgrefurl=https://www.pinterest.com/hearandsay/brown-bear-brown-bear-by-eric-carle/&docid=kTAVo96c23iAdM&tbnid=AkKudpG6PvUCeM:&vet=1&w=236&h=216&bih=747&biw=1536&ved=0ahUKEwjDlp6Vvb_QAhUKqFQKHShjAW4QMwhUKCwwLA&iact=mrc&uact=8) |

**Day 2**

* **Print Awareness**

1. The interventionist will begin by informing children that she will be reading a story to them. The reading specialist then begins by telling the children the title of the book.
2. The interventionist goes on to state the author and the illustrator of the book. It is important for the reading specialist to ask children to explain what the author and the illustrator does before asking children to predict what the story will be about based on the illustrations on the cover of the book.
3. The interventionist then will have to do a picture walk by going through each page of the storybook and showing the pictures on each page to the children in order for them to tell what is going on in the story.
4. After the picture walk, the interventionist must read the story with intonation and must stop to ask children questions in order to engage the children and to make it as interactive as possible.
5. During the reading the, interventionist must focus on print awareness. Print awareness includes introducing children to the front of the book, the back of the book, reading from left to right, reading from top to bottom and making a return sweep in order to continue reading from the next line.

**Day 3**

* **Vocabulary**

It must be noted that two core vocabulary words from each book have been selected by the researcher and it is these two words that the interventionists will be focusing on for each book. For example, for the storybook “Brown Bear, brown Bear,” the 2 vocabulary words are frog and bear.

During the storybook reading intervention, the interventionist has to provide explicit instruction of core vocabulary words and provide opportunities for children to see the illustrations or pictures associated with the vocabulary words. The interventionist should also try to use these words in sentences to provide context for the words.

**Description of Intervention for Comparison Group**

For the comparison group, the classroom teachers will conduct business as usual. Classroom teachers will read storybooks to the children. However classroom teachers can select any storybook of their choice. The storybooks for the treatment group will not be used for the comparison group. Teachers will still teach children the letters of the alphabet, print awareness and vocabulary. However the classroom teachers for the comparison group will decide how to deliver instruction and what to teach the children.

**Timeline**

A timeline has been provided. Refer to Appendix B for detailed information on actions such as sample selection, collection of baseline data, intervention implementation, ongoing data collection, and fidelity of implementation.

**Fidelity of Implementation**

* Teachers, research assistants and other interventionists will be trained specifically on how to implement the intervention. The research team will complete training and “check-out” procedures for all measures prior to administration. The training will be at the beginning of school year, and will last one week.
* Interventionists implementing the storybook reading intervention will be videotaped as they read storybooks to the children. Each reading session will be coded using a fidelity coding sheet that was developed for this study. The fidelity coding sheet is an observational tool that is used to document whether the teacher focused on each of the specific skills. Refer to the table on the next page for detailed information of what is contained in the checklist.
* Observations will be conducted during the storybook readings. 50% of sessions will be observed for fidelity for the treatment group and 25% for the comparison group. Observations will be conducted every two weeks.

**Fidelity of Implementation Checklist**

**Instructional “Walk-through”**

**(Instructional Observation Form)**

|  |
| --- |
| Date: \_\_\_\_\_\_\_\_\_\_\_\_ Beginning Time: \_\_\_\_\_\_\_\_\_\_\_\_ Ending Time:\_\_\_\_\_\_\_\_\_\_\_\_  Observer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Grade Level: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Subject: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Number of total students: \_\_\_\_\_\_\_\_\_\_ Number of students per group:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Grouping format:  Whole group \_\_\_\_ Small Group \_\_\_\_ Paired \_\_\_\_ Individual \_\_\_\_\_\_ |
| **Sequence of Intervention** |
| Interventionist follows the sequence of the intervention procedures  Day 1: Focuses on Phonemic Awareness (letters of the alphabet) during storybook reading)  Day 2: Focuses on print awareness  Day 3: Focuses on Vocabulary knowledge |
| **Use of Materials** |
| Interventionist uses materials appropriately |
| **Student Responsiveness** |
| Students appear (check one)  \_\_\_\_ Highly engaged-most students are authentically engaged  \_\_\_\_ Well managed- Students are willingly compliant and engaged  \_\_\_\_ Not engaged- Many students are not participating or are off-task  Please list motivation techniques |

**Moderators:**

The impact of the intervention may differ in many ways based on the following factors: age, ethnicity, gender, their socio-economic status and ability to do well in tests. Moderation analysis provides a way to test whether an intervention has similar effects across groups. It would be important, for example, to demonstrate that intervention effects are obtained for males and females if the program would be disseminated to a whole group containing males and females. Similarly, the consistency of an intervention effect across subgroups demonstrates important information about the generalizability of an intervention. In addition, younger children are at an age where they are now beginning to develop literacy skills compared to older children who may have more developed literacy skills. Other factors include socioeconomic status. Children from low income families may not have resources compared to children from high income families. As a result, children from high income families may be exposed to literacy experiences that help foster and develop emergent literacy skills prior to enrolling in school. With that in mind, children from high income families may perform better academically compared to their peers from low income families. The quality of instruction is another factor that may contribute to better outcomes. Children who receive good quality instruction eventually do perform better than children who do not receive quality instruction. Children who do not receive good quality instruction may not understand what they are being taught and therefore may struggle academically.

**Power Analysis**

Power needs to be at least .80 to be acceptable. According to Cohen (1992), a value smaller than .80 would incur too great a risk of a type II error. For this study, there will be treatment and a control groups at two elementary schools. G power is a software that does not perform descriptive and inferential statistical analysis, but rather performs a power analysis.

A prior analysis will be utilized in order to compute required sample size given alpha, power and effect size in order to perform a power analysis. A MANOVA repeated measure within-between interactions will be used to analyze data by comparing control and treatment groups as well as comparing pre-test and post test scores over time. The sample size for the treatment group is 100 kindergarten students. To reduce attrition more participants were included in this study.

**Data Analysis**

The Multivariate analysis of covariance (MANOVA) will be used for data analysis. The MANOVA will compare different groups, or levels of the independent variable. A multivariate analysis of covariance (MANOVA) takes into account multiple dependent variables. Therefore a MANOVA will give us a better chance of discovering which component of the intervention is important. Classrooms will be randomly assigned to control or treatment condition. Children will be excluded from the study if they are unable to report to school prior to the implementation of the intervention. However, children who have missing data will get the opportunity to be assessed prior to the implementation of the study.

**Plan to conduct a cost analysis**

To help schools and districts understand the monetary costs of implementing the storybook intervention, a detailed description of the plan to conduct a cost analysis is provided. The cost analysis plan includes expenditures for personnel, supplies and materials, training and other relevant inputs.

**Personnel**

* In order to implement the intervention, a school or district will need to hire personnel who will oversee the entire project and will be responsible for making sure that the storybook reading intervention is implemented in all six kindergarten classrooms by classroom teachers.
* There is the need to have enough classroom teachers to implement the intervention in their classrooms. However, it is assumed that there will be classroom teachers in the schools already. Therefore the cost of hiring teachers is not included in this analysis.
* In addition, a reading specialist must be hired to provide professional development for the classroom teachers and staff. The reading specialist will be responsible for training teachers on how to teach specific skills such as the letters of the alphabet, vocabulary and concepts of print using storybooks. It is highly recommended that the school or district hire a reading specialist who will be able to demonstrate how to implement the storybook reading intervention.
* Each personnel will receive $25,000.00at a .25 full time equivalent rate per year.
* There are two personnel’s who will be overseeing the entire project.
* The total amount for the two personnel for one year is $50,000.00.
* The total amount for the two personnel for a two year period is $100,000.00

**Evaluation Expert**

An evaluation expert is also recommended for this project and must be skillful in evaluation. The research consultant will receive a flat fee of $25.00 an hour.

* The evaluation expert will work 10 hours a week for a period of two years (24 months).
* Since ten hours a week will be $250.00 a week, it implies that for a period of twenty four months (104 weeks), the consultant will receive an amount totaling $26,000.

|  |  |  |
| --- | --- | --- |
| **Personnel** | **Year 1** | **Year 2** |
| Personnel 1 | $25,000.00 .25 FTE (25%) | $25,000.00 .25 FTE (25%) |
| Personnel 2 | $25,000.00 .25FTE (25%) | $25,000.00 .25 FTE (25%) |
| Evaluation Expert | $13,000.00 | $13,000.00 |
| **Total** | **$63,000.00** | **$63,000.00** |

**Total Amount for Personnel**

* To sum it all, the total amount for salary for all the personnel will be $63,000.00 per year
* The total for two years is $126,000.00 for two years.

**Training**

* The interventionists that will be implementing the story book reading intervention must be trained prior to implementing the intervention.
* The interventionists (teachers, researcher, and research assistants) must attend a one-week training.
* The training must focus on the procedures for administering the pre-test, post-test and other assessments as well as how to teach emergent literacy skills such as phonological awareness (alphabet knowledge), enhance sound awareness, build vocabulary knowledge and develop print awareness using storybooks.
* The training sessions must consist of a twenty minute training video on story book reading, as well as role playing and discussions.
* Interventionist (teachers) must receive a handout summarizing the techniques of the storybook reading intervention (Hargrave & Senechal, 2000).
* According to Hargrave & Senechal (2000), the interventionists who are introduced to this technique must introduce children to storybooks and must ensure that children are actively interacting with the interventionist as the story is being read to the children.
* The training must also put emphasis on the interventionists asking children questions based on the story being read. The interventionists will get the opportunity to observe a reading specialist demonstrate how to read a storybook while developing emergent literacy skills.
* The reading specialist will begin by informing children that she will be reading a story to them. The reading specialist then begins by telling the children the title of the book.
* The reading specialist goes on to state the author and the illustrator of the book.
* It is important for the reading specialist to ask children to explain what the author and the illustrator does before asking children to predict what the story will be about based on the illustrations on the cover of the book.
* The reading specialist then will have to do a picture walk by going through each page of the storybook and showing the pictures on each page to the children in order for them to tell what is going on in the story.
* After the picture walk, the reading specialist must read the story with intonation and must stop to ask children questions in order to engage the children and to make it as interactive as possible.
* During the reading the, specialist must focus on print awareness. Print awareness includes introducing children to the front of the book, the back of the book, reading from left to right and continuing reading from the next line.
* The reading specialist must also focus on developing two core vocabulary words as she reads the book and using illustrations and examples to explain the meaning of the two words.
* The reading specialist may also use this opportunity to ask children to identify one or two letters of the alphabet in the text.
* It is always a good idea for the reading specialist to ask children to retell the story or to tell what they learned from the story.
* After observing the reading specialist, the interventionists must be provided with the storybooks that they will be reading during the intervention.
* It is advisable for the interventionist to become familiar with the storybooks and if possible read the books prior to actually implementing the intervention. This will allow the interventionists to become familiar with the text and for easy implementation. It must be noted that two core vocabulary words from each book have been selected by the researcher and it is these two words that the interventionists will be focusing on for each book.
* The reading specialist will receive a flat amount of $5,000.00 a year for providing professional development training on how to implement the storybook reading intervention.
* For two years, it will be $10,000.00

**Supplies and Materials**

It is estimated that the total cost for supplies and material (storybooks, computer, printer, ink cartridges, paper, pencils, video for training and camcorder will be $4,133.68 dollars a year and $8,267.36 for two years. Refer to the table below for details.

|  |  |  |
| --- | --- | --- |
| **Supplies and Materials** | **Year 1** | **Year 2** |
| Storybooks | $2095.20 | $2095.20 |
| Computer | $ 649.99 | $ 649.99 |
| Printer | $ 179.99 | $ 179.99 |
| Ink Cartridges | $ 319.95 | $ 319.95 |
| Paper | $ 47.99 | $ 47.99 |
| Pencils | $ 50.00 | $ 50.00 |
| Video for training | $ 183.00 | $ 183.00 |
| Camcorder | $ 607.56 | $ 607.56 |
| **Total** | **$4,133.68** | **$4,133.68** |

**Assessments**

**Dynamic Indicators of Basic Early Literacy Skills (DIBELS)**

* Prior to the intervention, participants will complete four assessments that measure the participant’s literacy skills, alphabet knowledge ability, print awareness and vocabulary.
* The cost for Dynamic Indicators of Basic Early Literacy skills Assessment will cost $100.00 for the first year.
* The total cost for the two years is $200.00.

**Alphabet Knowledge Ability Assessment**

* The second assessment that the participants will complete is the alphabet knowledge ability assessment.
* This test measure the alphabet knowledge of participants.
* The cost of this assessment is $120.00 for a year
* For a two year period the cost is $240.00.

**The Preschool Word and Print Awareness (PWPA)**

* The third assessment is the preschool word and print awareness test.
* The cost for this assessment for a period of one year is $140.00.
* For a two year period, the cost is $280.00.

**The Peabody Picture Vocabulary Test**

* The Peabody Picture Vocabulary test is the fourth assessment.
* This test measures the vocabulary knowledge of participants.
* The cost for one year is $80.00. The cost for a two year period is $479.88.

|  |  |  |
| --- | --- | --- |
| **Assessments** | **Year 1** | **Year 2** |
| Dynamic Indicators of Basic Early Literacy Skills | $ 100.00 | $ 100.00 |
| Alphabet Knowledge Ability Assessment | $ 120.00 | $ 120.00 |
| The Preschool Word and Print Awareness (PWPA) | $ 140.00 | $ 140.00 |
| Peabody Picture Vocabulary Test | $ 80.00 | $ 80.00 |
| **Total** | **$440.00** | **$440.00** |

**Total cost**

* The total cost for one year is $440.00
* The total cost for two years is $880.00

**Travel**

* $2484.00 per year is required for domestic travel to each of the two schools sites.
* Calculations are based on an average round trip to schools.
* Visits to school sites (by principal investigator, co-principal investigators, reading specialist, and research assistants) are needed for recruitment, completion of forms prior to research (for example, acquisition of parent informed consent, student assent, educator assents, administration of pre-test assessments, implementation of intervention, and administration of post-test assessments).
* The total number of visits will be 72(36 per school,) for a year.
* Therefore, for a two year period it will be 144 visits (72 per school).
* The government rate for mileage is 54 cents per mile. This rate is from the Internal Revenue Service (IRS) website.

72visits x 60 miles = 4320miles x $0.54 = $2332.80 (one year)

144 visits x 60 miles = 8640 miles x $0.54 = $4665.60 (two years)

**Payments to Subjects**

* **Honorariums for classroom teachers:** Each classroom teacher will receive $500.00 honorarium per year for taking part in this study (such as acquiring parent informed consents).
* There are 6 classroom teachers
* Therefore 6 classroom teachers x $500.00 = $3,000.00
* **Honorariums for paraprofessionals:** Each paraprofessional will receive $500.00 honorarium per year for taking part in this study
* There are 4 paraprofessionals
* Therefore 4 paraprofessionals x $500.00 = $2,000.00
* The total honorariums for two years is $10,000.00
* **Student Incentives:** Students who return their parent informed consents in a timely manner will receive an incentive.
* There are 25 students in a class
* There are 6 classrooms
* 25 students x 6 classes = 150 students total x $20.00 = $3,000.00 per year
* For two years, the total will be $12,000.00

|  |  |  |
| --- | --- | --- |
| **Payments to subjects** | **Year 1** | **Year 2** |
| Honorarium for teachers | $3000.00 | $3000.00 |
| Honorariums for paraprofessional | $2000.00 | $2000.00 |
| Student Incentives | $3000.00 | $3000.00 |
| **Total** | **$8,000.00** | **$8,000.00** |

**Total Payments to Subjects**

* The total payments to subject per year is $8,000.00
* For two years, it will be $16,000.00.

**The total cost for expenditure is provided in the table below:**

|  |  |  |
| --- | --- | --- |
|  | **Year 1** | **Year 2** |
| Personnel | $63,000.00 | $63,000.00 |
| Training | $ 5,000.00 | $ 5,000.00 |
| Supplies and Materials | $ 4,133.68 | $ 4,133.68 |
| Assessments | $ 440.00 | $ 440.00 |
| Travel | $ 2332.80 | $ 2332.80 |
| Payments to subjects | $ 8,000.00 | $ 8,000.00 |
| **Total** | **$82,906.48** | **$82,906.48** |

**Grand Total for a two year period is $165,812.96**

**Responsibilities of Personnel**

The Table below provides information on the responsibilities of personnel. Refer to the personnel section for detailed description of the role and responsibilities of all the personnel who will be implementing the intervention.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Conducts Training** | **Administration of Assessments** | **Implements Intervention** | **Analyzes Data** |
| Principal Investigator | X | X | X | X |
| Co-Principal Investigator | X | X | X | X |
| Research Consultant |  |  |  | X |
| Reading Specialist | X | X | X |  |
| Graduate Research Assistants |  | X | X |  |
| Classroom Teachers |  | X | X |  |

**Personnel**

Dr. Henrietta Sawyerr is the principal investigator for this project. Dr. Sawyerr is an assistant professor in the department of early childhood education at George Mason University. Dr. Sawyerr has a bachelor’s degree in elementary education from the University of Cape Coast, a master’s degree in curriculum and instruction with an emphasis in early childhood education from Pennsylvania State University and another master’s degree in school administration and supervision from Bowie State University. In addition, Dr. Sawyerr has experience teaching pre-kindergarten students as well as kindergarten students. Dr. Sawyerr’s research focused on developing literacy skills in young children from diverse backgrounds who may be at risk for reading difficulties. Dr. Sawyerr is also interested in conducting research on young children with disabilities, especially students with autism. Currently Dr. Sawyerr is the principal investigator on a qualitative research that focuses on the perceptions of early childhood educators in teaching reading to students with autism who are English language learners. Dr. Sawyerr is also the president for the Literacy Research Association. Dr. Sawyerr will be the person responsible for overseeing the entire project since she is the principal investigator for this study. Dr. Sawyerr will be responsible for observing teachers implement the storybook reading intervention. She will also assist in training classroom teachers and graduate research assistants with specific emphasis on the procedures for conducting pre-test as well as other assessments, how to effective implement the intervention as well as procedures for conducting post-test. Dr. Sawyerr will devote twenty five percent of her time (in other words twenty four months) for the entire project. Refer to my biographical sketch for details regarding my curriculum vitae. Refer to my curriculum vitae for more information. Dr. Sawyerr will assist in training teachers and graduate research assistants, will also conduct assessments prior to the implementation of the intervention, will implement the intervention and assist in analyzing data upon completion of the study.

Dr. Angela El-Adas is a co-principal investigator for this project. Dr. Angela El-Adas is an associate professor in the department of early childhood education at George Mason University. Dr. Angela El-Adas is currently the vice president for the Association of Literacy Educators and Researchers. Dr. El-Adas research focuses on developing cognitive and literacy skills of young children from diverse backgrounds. Dr. El-Adas is currently the program coordinator for the department of early childhood education. Dr. El-Adas will be responsible for organizing and coordinating our professional development program for the project. She will be responsible for hiring a reading specialist who will demonstrate how to teach phonological awareness skills, vocabulary and print awareness using storybooks. Dr. El-Adas will assist in training teachers and graduate research assistants, will also conduct assessments prior to the implementation of the intervention, will implement the intervention and assist in analyzing data upon completion of the study.

Dr. Olive Thompson is another co-principal investigator for this project. Dr. Thompson is an associate professor in the department of literacy and reading at George Mason University. Dr. Thompson’s research interest focuses on reading comprehension as well as preventing and using early reading interventions to improve students’ academic performance. Dr. Olive Thompson will be responsible for ensuring that fidelity of implementation takes place. Dr. Olive Thompson will be in charge of recording information (name of teacher, date of implementing storybook intervention, skills being developed during storybook reading etc.) in a journal. Dr. Thompson will also be responsible for videotaping classroom teachers as they implement the intervention and will also conduct classroom observations during the time allotted for the implementation to make sure that classroom teachers are actually implementing the intervention. Dr. Thompson will assist in training teachers and graduate research assistants, will also conduct assessments prior to the implementation of the intervention, will implement the intervention and assist in analyzing data upon completion of the study.

Dr. Valerie Bonaldi is a consultant for this project. Dr. Bonaldi is an expert on research methodology. Dr. Valerie Bonaldi will work under the direction of the principal investigator and research staff and will be responsible for assisting with developing data collection instruments, will also conduct statistical analysis using SPSS, and will assist in the preparation of the results for publication.

**Graduate Research Assistants**

There will be a total of four graduate research assistants for this study.

Brenda Smith is a graduate research assistant for this project. Brenda Smith is a doctoral student in the department of early childhood education. Brenda Smith has a master’s degree in early childhood education and has experience teaching kindergarten children in a public school system in northern Virginia. Brenda Smith currently consults in reading and language arts in elementary schools in Fairfax county public school systems in Virginia. Brenda Smith will be responsible for implementing the storybook reading intervention in one of the classrooms and will also administer assessments. Brenda Smith will devote twenty four months for this project.

Lucy Hill is graduate research assistant for this project. Lucy Hill is a doctoral student in the department of literacy and reading at George Mason University. She has a master’s degree in elementary education and is currently a kindergarten teacher in a public school system in Fairfax County. Lucy Hill is interested in developing core vocabulary using storybooks and will be responsible for implementing the storybook reading intervention in one of the classrooms and will also administer assessments. Lucy Hill will devote twenty four months for this project.

Jacqueline Macbeth is a graduate research assistant for this project. Jacqueline MacBeth is a graduate student at the department of literacy and reading at George Mason University. Jacqueline MacBeth has a master’s degree in reading and is interested in developing concepts of print using storybooks. Jacqueline currently teaches language arts to kindergarten children in a public school system in Maryland. Jacqueline Macbeth is a highly qualified teacher and has attended professional development programs that focus on reading recovery. Jacqueline Macbeth will devote twenty four months for this project. Jacqueline MacBeth will be responsible for implementing the storybook reading intervention in one of the classrooms and will also administer assessments.

Susan Majdoub is a graduate research assistant for this project. Susan Majdoub is a graduate student in the department of elementary education at George Mason University. Susan Majdoub has a master’s degree in elementary education. Susan is a first grade teacher in a public school system in northern Virginia. Her master’s thesis focused on developing vocabulary knowledge of kindergarten children from diverse backgrounds using storybooks. Susan Majdoub will be responsible for implementing the storybook reading intervention in one of the classrooms and will also administer assessments. Susan will devote twenty four months to this project.

**APPENDIX B**

**Timeline for Research Project**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Activity/Story books to be Read** | | | **Skills to be developed** |
|  |  | | |  |
| Week 1 | Selection of Participants - Determine eligibility | | |  |
| Week 2 | Letter of consent will be sent to parents to give permission for children to take part in the study | | |  |
| Week 3 | Student assent required | | |  |
| Week 4 | Baseline data collection - Pre-test | | |  |
| Week 5 | The Alphabet Knowledge Ability Measure will be administered | | |  |
| Week 6 | The Initial Sound Fluency (ISF) subtest of the Dynamic Indicators of Basic Early Literacy Skills-Sixth Edition (DIBELS) will be administered | | |  |
| Week 7 | The Preschool Word and Print Awareness (PWPA) will be administered | | |  |
| Week 8 | The Peabody Picture Vocabulary Test will be administered | | |  |
|  | Implementation of Intervention | | |  |
| Week 9 | Brown Bear, brown Bear  By Bill Martin Jr.  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Gg and sound /g/  Vocabulary (bear, brown)  Concept of print   * Front of the book * Back of the book |
| Week 10 | If You Take a Mouse to School  By Laura Joffe Numeroff  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Gg and sound /g/  Vocabulary (mouse, school)  Concept of print   * Reading from left to right * Reading from top to bottom * Front of the book |
| Week 11 | If You Give a Pig a Party  By Laura Joffe Numeroff  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Mm and sound /m/  Vocabulary (pig, party)  Concepts of print   * Reading from left to right * Reading from top to bottom * Front of the book |
| Week 12 | The Lion and the Mouse  By Jerry Pinkney  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Mm and sound /m/  Vocabulary (lion, mouse)  Concepts of print   * Reading from left to right * Reading from top to bottom * Back of the book |
| **Date** | **Activities/Stories being read** | | | **Skills to be developed** |
| Week 13 | If You Give a Mouse a Cookie  By Laura Joffe Numeroff  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Oo and sound /o/  Vocabulary ( mouse and cookie)  Concept of print   * Reading from left to right * Reading from top to bottom * Identifying the front of the book |
| Week 14 | The Very Hungry Caterpillar  By Eric Carle  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Oo and sound /o/  Vocabulary (caterpillar)  Concepts of print   * Identifying a letter * Identifying a word * Reading from left to right * Reading from top to bottom |
| Week 15 | The Ugly Duckling  By Sarah Delmege  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Kk and sound /k/  Vocabulary (ugly, duckling)  Concepts of print   * Identifying a letter * Identifying a word * Reading from left to right * Reading from top to bottom |
| Week 16 | Bunny’s Noisy Book  Lisa McCue  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Kk and sound /k/  Vocabulary (book)  Concepts of print   * The return sweep: moving from one line to the next * Identifying a word * Identifying a letter * Reading from left to right |
| Week 17 | Goodnight Owl  By Pat Hutchins  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Cc and sound /c/  Vocabulary (owl)  Concept of print   * Reading from left to right * Reading from top to bottom * The return sweep: moving from one line to the next |
| Week 18 | Where’s my Teddy  By Jez Alborough  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Cc and sound /c/  Vocabulary (woods, bed)  Concept of print   * Reading from left to right * The return sweep: moving from one line to the next * Identifying the front of the book |
| **Date** | **Activity/Storybooks to be read** | | | **Skills to be developed** |
| Week 19 | Raccoon on his Own  By Jim Arnosky  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Rr and sound /r/  Vocabulary (raccoon)  Concepts of print   * What does an author do? * Reading from left to right * Reading from top to bottom   Identifying the front of the book |
| Week 20 | The Busy Tree  By Jennifer Ward  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Rr and sound /r/  Vocabulary (tree)  Concepts of print   * What does an author do? * Reading from left to right * Reading from top to bottom * Identifying the front of the book |
| Week 21 | Lost in the Woods  By Carl Sams  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Bb and sound /b/  Vocabulary (woods)  Concepts of print   * What does an author do? * Reading from left to right * Reading from top to bottom * Identifying the front of the book |
| Week 22 | Ten Little Fish  By Audrey Wood  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Bb and sound /b/  Vocabulary (fish)  Concepts of print   * What does an author do? * Reading from left to right * Reading from top to bottom * Identifying the front of the book |
| Week 23 | The Rainbow Fish  By Marcus Pfister  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Ii and sound /i/  Vocabulary (rainbow, fish)  Concepts of print   * What does an author do * Reading from left to right * Reading from top to bottom * Identifying the front of the book |
| Week 24 | Baby Whales Drink Milk  By Barbara Juster Esbensen  Fidelity of Implementation | | | Phonological Awareness: Focus on Letter Ii and sound /i/  Vocabulary (milk, whales)  Concepts of print   * What does an author do? * Reading from left to right * Reading from top to bottom |
| **Date** | | **Activity/Storybooks to be read** | | **Skills to be Developed** |
|  | |  | |  |
| Week 25 | | Five Little Sharks Swimming in the Sea  By Steve Metzger  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Ss and sound /s/  Vocabulary (swimming, sharks)  Concepts of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom * The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 26 | | What lives in a Shell  By Kathleen Weidner Zoehfeld  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Ss and sound /s/  Vocabulary (shell)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 27 | | Lulu the Big Little Chick  By Paulette Bogan  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Ww and sound /w/  Vocabulary (eggs, barn)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 28 | | Big Red Barn  By Margaret Wise Brown  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Ww and sound /w/  Vocabulary (barn)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right |
| **Date** | | **Activities/Storybooks to be read** | | **Skills to be developed** |
| Week 29 | | Does a Cow Say Boo  By Judy Hindley  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Yy and sound /y/  Vocabulary (cow)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 30 | | Sally Goes to the Farm  Stephen Huneck  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Yy and sound /y/  Vocabulary (drive)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 31 | | How to be a Friend  By Laurie Kransy Brown  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Nn and sound /n/  Vocabulary (friend)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 32 | | Lost and Found  By Oliver Jeffers  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Nn and sound /n/  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? |
| Week 33 | | May I Bring a Friend?  By Beatrice Schenk de Regniers  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Dd and sound /d/  Vocabulary (friend)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 34 | | David Goes to School  By David Shannon  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Dd and sound /d/  Vocabulary (chew)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 35 | | Friends at School  By Rochelle Bunnett  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Qq and sound /q/  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 36 | | How do Dinosaurs go to School  By Jane Yolen  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Qq and sound /q/  Vocabulary (dinosaurs)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter |
| **Date** | | **Activities/Storybooks to be read** | | **Skills to be developed** |
| Week 37 | | Wake Up, Sleepy Bear  Christen Morton  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Aa and sound /a/  Vocabulary (bear)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 38 | | Rumble in the Jungle  By Giles Andreae  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Aa and sound /a/  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 39 | | A Sick Day for Amos McGee  By Phillip C. Stead and Erin Stead  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Pp and sound /p/  Vocabulary (penguin)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 40 | | Frog and Toad are Friends  By Arnold Lobel  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Pp and sound /p/  Vocabulary (frog)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? |
| **Date** | | **Activities/Storybooks to be read** | | **Skills to be developed** |
| Week 41 | | Goldilocks and the Three Bears  By Robert Southey  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Tt and sound /t/  Vocabulary (bear)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 42 | | The Three Little Pigs  By Jorgen Moe & Peter C. Asbjornsen  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Tt and sound /t/  Vocabulary (pig, wolf)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 43 | | Jack and the Beanstalk  By Joseph Jacobs  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Hh and sound /h/  Vocabulary (market)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 44 | | The Three Billy Goat Gruff  By Jorgen Moe & Peter C. Asbjornsen  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Hh and sound /h/  Vocabulary (goat)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next |
| **Date** | | **Activities/Storybooks to be read** | **Skills to be developed** | |
|  | |  |  | |
| Week 45 | | The Kissing Hand  By Audrey Penn  Fidelity of Implementation | Phonological Awareness: Focus on the Letter Ll and sound/l/  Vocabulary (Hand)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word | |
| Week 46 | | Harold and the Purple Crayon  By Crockett Johnson  Fidelity of Implementation | Phonological Awareness: Focus on Letter Ll and sound /l/  Vocabulary (crayon)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word | |
| Week 47 | | Blueberries for Sal  By Robert McCloskey  Fidelity of Implementation | Phonological Awareness: Focus on Letter Ff and sound /f/  Vocabulary (blueberries)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word | |
| Week 48 | | The Grouchy Ladybug  By Eric Carle  Fidelity of Implementation | Phonological Awareness: Focus on Letter Ff and sound /f/  Vocabulary (ladybug)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next | |
| **Date** | | **Activities/Storybooks to be read** | | **Skills to be developed** |
| Week 49 | | The Bear Ate Your Sandwich  By Julia Sarcone-Roach  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Uu and sound /u/  Vocabulary (sandwich)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 50 | | A Splendid Friend Indeed  By Suzanne Bloom  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Uu and sound /u/  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 51 | | The Little Engine that Could  By Watty Piper and Loren Long  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Xx and sound /x/  Vocabulary (train)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 52 | | The Tale of Peter Rabbit  By Beatrix Potter  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Xx and sound /x/  Vocabulary (rabbit)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next |
| **Date** | | **Activities/Storybooks to be read** | | **Skills to be developed** |
| Week 53 | | Sheep in a Jeep  By Nancy Shaw  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Jj and sound /j/  Vocabulary (sheep)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 54 | | Llama, Llama Red Pajama  By Anna Dewdney  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Jj and sound /j/  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 55 | | Old MacDonald had a Farm  By Jane Cabrera  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Zz and sound /z/  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 56 | | Orange Pear Apple Bear  By Emily Gravett  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Zz and sound /z/  Vocabulary (apple, orange)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter |
| **Date** | | **Activities/Storybooks to be read** | | **Skills to be developed** |
| Week 57 | | Hattie and the Fox  By Mem Fox  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Ee and sound /e/  Vocabulary (fox)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 58 | | Tiger in my Soup  By Kashmira Sheth  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Ee and sound /e/  Vocabulary (tiger, soup)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 59 | | A Mother for Choco  By Keiko Kaszo  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Vv and sound /v/  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 60 | | Black is brown Is Tan  By Arnold Adoff  Fidelity of Implementation | | Phonological Awareness: Focus on Letter Vv and sound /v/  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter |
| **Date** | | **Activities/Storybooks to be read** | | **Skills to be developed** |
| Week 61 | | Here we go Around  By Alice McGill  Fidelity of Implementation | | Phonological Awareness:  Review Gg and Mm  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 62 | | Owl Babies  By Martin Waddell and Patrick Benson  Fidelity of Implementation | | Phonological Awareness:  Review Oo and Kk  Vocabulary (baby)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 63 | | Rattletrap Car  By Phyllis Root  Fidelity of Implementation | | Phonological Awareness:  Review Cc and Rr  Vocabulary (car)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? * Identifying a letter * Identifying a word |
| Week 64 | | Ten Little Fingers and Ten Little Toes  By Mem Fox  Fidelity of Implementation | | Phonological Awareness:  Review Bb and Ii  Vocabulary (toes)  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next * What does the author do? |
| **Date** | | **Activities/Storybooks to be read** | | **Skills to be developed** |
| Week 65 | | Be Glad Your Dad is not an Octopus  By Mathew Logelin and Sarah Jensen  Fidelity of Implementation | | Phonological Awareness:  Review Ss and Ww  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next   What does the author do? |
| Week 66 | | Ramona and her Father  By Beverly Cleary  Fidelity of Implementation | | Phonological Awareness:  Review Yy and Nn  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next   What does the author do? |
| Week 67 | | Cherry Pies and Lullabies  By Lynn Reiser  Fidelity of Implementation | | Phonological Awareness:  Review Dd and Qq  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next   What does the author do? |
| Week 68 | | Gus and Grandpa at Basketball  By Claudia Mills and Catherine Stock  Fidelity of Implementation | | Phonological Awareness:  Review Aa and Pp  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next   What does the author do? |
| Week 69 | | Song and Dance Man  By Karen Ackerman and Steven Gammell  Fidelity of Implementation | | Phonological Awareness:  Review Tt and Hh  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right * Reading from top to bottom The return sweep: moving from one line to the next |
| **Date** | | **Activities/Storybooks being read** | | **Skills to be developed** |
| Week 70 | | Visiting Day  By Jacqueline Woodson and James Ransome  Fidelity of Implementation | | Phonological Awareness:  Review Ll  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right   Reading from top to bottom The return sweep: moving from one line to the next |
| Week 71 | | Annie Rose is my Little Sister  By Shirley Hughes  Fidelity of Implementation | | Phonological Awareness :  Review Uu and Xx  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right   Reading from top to bottom The return sweep: moving from one line to the next |
| Week 72 | | Daisy and the Egg  By Jane Simnons  Fidelity of Implementation | | Phonological Awareness:  Review Jj  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right   Reading from top to bottom The return sweep: moving from one line to the next |
| Week 73 | | Emma’s Yucky Brother  By Jean Little and Jennifer Plecas  Fidelity of Implementation | | Phonological Awareness:  Review Zz  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right   Reading from top to bottom The return sweep: moving from one line to the next |
| Week 74 | | Does a Kangaroo Have a Mother Too?  By Eric Carle  Fidelity of Implementation | | Phonological Awareness:  Review Ee  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right   Reading from top to bottom The return sweep: moving from one line to the next |
| Week 75 | | Jonathan and His Mommy  By Irene Smalls  Fidelity of Implementation | | Phonological Awareness:  Review Vv  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right   Reading from top to bottom The return sweep: moving from one line to the next |
| **Date** | | **Activities/Storybooks being read** | | **Skills to be developed** |
| Week 76 | | Kevin and His Dad  By Irene Smalls  Fidelity of Implementation | | Phonological Awareness:  Review Ff  Concept of print   * Identifying the front of the book * Identifying the back of the book * Reading from left to right   Reading from top to bottom The return sweep: moving from one line to the next |
| Week 77 | | Post-test focusing on Letter Identification | |  |
| Week 78 | | Post-Test Focusing on Letter Sounds | |  |
| Week 79 | | Post-test focusing on Vocabulary | |  |
| Week 80 | | Post-test focusing on Print Awareness | |  |
| Week 81 | | Analyzing data | |  |
| Week 82 | | Analyzing Data | |  |
| Week 83 | | Analyzing Data | |  |

**DIBELS Initial Sound Fluency**

This is tomato, cub, plate, doughnut (examinee point to pictures).

1. Which picture begins with /d/? \_ 0\_ 1

2. Which picture begins with /t/? \_ 0\_ 1

3. Which picture begins with /k/? \_ 0\_ 1

4. What sound does “plate” begin with? \_\_ 0\_ 1

This is bump, insect, refrigerator, skate (examinee point to pictures).

5. Which picture begins with /sk/? \_ 0\_ 1

6. Which picture begins with /r/? \_ 0\_ 1

7. Which picture begins with /b/? \_ 0\_ 1

8. What sound does “insect” begin with? \_\_ 0\_ 1

This is rooster, mule, .y, soap (examinee point to pictures).

9. Which picture begins with /r/? \_ 0\_ 1

10. Which picture begins with /fl/? \_ 0\_ 1

11. Which picture begins with /s/? \_ 0\_ 1

12. What sound does “mule” begin with? \_\_ 0\_ 1

This is pliers, doctor, quilt, beetle (examinee point to pictures).

13. Which picture begins with /b/? \_ 0\_ 1

14. Which picture begins with /pl/? \_ 0\_ 1

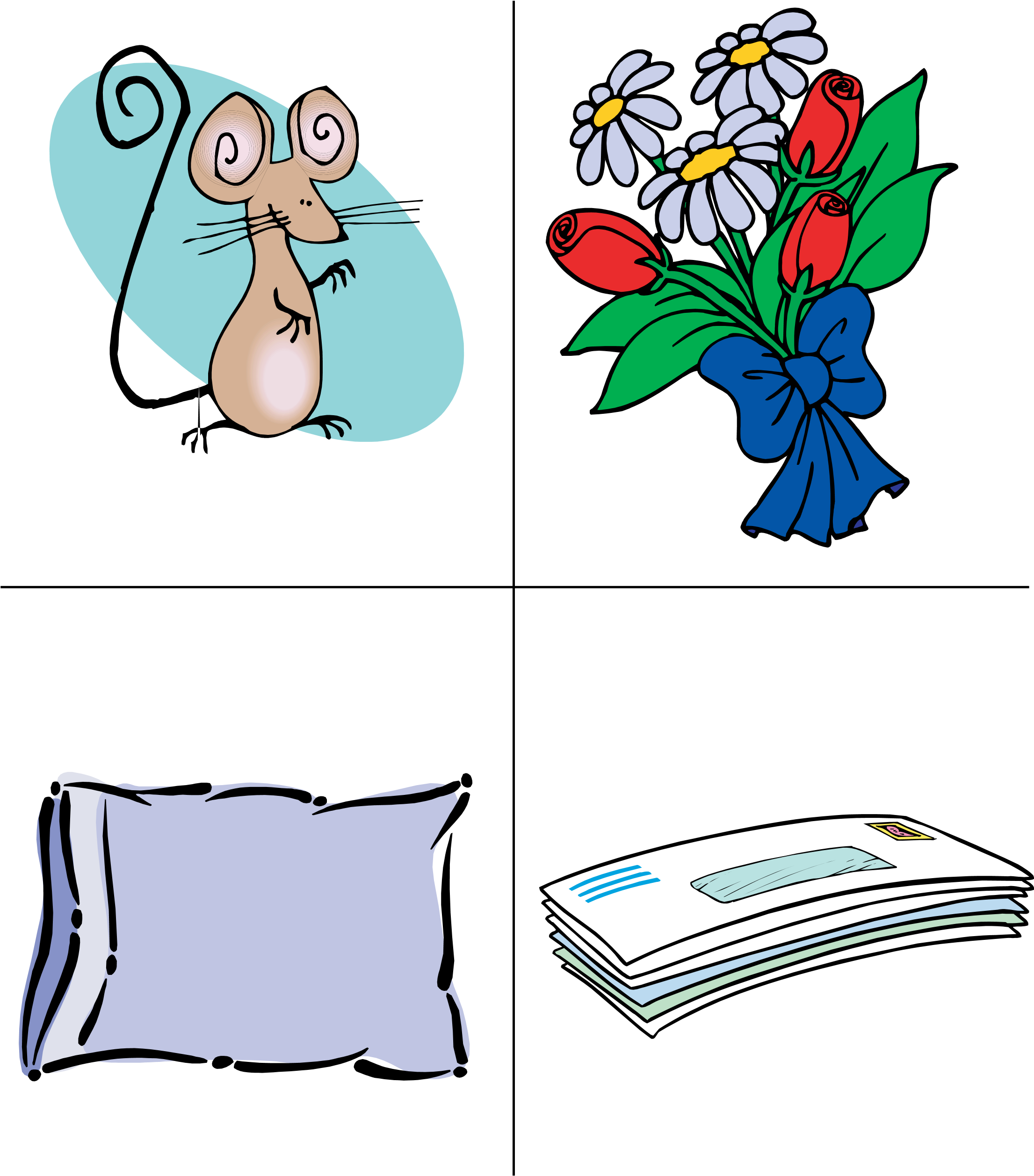
15. Which picture begins with /d/? \_ 0\_ 1

16. What sound does “quilt” begin with? \_\_ 0\_ 1

Time: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Seconds Total Correct: \_\_\_\_\_\_\_

60 x Total Correct Seconds = \_\_\_\_\_\_\_\_ Correct initial sounds per minute

The pictures on the next page are examples of items on the test



|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |

**The Alphabet Knowledge Ability Measure**

**Identify each letter of the alphabet**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| UPPER CASE LETTERS | | | | | |
| G | M | O | K | C | R |
| B | Ii | S | W | Y | N |
| D | Q | A | P | T | H |
| L | F | U | X | J | Z |
| E | V |  |  |  |  |
| Lower case letters | | | | | |
| g | m | o | k | c | r |
| b | i | s | w | y | n |
| d | q | a | p | t | h |
| l | f | u | x | j | z |
| e | v |  |  |  |  |

**The Preschool Word and Print Awareness (PWPA)**

**Concepts of Print Scoring Guide**

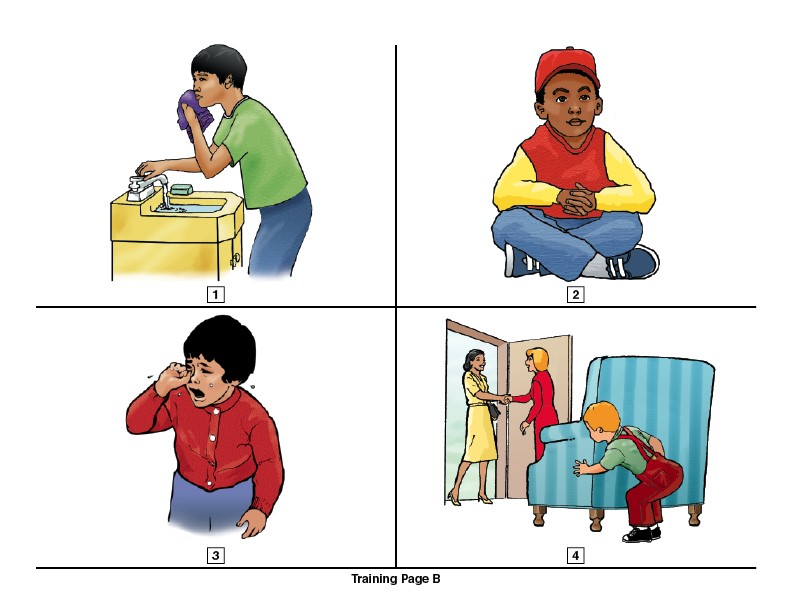
|  |  |  |  |
| --- | --- | --- | --- |
| **Name of Student:**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Age: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  | **Test Score: \_\_\_ /11** |
| **Page** | **Item** | **Score** | **Comment** |
|  | Front of the book |  |  |
|  | Where to start to read |  |  |
|  | Which way to go |  |  |
|  | Return sweep to the left |  |  |
|  | Word by word matching |  |  |
|  | Meaning of full period |  |  |
|  | Identifies one letter |  |  |
|  | Identifies one word |  |  |
|  | Identifies the first letter of a word |  |  |
|  | Identifies the last letter of a word |  |  |
|  | Identifies a capital letter |  |  |

One point is awarded for each correct item

**Peabody Picture Vocabulary Test, Fourth Edition (PPVT)**

**Authors Lloyd M. Dunn, PhD and Douglas M. Dunn, PhD**

The Peabody Picture Vocabulary Test is a norm-referenced instrument for measuring the receptive vocabulary of children. There are two versions of this test, Form A and form Band they are both administered individually. Each form contains training items and 228 test items, each consisting of four full-color pictures as response options on a page. For each item, the examiner says a word, and the examinee responds by selecting the picture that best illustrates that word meaning. This test takes approximately 10-15 minutes to complete. Below are some of the picture responses that children by select:



**APPENDIX E**

**Data Management Plan**

The type of data that will be produced is quantitative. The principal investigator for this project will take responsibility for the collection, management, and sharing of the research data. The research team will be trained in protecting human subjects. Only trained staff members of the research team will have access to the research data. The data in this study will be confidential. Participant’s information, including names and other identifiable information will not be included in this study. The principal investigator will store data on a flash drive and will ensure that the flash drive is kept safe at a location only known to the principal investigator. The principal investigator will not refer to participants by their original names. Pseudonyms will be assigned to each participant.

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**EDUCATION**  
**George Mason University, Fairfax, Virginia, USA Expected 2020**

College of Education and Human Development

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Specialization: Early Childhood Education   
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**Bowie State University, Bowie, Maryland, USA** **May 2014**  
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Masters of Education in Educational Leadership   
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**Pennsylvania State University, University Park, Pennsylvania, USA** **May 2005**College of Education

Masters of Education in Curriculum and Instruction   
Specialization: Early Childhood Education  
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**University of Cape Coast, Cape Coast, Ghana March 2003**Bachelors of Education in Primary Education   
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Pre-Kindergarten Teacher (August 2005 to June 2007)  
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