Building Language and Literacy Foundations for L2 Learners in West Africa with Oral Vocabulary Instruction and Shared Reading of Predictable and Non-Predictable Stories in Picture Books

by

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Abstract

This study investigated the effects of shared reading on oral vocabulary development with 42 second language (L2) learners in Dakar, Sénégal. Participants, ranging from four to six years old, were taught French target words using predictable books, non-predicable books, and control activities of the typical local instructional practice of using coloring vocabulary worksheets with pictures and captions. For the five weeks of vocabulary study, students were evaluated in four domains (receptive vocabulary, semantic understanding, syntactic understanding and expressive vocabulary) at three intervals: weekly and with post-tests immediately after instruction ended and eight weeks after the immediate post-test. Multivariable linear regressions were performed to evaluate how well shared reading predicted oral vocabulary development. Findings demonstrated that shared reading, especially with predictable books, was associated with statistically significant gains on participants' semantic understanding and positively predicted receptive, syntactic and expressive vocabulary knowledge. Further, whereas the control group's mean outcome scores decreased over time, the reading group using predictable books demonstrated greater retention of L2 vocabulary than the other treatment and the control group.

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Table of Contents

List of Tables

List of Illustrations

List of Abbreviations

EVIP   Echelle de Vocabulaire en Images Peabody

L1   First Language

L2   Second Language

LDC   Less-developed country

LOI   Language of Instruction

MLR   Multivariable Linear Regression

P1   Protocol 1: Shared reading treatment group using predictable books

P2   Protocol 2: Shared reading treatment group using non-predictable readers

P3   Protocol 3: Control group using coloring pages

WP   EVIP translated into Wolof

Chapter 1: Introduction

Purpose of the Study

This dissertation research was undertaken to extend findings on teaching methods and practices that help learners succeed in academic contexts requiring them to become competent in a language different from the language spoken in their homes and communities. This study investigated the effects of shared storybook reading with predictable and non-predictable texts on second language (L2) development for children entering school in Sénégal, West Africa, where French is the official academic language and the first language is one of the local sénégalo-guinéen languages. Existing practices for introducing young children to the French language involved having them color pictures with the printed French words, and these coloring activities were engaged in by the control group. Only the children in the treatment groups with predictable or non-predictable texts engaged in shared reading activities. The study was designed to evaluate the extent to which the shared reading treatment groups with predictable versus non-predictable books and the control group with coloring activities differed in acquisition of receptive vocabulary, semantic and syntactic patterns, and expressive language in French.

Review of the Problem

Research has established the importance of early lexical development as a predictor of success with decoding and reading comprehension (Lee, 2011; Kohnert, Kan & Conboy, 2010). The breadth of a preschooler's receptive and expressive vocabulary is a key indicator of later literacy competencies and the basis for the Matthew Effects Principle, which states that language-rich youngsters acquire richer language and literacy stores than language-poor children

(Stanovich, 1986). It has been determined that vocabulary knowledge helps students decode unfamiliar words in print (Ehri & Nunes, 2002), and several studies have demonstrated that vocabulary knowledge correlates to reading comprehension (Lehr, Osborn & Heibert, 2004). Bialystok, Luk, and Kwan (2005) noted that understanding the nature and relations between words and their meanings is a primary factor in language and literacy development for multi-lingual children.

However, there have been few investigations of the relationship between oral language skills and early reading development, especially for young children who are L2 learners. Investigations have shown that oral language development, particularly oral vocabulary, is crucial for learning to read in a second language (Erdos, Genesse, Savage, & Haigh, 2010). Elley (1989) identified listening comprehension of oral language or comprehensible input as the first step in the L2 language acquisition process and stated that oral language production or output comes next and only after listening comprehension of input.

More research is needed to explore the relationships between oral language and reading development for L2 learners. While it is useful to consider the relative contributions of input and output to acquisition, it is also important to acknowledge that both occur in oral interactions that play a central role in second language acquisition. As Hatch (1978) stated, "One learns how to do conversation, one learns how to interact verbally, and out of the interaction syntactic structures are developed" (p. 404). Interaction therefore is not just a means of automatizing what the learners already know but is also the means for acquiring new language.

The language acquisition process is a complex interaction of multiple processes which is further complicated in a multiple-language environment. Key concepts in this context are as follows:

Oral language skills are capacities developed in the domains of word knowledge, receptive and expressive vocabulary, conceptual knowledge and knowledge of syntax. (Vellutino, Scanlon, & Spearing, 1995; Vellutino, Scanlon & Tanzman, 1991.)

First language (L1) is the language that a person has learned from birth or that a person speaks principally and is most often the basis for the person's sociolinguistic identity. A person's first language is not necessarily his or her dominant language, the one he or she uses the most or with which he or she is most comfortable. Some individuals may lose utility of the earliest language learned as a result of identity with a new language environment.

Second language (L2) refers to a language learned in addition to a person's first language. A person is bilingual only if a second language is learned simultaneously, to the same proficiency level, or plays a substantial role in his sociolinguistic identity as L1. L2 learners are different from individuals learning a foreign language. A person can become quite proficient in a foreign language without having the additional language play a primary role in the foundation of the linguistic reference point and sociolinguistic identity.

It takes children between two and five years to achieve communicative competence for using meaning and grammar in their L1. During this time, they are exposed to a vast amount of input through oral communication (Wells, 1985). Research indicates that oral language is an essential precursor to learning to read. (Dickinson & McCabe, 2001; Storch & Whitehurst, 2002). This is equally true of L2 acquisition. Cummins (1986) proposed that L2 learners take five to seven years to develop the same oral competence as native learners in cognitively demanding contexts, but can develop the same competencies in social communication in two years. If learners do not receive substantial exposure and practice in receptive and expressive communication in the target L2, they cannot acquire it (Ellis, 2008).

There is an abundance of L1 research that may provide insight into components of L2 acquisition. Results from a study conducted by Roth, Speece and Cooper (2002), for example, indicated that vocabulary is a determining factor in later development of word-level knowledge and reading comprehension. In this longitudinal study that started when children were preschoolers, Roth and colleagues found that efficient word retrieval and access to oral definitions were the two semantic factors that were the best predictors of reading comprehension when the children reached second grade. For L1 preschoolers, research has shown that acquisition of novel vocabulary is enhanced when children are exposed to shared reading of rich and engaging text (McKeown & Beck, 2006; Sénéchal & Cornell, 1993; Robbins & Ehri, 1994). The texts in these studies were   well-crafted stories containing descriptive language and captivating narratives. Although these types of stories can inspire the imagination of young minds as well as give a sense of well-formed, grammatically correct sentences, there are few if any studies that address the question of whether these rich texts with non-repetitive language are equally as effective for L2 learners as for L1 learners.

Research regarding shared reading has not been as definitive for L2 learners as for L1 children. As pointed out by Comesana, Perea, Pineiro, and Fraga (2009), second language research has been a rather neglected area in cognitive psychology and psycholinguistics. The review of the literature that follows in Chapter 2 reveals that little research has been conducted to examine the affect of reading aloud on L2 learning. Included in this small body of work is a study of reading aloud in shared reading activities by Elley (1989), which was initially conducted with young L2 learners and later replicated with L1 children. Elley discovered that novel vocabulary acquisition was positively correlated with the frequency of occurrences of a word in a

text, the frequency of occurrence of the word in pictorial form, and the helpfulness of meaning cues.

There is a need for further investigations to determine if shared reading of non-predictable texts lead to significantly greater amounts of novel vocabulary acquisition for L2 as well as for L1 learners. In addition, research is needed to examine whether shared reading with other types of texts, such as predictable stories, is more or less effective than with non-predictable texts for L2 learners. Predictable books are stories with syntactic and semantic patterns in simple language that is repeated and that children come to anticipate. For L2 pre-readers, there is a void in language experience and listening comprehension and a lack of sufficient lexical entries as a foundation for formulating basic beginning reading skills. Teachers of L2 learners need methods and materials for building the basic vocabulary and an understanding of language that L1 learners have already acquired by being immersed in the language on a day-to-day basis before schooling begins.

Classroom studies by Ellis (1984) demonstrated that L2 learners internalize rote-learned material as chunks and then break them down at a later point for analysis. This means they first allocate meaning to a phrase or series of words and then later come to understand these chunks as individual words with particular meanings. Linse (2007) discussed the importance of repetition in teaching children L2 vocabulary and syntax. The work of Ellis and Linse suggests the possibility that predictable books may allow for the chunking of language and provide repetition of syntactic patterns and vocabulary in context that the L2 preschoolers need to build oral language competencies.

5

Discussion of the Hypotheses

The goal of this dissertation research was to further the understanding of teaching methods and practices that help L2 learners succeed in academic contexts by supporting the language acquisition process with shared storybook reading. The focus of this study was vocabulary development in pre-readers. The treatment consisted of four read alouds for each of five different stories with a minimum of four in-context exposures to each word targeted in the stories for testing and statistical analysis of L2 learning outcomes. This investigation and the statistical analyses of results primarily addressed the two questions and three associated null hypotheses that follow.

Question 1: Were there statistically significant differences in effects of

shared reading with predictable and non-predictable texts versus control activities

for the learning of novel French vocabulary on each of the following outcomes:

A. Receptive Vocabulary

B. Semantic Patterns

C. Syntactic Patterns

D. Expressive Language

Question 2: Were there statistically significant differences between the

two shared reading protocols with predictable versus non-predicable texts in

summative immediate and post-test scores on each of the following outcomes?

A. Receptive Vocabulary

B. Semantic Patterns

C. Syntactic Patterns

D. Expressive Language

H_{o1}: There was no statistically significant difference in effects of the use of predictable books for Protocol 1 and coloring activities for the control group, Protocol 3 in novel, French vocabulary acquisition as measured at two time intervals: at the end of the five-week treatment and eight weeks later for a delayed post-test.

H_{02}: There was no statistically significant difference in effects of the use of non-predictable books for Protocol 2 and coloring group activities for the control group, Protocol 3, in novel French vocabulary acquisition as measured at two time intervals: at the end of the five-week intervention and at eight weeks later for a delayed post-test.

H_{o3}: There was no statistically significant difference in effects of the use of predictable books for Protocol 1 and non-predictable books for Protocol 2 in novel French vocabulary acquisition as measured at two time intervals: at the end of the five-week intervention and eight weeks later for a delayed post-test.

Theoretical Significance

Theoretical foundations for this research have been drawn from cognitive psychology and learning theory, metalinguistics, L2 acquisition theories, and oral language development. The significance of shared reading and oral language development has been considered within each of these theoretical perspectives and will be discussed in Chapter 2. This study was designed to examine hypotheses emerging from these theoretical viewpoints and to yield results that can help educators working in complex multiple language contexts translate theory and pedagogy into informed educational practices.

Practical Importance

Potential educational implications of results from this study on local communities in Sénégal included increasing teachers' knowledge and skills for engaging L2 students in shared

reading and promoting vocabulary growth through instructional activities to which they are not normally exposed. On a broader scale, results will be published and presented at professional conferences to help direct and inform teaching practices for larger numbers of school children who must begin academic careers in languages that are not primary and who are expected to be successful both in learning academic content but also in L2 acquisition.

Sénégal, West Africa is not unlike many countries around the world where young children speak one language at home but arrive at school having to learn to read and to write in a formal language of instruction (LOI) that is not their mother tongue. This study evaluated oral vocabulary development in French and Wolof, one of the local sénégalo-guinéen languages, in order to determine if shared reading can be used to promote French literacy skills needed by children for academic and economic success. In addition, the effects of shared reading with texts in predictable and non-predictable formats for the same stories and illustrations were measured to see if these two types of texts produced statistically significant differences in the acquisition of novel French vocabulary words to which children were exposed in the shared storybook reading activities. The coloring activities of the control group were comprised of the same pictures that the treatments groups were exposed to for learning target vocabulary.

Substantial literacy needs are present in developing areas of the world, and West Africa in particular has been identified as home to stark inequalities in access to education. The Center for Universal Education at Brookings Institute conducted a survey and, based on the results, estimated that 61 million children of primary school age, or one in every two children across this area of Africa, will reach their adolescent years unable to read, write, or perform basic numeracy tasks (Brookings Institution, 2012.) In Sénégal, from 2008 to 2010 only 1.5 % of males and 0.2 % of females were reading with at least an 80% comprehension rate by grade three (Gove &

Cvelich, 2011). In this part of the world, the level of education an individual attains limits or affords choices regarding one's future and economic opportunities.

Description of Research Context

Sénégal is a diverse, multilingual country in which between 80% to 90% of the people understand and speak French but only a small proportion of the inhabitants become literate in their own language (Dumont, 1998). Sénégal recognizes 10 languages that are designated as *langues nationales,* national languages. In 2008 the Agence Nationale de la Statistique et de la Démographie, ANSD, reported that the percentages of people who become literate in their L1 were only 4.37% for Pulaar, 2.6% for Mandinge, 2.7% for Wolof, and 1.3 for Soninke. For French, the official language of instruction (LOI), 37.8% of the populous is literate, but less than 10% speak the language daily. Between 15% to 20% of males are speakers of French, whereas less than 2 % of females speak French (UNESCO, 2012). Although the Wolof ethnic group makes up only 40 % of the population, Wolof has become la langue de la rue*,* the street language, and it is estimated that 80 to 90% of the population of Sénégal speaks Wolof (Dumont, 1998). Although most Sénégalese cannot read or write Wolof, Wolof and French are the diglossa languages of power (McLaughlin, 2008) and provide access to employment in the professional sector that is often not available for those who are not literate in French (Shiohata, 2010).

Similarities and differences exist between these two power languages of Sénégal. The syntax of Wolof and French is similar in that they both share the basic subject-verb-object pattern in sentence structures. However, pronouns are more complicated in Wolof than French because they have numerous forms that include different words for independent subject and object clitic, possessive, demonstrative, modifier, and indefinite pronouns. Wolof does not have adjectives and has only a few adverbs of manner. Instead, verbs and verb phrases are used to

modify nouns and verbs (Munro & Gaye, 1997).

Established by French colonists in the 1800s, the formal educational system continues to be modeled after that of France with French as the primary LOI. One of the hallmarks of the French educational system is the rigorous and high expectation for students to develop the capacity to express language in written and oratorical forms. This includes French orthography, grammar, and the ability to compose texts following styles from classic French literature style (Rockwell, 2012). Texts used in formal instruction have been utilized for decades. The classroom environment is highly teacher driven with little active participation on the part of the student and an emphasis on passive learning. Little or no shared reading of story texts is used in instruction. Often students have few opportunities to practice skills and receive little encouragement for academic achievement. Parents have the freedom to determine at what age they will bring their child to school for the first time.

Because of the great difference in language cultures of home and school in Sénégal, there is a disconnect between formal learning and daily life (Shiohata, 2010). Educators, public officials, and aid workers committed to improvement of literacy rates are aware of gains in comprehension provided by L1 literacy instruction, and they have become supporters of formal L1 instruction for young children (Albaugh, 2007). Beginning in the early nineteenth century with Jean Dard, a French monk and schoolmaster, many L1 literacy advocates have made attempts to establish systematic African language instruction in schools, but efforts to promote primary language support have had limited and short-term success (McLaughlin, 2008).

Sénégal, having become an independent country in 1960, is one of the few African countries that has had stable democracy. Primarily a Muslim country, the population in 2013 was estimated to be around 12.4 million with a push toward urbanization and 42% of the population

now live in urban areas, with Dakar, the capital city and a major West African port as the largest metropolitan area with a population of about 2.5 million (United Nations Department of Economic and Social Affairs Population Division, 2013).

The people of Sénégal have a rich oral tradition and a culture where people often do not own or purchase books. Thus is it is not surprising that few texts and books in French and local languages are published in Sénégal. According to Kloeckner (2001), textbooks represent 75 to 90 % of the total book market. Large publishing companies in France print the majority of texts and books, as the development of local publishing capacity in low-income countries like Sénégal is often limited by constraints such as a lack of a viable market (Read, 1996). Consequently, there is a scarcity of reading material in homes and school contexts.

Design, Variables, and Materials

This study was designed to detect significant main effects for different types of shared reading, i.e., predictable books and non-predictable books, on oral language development in French and Wolof as measured by four outcomes: Receptive, Semantic, Syntactic and Expressive domains of language. Language domains in second-language acquisition field often refer to speaking, listening, writing and reading elements of acquiring a language. For the purpose of this study, language domains refer to the receptive, semantic, syntactic and expressive components of novel vocabulary development.

Variables and materials.

Although a thorough explanation of operational definitions is included in Chapter 3, a brief overview of variables, materials and definitions is included here.

Dependent variables.

- **Predictable books** employ repetitive language and/or sequences of rhythms and rhymes.

- **Non-predictable books** are rich storybooks with more complex plots, novel vocabulary, and grammatical structures than predictable books.

- **Control group activities** had the participants involved in a vocabulary learning strategy characteristic for the schools, coloring with pictures and labels of target words. The children in the control group colored the same images used to introduce each treatment group to the target vocabulary in this study.

Independent variables.

- **Receptive vocabulary** includes all of the words that one recognizes and understands upon hearing or reading them.

- **Semantic understanding** involves the ability to comprehend the sense of a word upon reading or hearing it, often within a particular context.

- **Syntactic understanding** indicates the ability to understand and apply the grammatical rules of a language and the comprehension of the role or place a word serves in a phrase or sentence.

- **Expressive vocabulary** or productive vocabulary contains the words that one is able to produce.

Materials.

A field test of materials was carried out with preschoolers at a daycare in Auburn, Alabama during September 2012. Although the first language of the children in this area was English and not Wolof, these children, like the preschoolers in Sénégal, had little exposure to

French. The Peabody Picture Test in English and Echelle de vocabulaire en image Peabody (EVIP) formulated by Dunn, Thériault-Whalen and Dunn (1993) were used to get a base line measure of children's receptive vocabulary in both languages. The field test results informed the development of improvements of materials and assessment instruments for the study in Sénégal. Initial findings from the study demonstrated positive effects for the use of shared reading in vocabulary learning for L2 learners, in particular when predictable books were used. The repetitive pattern of the language and phrasing of these readers engaged participants and produced overall higher means on receptive, semantic and expressive elements of vocabulary acquisition.

Limitations

This study was limited by a small sample size. Although there were 42 participants in the study overall, the three protocols were composed of 15, 15, and 12 participants respectively. This made it difficult to run analyses without over stretching the assumptions and requirements of a linear regression model. Had there been a larger number of participants, results would have been more conclusive and generalizations of outcome would have been more appropriate.

Although the researcher conducted all the shared reading activities, two local Sénégalese teachers assisted with the implementation of the treatments because of their command of the local language. Attempts were made to maintain fidelity of treatment through training of assisting teachers and videotaping of all research events.

In spite of these limitations, this study has produced results that have the potential to help teachers develop children's L2 oral language as a primary step in the literacy process for learning in complex multi-lingual contexts, particularly where students have little exposure to LOI prior to entering school.

Definition of Terms

Academic language denotes skills in all domains needed for successful performance in the scholastic environment beginning with preschool and continuing through elementary school (Ovando, Combs, & Collier, 2006).

Concurrent translation is an instructional strategy used with storybook reading whereby text is translated directly from the target language into L1 (Ulanoff, & Pucci, 1999).

Decontextualized language refers to language that is used to convey new concepts to those who have had limited experience with the context of the information (Dickinson & Snow, 1987).

Developing country, also called a *less-developed country* (LDC), is a nation with a low living standard, underdeveloped industrial base, and low Human Development Index (HDI) relative to other countries (Sullivan & Sheffrin, 2003).

Dialogic reading is described as reading in which adults ask open-ended questions in order for children to be actively engaged with the listening and discussion of a story (Hargrave, & Sénéchal, 2000).

Diglossa language describes a situation where two languages are used within the same community but within separate circumstances (Feitelson, Goldstein, & Share, 1993; McLaughlin, 2008).

Incidental language learning is a concept that suggests that children learn vocabulary and syntax from repeated interaction with oral language and stories that children hear and read (Elley, 1989).

Passive learning is an approach to teaching by which students are expected to learn by rote repetition of facts without an attempt to engage in active critical thinking or problem solving.

Preview-review is an instructional strategy whereby unfamiliar words and concepts in L2 are first reviewed in L1 before reading and then reinforced in L1 post-reading. Only L2 is used during reading (Ulanoff, & Pucci, 1999).

Primary language support involves the use of L1 to facilitate comprehension of instruction in L2 (UNESCO, 2008).

Target language is another term for LOI or L2 (Ovando, Combs, & Collier, 2006).

To further understand the theoretical basis of the stated research questions and gain insight from current research, the research literature related to this topic is reviewed in the next chapter. This is followed by a discussion of methods and research design. The last two chapters present a summary of results and the discussion of conclusions and educational implications drawn from this study.

Chapter 2: Review of Related Literature

Problem Explored

According to Gove and Cvelich (2011), "The point of reading is comprehension, and the point of comprehension is learning" (p. 5). Recent studies have isolated three key skills in the early school period that are predictive of students' reading ability during their academic career. These skills include phonological awareness, the ability to detect and manipulate sounds in oral language independent of meaning; print knowledge, letter identification and and understanding of the basic concepts of print; and oral language, vocabulary and grammar (Lonigan, 2006; Lonigan, Burgess, & Anthony, 2000). The latter is the focus of this research.

Two principal questions related to the foundations of L2 reading and learning provided the impetus for this dissertation research and the literature review in this chapter. Most importantly, how are children in early phases of learning oral and written L2 best assisted in becoming successful in comprehending and learning throughout their educational careers? And, more specifically, how can L2 learners best be helped to make up for a lack of early experiences with the target language so that they can build the oral vocabulary and mental lexicon needed for developing life-long literacy skills? This review of literature draws from theoretical bases of language learning as well as research on teaching practices proven to help children in this context. First, the literature reviewed will address theoretical foundations for cognitive learning and psychology, social-cultural linguistics, metalinguistics, and second language acquisition and will consider their implications for early L2 learners. Secondly, the review will examine current research on

vocabulary development, L2 teaching practices, shared reading and the use of predictable and non-predictable books. Paradis (2007) highlighted the importance of theories and research in this area when she noted that "understanding child SLA (second language acquisition) is crucial to developing a complete understanding of children's language development in the school years because dual language children are the majority globally" (p.401). For this reason and others, literature on how to best assist young learners in their journey toward L2 literacy is worthy of further investigation. This research project considers the implications of the theories and research reviewed in this chapter and applies them to instruction for children entering school in Sénégal, West Africa, where they must learn and become literate in French, the country's official academic language.

Theoretical Considerations

 Cognitive psychology and learning theory.

  Human beings create meaning and understand language, a task which is made particularly complex in multi-lingual settings. The linguistic environment of West Africa, the context for this study, is a mélange of languages and cultures, with most of the citizens unable to read or write in a first or second language. Yet, the many people groups of the area have rich oral traditions through which they pass along heritage, customs, and familiar tales from generation to generation.

  In many ways this is not unlike the ancient Greeks, who are remembered for their intellectual and philosophical civilization with a love of language and debate. Bergen (2012) noted that although the Greek society honored sophisticated dialogue and discussion, few people could read or write and yet orators were able to remember

eloquent speeches. The implication is that the human mind develops sophisticated language and creates meaning even without making a connection to orthography. Processing skills required for L2 learning must be even more sophisticated and complex than for L1 learning.

Recent developments in neuroscience using neuroimaging techniques have highlighted the differences in brains of those who acquire two languages as children and those who learn the languages as adults. Brain scans indicate that children have just one area in the brain to store and interpret two languages; whereas adult L2 learners have a different area for each language (Kim, Relkin, Lee, & Hirsch, 1997). Sakai (2005) found that classroom learning of a second language affects the function of brain language centers, thus suggesting that current neuroscience research may have implications for the formation of curricula and daily instruction in schools.

Unfortunately studies of vocabulary acquisition and teaching strategies that foster it, particularly for L2 learners, have been rather scant in cognitive psychology literature. Therefore, little evidence has been generated to support specific methods for vocabulary development teaching and learning (Barcroft, 2004a; Barcroft 2004b; Kohnert & Kan, 2007). However, theory and research converging from different areas of cognitive science have indicated that imagination and engagement of the visual system are processes that enable human beings to create meaning from language (Bergen, 2012).

In the 1990s a new theory of understanding meaning was developed by cognitive psychologist Larry Barsalou, a team of cognitive scientists from Berkley's International Computer Science Institute, and a group of neuroscientists in Parma, Italy. Bergen (2012) explained that this theory, the embodied simulation hypothesis, proposed that human

beings "understand language by simulating in the mind what it would be like to experience the thing that language describes" (p. 13). Bergen's work included reviews of research that supported the importance of mental imagery and the significance of simulation, or "the creation of mental experiences of perception and action in the absence of their external manifestation" (p. 14) This body of research suggested that the human capacity for imagery allows the mind to develop meanings for concepts even in the absence of personal experience of every aspect of those concepts; thus humans are able to make meaning creatively and constructively as one function of how the brain is wired.

Bergen (2012) argued that vision is the primary conduit for collecting information from the environment and that it is closely related to the internal life of the human mind. This implicates sight as a key component in formulating understanding and meaning in the language process. He further contends that our visual system allows us to identify things in the real world but also to mentally simulate non-present things, allowing for recall and categorization. Zwaan et al. (2004) found that the mind simulates or images location, shape, and color and these researchers concluded that hearing or reading language about objects allows human beings to mentally simulate those entities. In this way cognitive scientists have shown the importance of visual images in the formation of understanding and meaning in language. Wolf (2007) provided additional support for the role of sight in oral and written language development by stating that reading skills required for full literacy do not develop without effort and that individuals must adapt the part of the brain that recognizes images to learn to interpret written letters and words.

There is experimental evidence that supports the important role of pictures in free recall (Paivio & Csapo, 1973), in L2 processing (Kroll, Michael & Sankaranarayanan,

1998) and across a variety of models for both young learners (Ferro & Pressley, 1991; Peek, 1974; Pressley, 1977) and adult learners (Barcroft, 2005; Craik & Lockhart, 1972; Kellogg & Howe, 1971). Finkbeiner and Nicol (2003) achieved significant results using instruction that involved connecting L2 words with pictures rather than with L1 words.

A recent study done by Comesana and colleagues in 2008 found that learning vocabulary in connection with images not only allowed sixth graders to learn novel words but also produced results indicating that the children accessed and modified their conceptual systems. Delayed testing in this study showed that the use of images enhanced learning and retention of L2 vocabulary and these provided links to the conceptual system of the participants.

Research stemming from theories of cognitive psychology and learning reviewed in this section has demonstrated that constructing meaning in the mind though imagery and visualization is instrumental in language learning. Developing a mental lexicon that establishes conceptual systems is foundational in building L2 competencies and is necessary for L2 oral language development.

Metalinguistics.

Research has shown that learning to read is cultivated by the development of oral language skills and by the expansion of metalinguistic capacities (Armand, 2000). Hill (1998) defined metalinguistic awareness as a theoretical construct that allows an individual to monitor and control language. This awareness makes it possible for individuals to reflect upon and manipulate fundamental features of spoken language (Tunmer & Bowery, 1984; Tunmer & Harriman, 1984).

Metalinguistic awareness enables individuals to evaluate language in abstract ways and includes the ability to segment it into words, syllables and phonemes, determine its grammatical properties, and make decisions about word equivalents or homonyms (Cazden, 1976; Flood & Menyuk, 1981; Hakes, 1980; Wallach & Miller, 1988). Research has established the importance of metalinguistic awareness for acquisition of vocabulary, syntax, and pragmatics (Bialystok, 1992; Hakes, 1980; Van Kleek, 1981; Wallach & Miller, 1988). Armand (2000) concluded that metalinguistic awareness builds the phonological system of language, which is fundamental to emergent literacy because children need to be aware that the speech stream is composed of phonological units before they can understand the alphabetic principle and code (Bus & van Ijzendorn, 1999; Ehri, 1994).

In most day-to-day communication, individuals often attend to the message of words rather than to the linguistic elements of sentences and phrases. However, developing literacy skills is fundamentally a metalinguistic and quite complicated process. In regards to L2 learning, some researchers have found that knowledge of an additional language increases aspects of metalinguistic awareness (Nagy & Anderson, 1995) and that even limited exposure to L2 can promote metalinguistic awareness that contributes to reading abilities (Yelland, Pollard, & Mercuri, 1993).

According to Nagy and Anderson (1995),

"Learning to read in a second language offers increased opportunities for metalinguistic awareness, but it also places additional metalinguistic demands on the learner. Children with limited metalinguistic awareness may be especially vulnerable in second-language reading acquisition, and attention to the

21

metalinguistic demands of the second-language literacy is therefore all the more

important" (p. 6).

More often than not L2 learners, especially those in less-developed countries (LDC), are limited in the development of metalinguistic skills, which makes assessing and teaching metalinguistic awareness a crucial topic for L2 research. Unfortunately, the effects of metalinguistic capacities on the acquisition of L2 reading have yet to be thoroughly examined. The goal of this study is to investigate the expansion of L2 learners' oral language capacities through vocabulary development in order to add to the dialogue about how to best assist young learners in their journey toward L2 literacy.

Language acquisition theory.

Ovando, Combs and Collier (2006) divided the language acquisition process into subconscious features of language development that rely on the inherent capacity of humans for learning oral language informally through engagement and conscious elements that involve formal teaching and learning through instruction and study. Both unconscious and conscious elements include all language domains: phonology or the pronunciation system, vocabulary, morphology and syntax or grammar system, semantics or meaning system, pragmatics or use of language in context, paralinguistics or nonverbal communication and discourse or communication beyond a single sentence.

 In the L1 acquisition process from birth to five years old, children subconsciously procure oral language skills for listening and speaking. From six to twelve years, children continue oral language development and intuitively learn complicated grammar rules, subtle phonological differences, vocabulary and aspects of semantics, such as multiple meanings for the same words, discourse, and more sophisticated elements of pragmatics,

such as conscious control for using formal and informal registers to fit purposes and audiences (Berko-Gleason, 2001; de Villiers & de Villiers, 1978; Goodluck, 1991; McLaughlin, 1984, 1985). Oral language development typically is not formally taught but is subconsciously acquired through being immersed in le bain de la langue, the bath of the language.

Formal school instruction requires students to master written language, both reading and writing, which must be comprehended over all of the language domains identified by Ovando, Combs, and Collier (2006) and listed in the previous paragraph. By adolescence, language proficiency developed in and out of school reaches a complex level. Even so, individuals continue to develop language skills such as vocabulary and writing skills, and many aspects of pragmatics throughout a lifetime (Collier, 1992b; Harley, Allen, Cummins & Swain, 1990; McLaughlin, 1985).

Second language acquisition.

Linguist Noam Chomsky (1965) developed the language learning theory of universal grammar, suggesting that a human's capacity to learn grammar is hardwired and that all languages share a common structural foundation. Chomsky's theory included the premise that individuals are able to distinguish linguistic elements like nouns and verbs without formal instruction as these elements are learned subconsciously. These concepts of grammar were founded on ideas going back to Roger Bacon in the 13th century. Bacon believed that languages are built on a common grammar, which is basically the same in all languages (Bourgain, 1989). Opponents of Bacon's and Chomsky's theories criticize the idea that all languages are strictly rule-based, because the premise ignores the fact that languages evolve over time.

Stephen Krashen (1981) developed a theory of L2 language acquisition that was grounded in his observations of L1 learning and emphasized the distinction between acquiring and learning a language. In his theory of the input hypothesis approach to understanding language learning, Krashen proposed that linguistic competence is developed only when language is subconsciously acquired and that conscious learning is not able to produce natural and spontaneous language production. Krashen argued that learning language involves formal instruction and is less effective than acquisition. Krashen based his ideas on observations of how a child learns his mother tongue or L1. Presenting his Input Hypothesis theory, he contended that if L2 students have teachers who model and provide sufficient input, they will become acquirers and build skills such as grammatical accuracy better than learners receiving direct instruction in grammar.

Krashen and colleagues (1982) argued that there is a natural stage, a silent period, that is apparent in L1 and can also be observed in L2 acquisition. During the silent period, children mostly listen to a language without actively producing it (Dulay, Burt & Krashen, 1982; Saville-Troike, 1984; Krashen, 1981, 1982, 1985). According to these theorists and researchers, students' successful L2 acquisition requires input that is understood, natural, interesting, useful for communication and roughly one step beyond the students' present skill level.

It is often believed that young children are the fastest learners of L2 because of their ability to achieve native-like pronunciation of L2 rather quickly. However, research shows that young children may not reach full proficiency in L2 if cognitive development is discontinued in their primary language (Bialystock, 1991; Collier, 1988,1989, 1992a, 1992b, 1995). Older learners from ages nine to twenty-five who have built cognitive and

academic proficiency in L1 are potentially the most efficient in acquiring most facets of academic L2, except for pronunciation. The adage "younger is better" only applies to conversational or oral language development in L2. When L2 reading and writing are added to the skills to be mastered, older children with L1 literacy tend to have more success (1988, 1989, 1992a, 1992b, 1995).

For L2 learners to develop mastery in all language domains, three components are requisite: learners must sense a need to learn a target language and thus have high motivation; instruction must be provided by those who speak the language well and have high-level competencies; and learners and target language speakers must have enough contact to make language learning possible. Deficiencies in any one of these components can critically affect the language-learning process (Wong Fillamore, 1985).

Cummins (1986) has put forward the theory of common underlying proficiency (CUP) model. Reflecting influence from Chomsky's thinking, Cummins contended that proficiencies involving more cognitively demanding tasks such as literacy, content learning, abstract thinking and problem-solving are common across languages. Following this is Cummins' threshold hypothesis theory proposing that individuals with high levels of proficiency in both L1 and L2 experience cognitive advantages in terms of linguistic and cognitive flexibility while those with low levels of proficiency in L1 and L2 experience cognitive deficits. The CUP model is the basis of the hypothesis called the linguistic interdependence hypothesis, which posits that every language contains deep and surface structures. Deep structure refers to an image, object or action -- the conveyance of the essential idea of the communication. Surface structure denotes the actual words used to describe the image or idea. The surface structure may vary and still

express the same deep structure. The CUP model further proposes that language proficiencies common across languages support those surface manifestations of language. Language that is used in more cognitively demanding tasks is cognitive academic language proficiency, (CALP), which is transferable across languages.

Cummins further argued that in order to gain L2 proficiency, the learner must also have passed a certain level of competence in L1. Many research studies have found that skills and learning strategies developed in L1 can have positive transference to L2 reading and writing (Au, 1993; Bialystok, 1991; Cummins, 1989, 1991, 1996; Cummins & Swain, 1986; Freeman & Freeman, 1992; Genesee, 1997, 1994; Hudleson, 1994; Johnson & Roen, 1989; Lessow-Hurley, 2005; Lindholm, 1991; Snow, 1990; Tinajero & Ada, 1993).

Levine, Levine and Schnell (2001) noted that the literacy process takes longer in low-literacy environments that are characteristic of LDC environments as are found in many areas of West Africa. In these contexts children are often challenged to read before they have been exposed to print, as few or no reading books are available. In addition, Gove and Cvelich (2011) pointed out that countries like Sénégal with linguistically diverse populations, school literacy practices may lengthen the learning process if students are taught in a language different from the one they speak at home and if the students are not literate in their L1.

Oral language development.

Language development is a life-long process in which the building of oral language skills is primary. This oral language capacity is common to all peoples,

regardless of language, culture, or economic status, and given no physical disabilities and access to human language input (Berko-Gleason, 2001).

Speech perception bootstraps language acquisition. It is the basis for language development, especially vocabulary acquisition (Burnham, 2003). Differences among the four stages of language development show the development of specific competencies in the phonetic, phonemic, semantic and orthographic stages. Children usually begin these phases in L1 at six months and begin to master the orthographic phase around six years of age. In the phonetic stage, infants experiment with sounds and usually arrive first at discriminating vowels and then consonants (Polka & Werker, 1994). Infants' nonnative speech discrimination begins to decline while they continue to build native language skills in the phonemic stage of speech perception (Kuhl, Williams, Lacerda, & Stevens, 1992). Children then begin to recognize words with which they have become familiar. Research shows that infants as young as nine months old begin to comprehend spoken words and build a rudimentary receptive lexicon (Benedict, 1979). This is the semantic phase of language development.

Hallé and Boysson-Bardies (1996) proposed that infants are at first sensitive to small phonetic changes in word segments, but that a shift in phonological development then occurs in young language learners. With the onset of lexical meaning acquisition which normally occurs between nine and twelve months of age in L1, infants seem to lose sensitivity to phonetic detail with lexical representations taking on holistic rather than phonemic character (Metsala & Walley, 1998). One study showed that children at 14 months neglected fine phonetic discriminations in favor of word meaning acquisition (Stager & Werker, 1997). It is typically as a toddler that an individual rapidly acquires

new words. The Lexical Restructuring Model (LRM) suggests that vocabulary size predicts phonological abilities at this stage of language learning (Metsala & Walley, 1998). Research by Swartz, Burnham, and Bowery (2006) demonstrated a positive relationship between infants' vocabulary size and sensitivity to phonemic detail in speech. This study showed that the number of words children knew depended on how well they listened to phonemic details in speech. Oral language experiences allow children to begin to differentiate word parts and to create meaning.

Children from backgrounds and homes where there is little input of spoken language often enter formal schooling with underdeveloped language and literacy skills (Adams, 1990; Snow, Burns & Griffin, 1998). In a longitudinal study that began when L1 American children were three years old, Hart and Risley (1995) found statistically significant differences in vocabulary development for children from lower and upper income families. L2 students often come from more language-deprived contexts and have even less exposure to an academic language required for learning in school than L1 students.

Research conducted by Kern (2007) confirmed that there are differences between the sizes of receptive and expressive vocabulary for L2 learners. Kern established that the size of vocabulary knowledge differs for listening comprehension, or receptive oral language, and speech production, or expressive oral language, for language learners at any given age. For example, at 16 months a child may be able to understand 16 words but only produce 15. Other researchers also determined that nouns are the first type of words to appear in receptive and productive vocabulary (Bassano, Labrell, Champaud, Lemétayer, & Bonnet, 2005; Kern, 2007; Labrell, Bassano, Champaud, Bonnet &

Lemétayer, 2005). Evidence also has shown that an individual's sensitivity to the phonological units in the continuous speech stream increases gradually from phrase to word and then to sub-word units. That is to say, children develop awareness of phrases before words, words before syllables, syllables before onset or rimes, and onset and rimes before phonemes (Anthony & Lonigan, 2004; Olson, 1994; Trieman, 1993).

When children enter the academic realm with limited exposure to the language in which they must learn to read and write, they are at high risk for reading difficulties (Snow, Burns & Griffin, 1998). L2 students need to build their lexicon in order to make connections to meaning. A typical child five to six years has a vocabulary of 2500 to 5000 words (Beck & McKeown, 1991). This is not the case for L2 learners. Consequently, attention must be paid to effective methods for building L2 oral vocabulary, a precursor to being able to separate the speech stream, understand differences between phrases and words, and develop awareness of sub-word units such as phonemes, which research shows is necessary to make the sound-letter connections required for understanding the alphabetic principle and learning to read and write (Murray, 1998). In addition, this basic lexicon is needed for students to make connections to ideas and to build comprehension.

Proponents of the communication-centered approach to literacy consider the language development process as one that allows children to find meaning in context (Aldeson-Goldstein, 1998). Ken Goodman (1986) has contended for decades that language is learned from whole to part. He argued that children make utterances in well-known contexts and that it is only later that established language speakers are able to distinguish language elements. Goodman also noted that oral and written languages are

parallel processes that overlap but have different registers. Written language has the foundational features of oral language, becoming significant when used in the context of meaningful acts. Goodman (1986) also argues that children learn the system of language and grammar from experiences before they enter school. He noted that in learning to talk and understand oral language that children infer these rules naturally.

Educational Practice

In addition to considering language theories described in the preceding sections, research regarding practical implications of these theoretical concepts needs to be examined. Next, research-based teaching methods will be discussed. An abundance of research has accrued to support methods that develop literacy skills of L1 learners through oral vocabulary development using shared reading. However, limited research has been conducted on the effect of shared reading for building L2 learner's literacy and oral vocabulary development.

Vocabulary development.

Beck et al. (2008) defined vocabulary acquisition as learning the meanings of new words. These researchers also stated that a primary goal of reading instruction is to instruct children to recognize the written form of words known from oral language. "When children pronounce written words, those words need to match with meaning from speech" (p. 1). Other researchers have established that there is a causal relationship between vocabulary development and the increase of conceptual knowledge and listening and reading comprehension (Neuman, Newman, & Dwyer, 2011). Studies conducted for L1 children have provided compelling evidence that children's early vocabulary development is essential to long-term listening and reading comprehension (Ricketts,

30

Nation & Bishop, 2007; Sénéchal, Ouelette & Rodney, 2006; Storch & Whitehurst, 2002).

Vocabulary knowledge is the clearest predictor for reading achievement in middle grades (Snow, Porche, Tabors & Harris, 2007). Results from meta-analyses of intervention studies indicate that vocabulary instruction can increase young children's vocabulary knowledge and later comprehension when instruction focuses on word selection, clear descriptions, and prolonged practice and review (Marulis & Newman, 2010; National Early Literacy Panel, 2008; Stahl & Fairbanks, 1986). Studies conducted by Cunningham and Stanovich (1997) and Stanovich (1996) revealed that these differences can become even more definitive as children progress in their academic life. L1 preschoolers who lag behind peers in vocabulary knowledge are likely to show even greater deficiencies in reading comprehension by third (Hart & Risley, 1995) and fourth grade (Chall & Jacobs, 2003). L2 learners often lag behind same-age L1 peers in oral vocabulary development, showing stark contrasts in vocabulary knowledge. Often children in L2 contexts learn decoding skills but do not have a sense for the meanings of words they are learning in their lexicon. Thus, the building of meaning, the primary goal of reading, can not be obtained (Beck et al., 2008).

When operating in the L1 context, children may have developed a lexicon of up to 10,000 words by the time they begin formal reading instruction. However, for L2 students learning an unfamiliar academic language, there is a large gap between words known in their maternal language and the lexicon developed in the language in which they will need to eventually develop the skills to read and write. A growing body of research has revealed that competency in L2 vocabulary is the greatest indicator of L2

31

reading comprehension, even greater than L1 vocabulary proficiency (August, Carlo, Dressler & Snow, 2005; Carlo, August, McLaughlin, Snow, Lippman, Lively, & White, 2004; Goldenberg, 2005; Ordonez, Carlo, Snow & McLaughlin, 2002; Proctor, Carlo, August & Snow, 2005). The results of these studies imply that cultivating oral language vocabulary from the beginning of a student's academic life needs to be a focus of instruction (National Early Literacy Panel, 2008; Snow, Burns, & Griffin, 1998).

An abundance of evidence has shown statistically significant correlations between vocabulary knowledge and comprehension. For example, first-grade children's vocabulary knowledge correlated with their reading achievement (Snow, Tabors, Nicholson, & Kurland, 1995) and the sizes of kindergarteners' vocabulary predicted their reading comprehension after two years in school (Catts, Fey, Zhang, & Tomlin, 1999). Cunningham and Stanovich (1997) even determined that vocabulary comprehension in first grade predicted reading comprehension in eleventh grade.

Unfortunately several researchers have documented the fact that typically minimal vocabulary instruction takes place in schools (Biemiller, 1999; Blachowicz, Fisher, Ogle, & Watts-Taft, 2006). Scott, Jamieson-Noel, and Asselin (2003) observed that teachers spend little instructional time discussing the meanings of words during daily classroom activities. Thus children who begin school with smaller vocabulary knowledge most often do not catch up (Biemiller, 1999).

In the 1980s research-based teaching strategies for vocabulary instruction were developed and recommended as best practices with the potential for producing gains in reading comprehension. Beck et al. (1982) found that rich instruction included explicit explanations of word meanings, multiple exposures to words, and making decisions about

whether a word fits a specific sentence context. Stahl and Fairbanks (1986) discovered from their meta-analysis of results from studies of vocabulary instruction that reading comprehension was positively affected by several exposures to each target word, provision of definitional and contextual information, and engagement of students in active semantic processing. A series of studies have demonstrated that teachers can use reading aloud to produce vocabulary gains (Sénéchal & Cornell, 1993; Sénéchal, LeFevre, Hudson & Lawson, 1997; Sénéchal, Thomas & Moniker, 1995).

Beck and colleagues (2008) advocated that teachers learn to recognize Tier 1, 2 and 3 words and to provide vocabulary instruction focusing on Tier 2 words, which are those that are not likely to be heard in daily conversation. Tier 1 words are those that are most frequently used in speaking and that most children know and do not need to learn at school. Tier 2 words are less frequently heard and used in conversational language but occur often in many different kinds of texts across subject areas. Tier 3 words include terms that are specific to each of the subject areas and taught in relation to texts for instruction in science, social studies, mathematics, etc. These recommendations were directed primarily at reading teachers for L1 students in the elementary grades. As Beck and colleagues noted, "Getting meaning from written text is more difficult than getting meaning from oral contexts. L1 students are less likely to learn Tier 2 words on their own in comparison to words of every day language"(p.8). Most L2 students, however, have very limited vocabularies in the target language so the focus must be on Tier 1 words, or everyday, basic words (Beck et al., 2008).

Teaching approaches.

Taking into account the developmental process involved in children's acquisition of oral and written language, many L2 educators advocate a whole language philosophy and have produced research that shows its effectiveness in second-language teaching (Enright & McCloskey, 1988; Freeman & Freeman, 1992; Whitmore & Crowell, 1994). Proponents advocate the whole language approach because of its focus on the use of authentic, meaningful language, proceeding from whole to part, as it concentrates on getting meaning first by exposing students to authentic texts (Willis, 2000). Advocates contend that this allows students to focus on meaning first and later, when students' skills have matured in the language, to focus on details of language structure and function. This approach would avoid teaching skills in isolation or in strict sequence. Predictable reading material is commonly associated with whole-to-part reading instruction for L1 beginning readers, and they are included in reading programs such as Reading Recovery (Clay, 1993). These types of programs use predictable books to give children initial support in learning speech-to-print correspondences. When students demonstrate success with reading predictable texts in Reading Recovery they are moved into less predictable and eventually into non-predictable texts and are taught needed decoding and spelling skills.

Although there is much to be considered when helping young children develop meaning and connection with concepts before moving to detailed mechanics of language, research has clearly shown that systematic, part-to-whole reading for L1 students is effectual in developing competent readers (Ehri & Nunes, 2002; Bus & van Ijzerzendoor, 1999; Chall, 1996). However, for L2 students there is an absence of an oral language

34

environment where L1 learners have been immersed since birth, so this part-to-whole approach to reading instruction may delay written language instruction in L2 learners.

The predominant method of reading instruction in Sénégal is a highly phonetic and grammatical approach to teaching beginners to read and write the academic language. Children are taught sound-letter correspondences in French without having first established an understanding of word concepts and meaning, much less phonemic awareness of the language. The same types of reading materials have been utilized in instruction for decades in this country. The classroom environment is highly controlled by the teacher and allows for little active participation on the part of the students. Few if any shared readers, story books or authentic texts are used in instruction. According to UNESCO (2010), 9% of first graders in sub-Saharan Africa drop out before they finish their first year of school. For those who manage to stay in school, the Progress in International Reading Literacy Study (PIRLS) conducted in 2011 revealed that educators and officials in many low-income countries like Sénégal condone if not require practices that teach only the most basic literacy skills and contribute to low levels even for schooled citizens. The low literacy rates in these countries raise questions about implementing different methods of instruction which research suggests may produce more success in building literacy and comprehension skills for these L2 learners.

Using shared reading to build language and literacy skills.

Research has long documented the benefits offered by adults reading aloud with children to share an engaging story from a regular-sized book, and many studies have demonstrated how these types of experiences produce significant gains in reading and listening skills (Elley, 1980; Elley & Mangubhai, 1983; Feitelson, Kita & Goldstein,

35

1986; Ricketts, 1982). Observers of children know that reading aloud with children often captures their attention and imagination as they listen to engaging stories, and sharing books with children expands their literal, inferential and critical comprehension (Gunning, 2012; Keene & Zimmerman, 2007; Tompkins, 2010). Read alouds build connections to other books, life, and world events (Peterson & Eeds, 2007; Wolf, 2004). Studies have shown that these types of book experiences also develop and create background knowledge that fosters decoding of unfamiliar written words and comprehension during students' independent reading (Fox, 2008; Trelease, 2006).

Shared reading involves the use of a large, common text of a big book for a group of children that allows all participants in a read aloud-visual engagement with the text and illustrations. Shared reading with larges texts also provides a context for the development of language for young children by modeling use of well-formed syntax and interesting vocabulary graphically supported by pictures and large font that makes sentences, words and spaces easy to see (Dickinson & Snow, 1987; Dickinson & Tabors, 1991; Sénéchal, LeFevre, Thomas, & Daley, 1998; Snow, 1983). Tunnell and Jacobs (2008) and Wilhelm (2008) have concluded that shared reading develops student reading engagement. Other studies indicate that shared reading widens children's imaginations (Cooper, 2009; Wolf, 2004). Shared reading has been shown to promote emotional connections between books and readers and expands students' vocabulary knowledge (Fox, 2008; Hancock, 2000; Peterson & Eeds, 2007; Trelease, 2006). Other researchers have found that shared reading builds fluency by allowing children to listen and participate in fluent reading (Bandré, Colabucci, Parsons, & So, 2007). Studies by Fox

(2008), Hancock (2000), and Trelease (2006) have found that shared reading expands vocabulary knowledge.

A key feature of shared reading with children is that it decontextualizes the learning of language and vocabulary (Dickinson & Snow, 1987; Snow, 1983). Decontextualized language allows teachers to give their students exposure to concepts and experiences that are not a part of the children's immediate context. This allows children to build understanding about objects and ideas that are not part of their own concrete experiences. Thus, children are able to learn vocabulary and syntactic structures of language that they do not normally experience in daily conversations. These decontextualized language skills have been documented by Dickinson and Snow (1987) and demonstrated to be related to young children's formative literacy skills, especially the ability to decode and understand story narratives.

Research shows that shared reading produces sizeable gains in oral language development, particularly for L1 children from low-income environments who exhibit language delays (Whitehurst, G.J., Falco, F.L., Lonigan, C.J., Fishel, J. E., DeBaryshe, Valdez-Menchaca, M.C., & Caufield, M., 1988; Dickinson & Smith, 1994; Karweit & Wasik, 1996). For many of these children, the academic context in the classroom is the only place they experience shared reading. Dickinson and colleagues (1987,1991,1994, 2001) found that effective language and literacy interventions in these types of contexts that significantly impacted and accelerated language development for children with lower language proficiency.

Shared storybook reading offers contexts for children to receive incidental exposure and explicit instruction with novel words (Elley, 1989). In addition, shared

story book reading has been well documented to boost vocabulary acquisition in native English speakers for preschool, kindergarten and up to third grade (Pollard-Durodola et al., 2011). In conducting a study with Portuguese-speaking children, Collins (2010) found that storybook reading produced significant vocabulary gains in English, the L2 for these students. However, little research has been done in this field, indicating a need for further investigations of using shared reading for L2 learners such at the Sénégalese participants in this study.

Dickinson and Smith (1994) have found that the way teachers interact with children during shared reading times has an effect on children's vocabulary development. Studies have shown the importance of dialogical reading (Whitehurst et al., 1988). Dialogic reading is described as reading in which adults ask open-ended questions in order for children to be actively engaged with the listening and discussion of a story. Serafini and Ladd (2008) call the read-aloud time an interpretive space where students have opportunities to become "active constructors of meaning and are forced to deal with the openness and interdeterminacies of the written and visual representations included in picture books" (p. 6).

An important hallmark of books used for shared reading is the use of illustrations to communicate message. The cognitive learning theory discussed earlier in this chapter speaks of the role of images in building conceptual mapping in the brain. This has particular implications for teaching L2 vocabulary. Comsesana et al. (2009), for example, found that picture association produced greater vocabulary learning than associating L2 words with L1 words known by the learner. This study in Sénégal investigated whether shared reading of large and engaging images in picture books helped in developing L2

vocabulary knowledge for targeted words more than having students color and name the same but smaller pictures and words on activity sheets.

Predictable versus non-predictable shared readers.

Predictable and non-predictable books for shared reading possess common features. They have large, colorful illustrations that engage children in a group shared reading and learning experience. Both also have large text clearly visible on pages presented to the children.

However, the two types of readers differ in the nature of the language used in the texts. Predictable books employ repetitive language and/or sequences of rhythms and rhymes with a limited number of repeated grammatical structures that only change slightly from page to page. As a result, children are frequently able to anticipate the text that follows. Non-predictable picture books have rich stories with more complex plots, novel vocabulary, and grammatical structures. Research demonstrates that these types of readers contain creative stories, which often ignite the imagination of L1 students and add novel words to their vocabulary banks.

The use of predictable books has been criticized in L1 reading instruction because students may rely on the predictability of text and just recite a memorized pattern rather than developing decoding skills. However, the question of whether predictable books may be effective for L2 learning of novel vocabulary has not been addressed in previous research. Studies by Ellis (1984) demonstrated that L2 learners internalize rote-learned material as chunks and then break them down at a later point for analysis. This means they first allocate meaning to a phrase or series of words and then later come to understand them as individual words with particular meanings. In addition, repetition has

been found to be a key in teaching children L2 language skills (Linse, 2007). These results with L2 learners raised the question about whether predictable books would allow for the chunking of language and provide repetition of syntactic patterns and vocabulary in context that L2 preschoolers need to build oral language competencies. Prior to this study, further investigation was needed to determine if the use of images and repetitive language in predictable books would help L2 vocabulary learners as much or more than the same images and target words in non-predicable, rich stories and on coloring sheets.

Building L2 competencies in complex multi-cultural contexts is an enormous challenge for many children and educators around the globe. What teaching methods and approaches can help foster students successes in developing L2 language and literacy? The review of literature in this chapter has provided insight to possible answers for this important question and related questions. This review also reported results of the limited research that has been conducted regarding L2 language and literacy acquisition for very young children and noted the absence of studies that examine the role of different types of shared reading in building L2 oral language. The research methods and design for this study that investigated L2 vocabulary learning for young children in Sénégal are outlined in the next chapter. The analyses, results, and a discussion of the findings will follow.

Chapter 3: Methodology and Design of the Study

Participants

Preschool students from two schools in Dakar, Sénégal served as participants in this study, and the schools were chosen based on their similarity in demographics, locations, age ranges for children entering school, and years of operation. The grade schools were in comparable lower income areas in communities on the outskirts of Dakar. Most of the residents of these two communities were first-generation city-dwellers who had come into the city from rural villages to seek work.

School 1 had been in existence for eight years. There was no water or electricity at the facility, and the classrooms had unfinished floors. Students' ages ranged from preschool (prescolaire) ages to twelve years old (CM2, or the equivalent of 6th grade), and there were seven teachers and 98 children enrolled in the school. School 2 had been in operation for six years and had six teachers and 137 students who ranged from preschool ages to twelve years old. This school did have electricity and running water.

Participants in the study were 23 students from School 1 and 19 students from School 2. The majority of the children came from families of lower socioeconomic status (SES), which qualified them for financial assistance with fees for attending school. Most of the parents were illiterate, and they worked from early morning to late evening as basic laborers with jobs such as selling vegetables along the road, serving as cleaning persons, or making livings as welders and workers in other trades.

A total of 42 children participated in the study, and they were randomly assigned to one of three treatment groups. The sample included children ranging from four to six years of age.

The participants were from homes where nine different sénégalo-guinéen languages were spoken. The children's first language (L1) was Sérér for twelve, Wolof for nine, Pulaar for five, Toucoleur for five, Jola for four, Manjak for three, Mankagne for two, Saroholé for one, and Bambara for one. Thus, there were nine students who spoke Wolof, which is the lingua franca of Sénégal, and thirty-three who came from homes where other languages were spoken. Even so, all participants understood and spoke Wolof. French is the official academic language in Sénégal so all children in this study were L2 learners of French. There were twenty-one female and twenty-one male students. The mean age for students was 65.17 months, with a standard deviation of 8.8 months. The minimum and maximum ages were 48 months and 81 months, respectively. In Sénégal parents have the freedom to determine at what age they will bring their child to school for the first time.

Interviews with the children who participated in the study revealed that they typically came to school with older siblings and only occasionally were brought to school by a parent. Outside of school, the children usually did not interact with adults until late at night after the parents returned home from work and on weekends and holidays. Only two of the 42 children said they had books at home, and most of the children indicated that they had seen written words only at school. All but two of the children in the sample watched cartoons in French on free access TV most every afternoon between five and six o'clock. At recess and during playtime, participants in the study communicated in Wolof and not in French.

Recruitment and Consent

All children from School 1 and School 2 who were between the ages of four and six at the time of the commencement of the study were recruited as participants. Each

student's parent was given a consent form, approved by the Institute of Review Board (IRB) at Auburn University. The content of the consent form was explained to the parents in Wolof. (See Appendix B.) Consent to videotape all research activities was included in the form and also explained to the parents. Only students whose parents signed and returned the form were able to formally participate in the study.

Using a random number generator, the subjects whose parents had completed the IRB consent form were assigned to one of the two shared reading treatment groups, Protocols 1 and 2, or the control group, Protocol 3. Children assigned to Protocol 3 participated in coloring identical but smaller images for each target word that the shared reading groups saw in learning the novel vocabulary. Initially there were 15 children in each of the Protocol groups; however, three children assigned to Protocol 3 dropped out so this group had only 12 participants who completed the study. Each student was given a code to identify individual data and ensure anonymity.

Research Questions and Hypotheses

This investigation addressed the two primary questions. The first question was, 1) Were there statistically significant differences in effects of shared reading with predictable and non-predictable texts versus control activities for the learning of novel French vocabulary on receptive vocabulary, semantic understanding, syntactic patterns and expressive language? and 2) Were there statistically significant differences between the two shared reading protocols with predictable versus non-predicable texts in summative immediate and delayed post-test scores on receptive vocabulary, semantic understanding, syntactic patterns, and expressive language? These two research questions were used to generate the three null hypotheses that follow.

43

H_{o1}: There was no statistically significant difference in effects of the use of predictable books (Protocol 1) and Control (Protocol 3) in novel French vocabulary acquisition as measured by four outcomes: receptive vocabulary, semantic understanding, syntactic knowledge, and expressive vocabulary taken at two time intervals: at end of the five-week intervention and at an eight-week delayed post-test.

(H_{o1}: $\mu_{predict} = \mu_{control}$ for receptive , semantic, syntactic and expressive scores respectively, measured at two time intervals: at the end of the five-week intervention and at an eight-week delayed post-test.)

H_{02}: There was no statistically significant difference in effects of the use of non-predictable books (Protocol 2) and Control (Protocol 3) in novel French vocabulary acquisition as measured by four outcomes: receptive vocabulary, semantic understanding, syntactic knowledge, and xpressive vocabulary taken at two time intervals: at the end of the five-week intervention and at an eight-week delayed post-test.

(H_{o2}: $\mu_{nonpredict} = \mu_{control}$ for receptive , semantic, syntactic and expressive scores respectively, measured at two time intervals: at then end of the five-week intervention and at an eight-week delayed post-test.)

H_{o3}: There was no statistically significant difference in effects of the use of predictable books (Protocol 1) and non-predictable books (Protocol 2) in novel French vocabulary acquisition as measured by four outcomes: receptive vocabulary, semantic understanding, syntactic knowledge, and expressive vocabulary taken at two time intervals: at the end of the five-week intervention and at an eight-week delayed post-test.

(H_{o3}: $\mu_{predict}$ = $\mu_{nonpredict}$ for receptive, semantic, syntactic and expressive scores respectively, measured at two time intervals: at the end of the five-week intervention and at an eight-week delayed post-test.)

Variable and Operational Definitions

    Independent variables.

    The criteria used as operational definitions for the two levels of the independent variable were defined as follows**:**

    Predictable books employ repetitive language and/or sequences of rhythms and rhymes. As a result children are frequently able to anticipate the text that follows. Predicting and repeating phrases along with the reader often engage students in the reading process. These types of books also allow children to become familiar with novel words, language patterns, and syntactic structures. Forms used in the study include:

    <u>Chain or circular story</u>: The story leads back to the beginning

    <u>Familiar and known sequence</u>: A recognizable theme such as the days of the week.

    <u>Repeated Episode</u>: Scenes or episodes are repeated with a variation.

    <u>Question and Answer</u>: A question is repeated through the story.

    <u>Repetition of phrase or sentence</u>: A phrase or sentence is repeated.

A list of predictable books, with information about the format and word count about each text, used in this study is included in Appendix C.

    Non-predictable books are rich storybooks with more complex plots, novel vocabulary, and grammatical structures than predictable books. Research demonstrated that these types of readers contain creative stories, which often incite the imagination of L1 readers and foster

learning of novel vocabulary. A list of non-predictable readers used in this study is included in Appendix C.

Control group activities involved the participants in a learning strategy characteristic for the schools, coloring worksheets. The children colored the same images used to introduce each treatment group to the target vocabulary in this study. The images to be colored by the control group were smaller than the ones used to introduce the vocabulary to each protocol, had the French word printed underneath, and were grouped five to a sheet.

Dependent variables.

The four dependent outcome variables in this study were defined as scores for four measures of understanding of vocabulary evaluated at three intervals: weekly, summative and delayed post-tests. Tests were developed to measure the dependent variables operationally defined as follows:

Receptive vocabulary includes all of the words that one recognizes and understands upon hearing or reading them. In general a person can understand more words than he or she can produce or express. Although both reading and listening are elements of reception, the size of one's listening vocabulary may differ from one's reading vocabulary depending on one's level of reading skills. Consequently, there would be a significant difference in the level of reading and listening vocabulary for pre- or non-readers. Because this study involved pre- and emergent readers, receptive vocabulary referred to oral or listening vocabulary.

Semantic understanding involves the ability to comprehend the sense of a word upon reading or hearing it, often within a particular context. Participants in the study were pre- and emergent readers and therefore worked with word meanings orally in the context of sentences using familiar words.

Syntactic understanding indicates the ability to understand and apply the grammatical rules of a language and the comprehension of the role or place a word serves in a phrase or sentence. This was evaluated orally in this study for pre- and emergent readers. Students were read a sentence which was either in correct word order, such as subject-verb-complement or out of order, such as verb-complement-subject. The participants had to give a yes or no response to the question if the sentence "sounded right," or if the words made sense.

Expressive vocabulary or productive vocabulary contains the words that one is able to produce. In general, an individual can recognize and understand more words than she or he can actually produce or articulate, making one's receptive vocabulary larger than one's expressive vocabulary.

Assessment intervals.

The four dependent variables were measured at three different intervals: weekly, at the end of the five weeks of treatment with an immediate post-test, and eight weeks after the end of five-week study with a delayed post-test.

Instrumentation, Materials, and Design

Instrumentation.

An evaluation of the students' baseline vocabulary was administered using the Peabody Picture Vocabulary Test published in French and a version of the same test translated to Wolof. Pretesting of actual vocabulary items was not performed to prevent any potential participant bias caused by familiarity of test questions (Campbell & Stanley, 1963).

The Echelle de Vocabulaire en Images Peabody (EVIP) formulated by Dunn, Théirault-Whalen, & Dunn (1993) is the French normalized version of the Peabody Picture Vocabulary Test. This assessment is commonly used to measure verbal ability in a maternal language, or L1

(Bialystok, Luk & Kwan, 2005, Pollard-Durodola et al., 2011.). It also may be used to estimate a child's academic aptitude (Neisser et al., 1996). Each version of the EVIP has been nationally standardized using examinees from various age groups from children to adults. Thus, the raw scores are equated to mental age, using the norms obtained from standardization. The scores can also be converted to percentile rank or to a standard deviation IQ score. To administer the EVIP, the examiner presented a series of pages that contained four numbered black-and-white pictures. The examiner then pronounced the target and the child pointed to the picture of the corresponding word. Thus, this test evaluated receptive vocabulary. The EVIP was used in the study to establish a baseline of understanding of French vocabulary. The EVIP has two forms, A and B. Form A was used in this study. Although the EVIP is not normalized in particular for the research context of the study, the raw scores were used for comparisons among research participants.

A Wolof version of the EVIP was created in November 2011 for use in this study. Local Wolof specialists translated the French words into the Wolof equivalent. A combination of direct translation and back translation was done to crosscheck for verification. Although this version is not normalized, it was used to determine a base line of receptive vocabulary in Wolof. The raw scores were used as a comparison between subjects.

The EVIP was used as a pre-test measure to avoid the possibility of test effect that may have caused gains due to familiarity with vocabulary words rather than as a result of the treatments (Wasick & Bond, 2001; Whitehurst, et al., 1988). All student scores on the EVIP fell well into the <1 % range, clearly establishing little to no French vocabulary knowledge by the participants, and thereby allowing that any vocabulary gains made during the course of the study would be attributable to the protocols. The French version was administered first to ensure that

48

correct responses were because of knowledge and not because of familiarity with the evaluation as a result of experience with the Wolof version of the evaluation.

Outcome measures.

As the acquisition of vocabulary is a complex, multi-faceted process, four elements of this process were evaluated: receptive vocabulary demonstrated by word recognition in a visual context; semantics indicated by understanding word meaning in various verbal contexts; syntax demonstrated by an understanding of the role or function of a word and how it relates to other words grammatically; and expressive vocabulary indicated by ability to use a word in context.

Receptive vocabulary test. Students were given a receptive vocabulary assessment to evaluate their understanding of each week's target words. Each child was individually presented with four novel color images measuring four by six inches and then asked to touch the picture that best represented the word spoken (Kohnert, Kan & Conboy, 2010). An attempt was made to select culture-neutral or West African-centric images for this assessment. An examples of this procedure is located in

Appendix D.

Semantic understanding test. To gain insight about comprehension of a word in different contexts, students were presented a target word used in three different sentences, with only one sentence using the word in the correct sense. Explanations and an example were presented in Wolof in order to ensure that each child understood the directions correctly. These were scored as correct or incorrect. Example questions can be found in Appendix D. This is a variation of the evaluation of semantic understanding carried out in L2 research by Ulanoff and Pucci (1999) and Bialystok and Miller (1999). Because participants in this study had limited understanding of

French as their L2, sentences were crafted with words taken directly from the week's reading, rather than introducing new terms.

Syntactic pattern test. To evaluate students' understanding of rules and principles that govern the sentence structure in French, a syntax assessment was developed. Students were presented with a sentence and had to decide whether it contained proper word order or not (Bialystok & Miller, 1999). The children were given instructions and an example in Wolof and then were asked to indicate if a given phrase "made sense" or "sounded right" or not. Example Syntactic items are found in Appendix D.

Expressive vocabulary test. To get a sense of the students' capacity to use a word in a context, an expressive assessment was given (Dickinson & Tabors, 1991; Pollard-Durodola et al., 2011). For weeks one through five, the participants were individually presented a target word in Wolof and asked to share everything they knew about the word. Students received a point if they were able to translate the word into French or say something about the word in French. No points were given for students' expressions in Wolof.

For the immediate and delayed post-tests, this assessment was modified. Students were presented a novel image illustrating a target word and had to describe or tell about it. If the target word or an explanation was given in Wolof, one point was received. If the child gave the French equivalent of the word or described it in French, two points were awarded.

Materials.

Selection of target words. Target words were chosen by the researcher through scrutiny of illustrations and texts of potential predictable and non-predictable books to be used in the study. Words were chosen based on commonly known words considered to be in Tier One of the oral language cadre (Beck et al., 2008). A list of these types of words has been compiled by

Chall and Dale (1995) and concept equivalents were chosen. A baseline of French vocabulary was evaluated with the EVIP (Dunn, et al., 1993) to ensure unfamiliarity of target words for all participants. Native speakers of Wolof and French were consulted to ensure the identification of a single lexical item to convey the meaning of the target word. Wolof reviewers also examined French target words for phonological similarity to Wolof words and all cognates and borrowed words were eliminated.

The same set of ten words was taught with the predictable and non-predictable texts and control group each week. This was repeated for each set of readers for the duration of the study. Criteria for choosing words were as follows:

1. Part of common oral language cadre: commonly used words in daily oral vocabulary

2. Cogent to the story: concepts were introduced and applicable in both predictable and non-predictable stories

3. Ability to be illustrated: words had to be depicted in both the predictable and non-predicable books

4. Novelty of word: target words had to be unknown to participants.

A list of the fifty target words used in the study is found in Appendix C.

Employment of images to introduce vocabulary. Participants in each of the protocols were taught the week's ten target words in small groups. Large images representing the word with the French word printed underneath were shown to the students. The children first repeated the word for the image in Wolof and then in French. Each was repeated about five times at each presentation. The same images were reduced and put on two coloring sheets that were used with the Protocol 3 control group. Procedures were consistent with concurrent translation and explanation procedures and the use of images found effectual in previous L2 research (Comesana

et al., 2009; Elley, 1989; Finkbeiner & Nicol, 2003; Kroll, Michael, & Sankaranarayanan, 1998; Ulanoff & Pucci, 1999).

Utilization of readers in study. To examine outcomes of shared storybook reading on novel vocabulary acquisition for young L2 learners (Elley, 1989; Collins, 2010), the participants were randomly assigned to three Protocol groups with two shared reading treatments and a control condition. Predicable books, Protocol 1 (P1): picture books with simple sentences with repeat sentence and phrasing structures; Non-predictable books, Protocol 2 (P2): picture books with engaging stories and rich descriptions; and Coloring worksheets, Protocol 3 (P3): the instructional method currently in place in the schools.

Ten shared readers were created for use during the five weeks when the treatment and control groups participated in the different instructional conditions in this study. For each week, two readers were utilized: a predictable book for P1 and a non-predictable, rich story for P2. Containing the same ten target words, these books averaged 18 by 36 inches in size, shared the same images but contained different texts printed on each version respectively. Four pre-published books and six researcher-created books were used in the study. The books written for the study were checked for accuracy by native French speakers. The five predictable books averaged 170 words and the five non-predicable books averaged 689 words. A list of the ten readers with word counts as well as sample texts in French is included in Appendix E. Each of these contained pictures which illustrated the novel word (Elley, 1980, 1989).

Research design.

Students from School 1 and School 2 were individually randomized and assigned to one of three educational protocols. Participants were randomized using a random number table generated using software at www.random.org/. This cohort study was designed as 3 (Group:

Treatments & Control) X 4 (Outcomes: Receptive, Expressive, Syntactic, & Semantic) multivariate linear regression with EVIP, Wolof Peabody and age as covariates. The results produced a main effect for group, a main effect for outcome, and determined if age, EVIP, and Wolof Peabody were associated to the outcomes. All data were coded to ensure anonymity.

Statistical Analysis and Assumptions

       Weekly tests: Repeated measures analysis.

       A repeated measure analysis was conducted to determine the association of weekly outcome scores for Receptive, Semantic, Syntactic and Expressive outcomes with protocol. This analysis required that certain multivariate assumptions were met. These assumptions included:

       Multivariate normality. The different scores are normally distributed in the population.

       Randomness. Individual cases should be derived from a random sample, and the different scores for each participant are independent from those of another participant.

       Repeated meaures ANOVA has four potential sources of variance: between measures, between subject, error/residual, and total.

       Several potenial threats to internal validity were present during the study. Threats included regression in which scores of subjects tested several times tend to regress toward means. There was also the possibiulity that maturation of subjects could affect results. Young participants grow and develop quickly over time. In addition, the expectation of 100% attendance over the course of five weeks was overly optimistic. Missing data resulting from students' inconsistent attendance could also pose problems to internal validity.

       There were additional concerns about the weekly outcome measures. As the students had no prior experience with shared vocabulary learning and reading, it was determined that participants would need several lessons to get acclimated to the procedures. Thus it was expected

that the first week's outcomes could vary from those for subsequent weeks. It was expected that immediate post-tests could measure only recent learning and that scores may be highest on those items taken from week five of the intervention. Moreover, it was expected that scores would taper down from there with week one scores being lowest. That was not the case; differences in each week's scores were only statistically significant when measuring protocol alone for Receptive, Semantic, Syntax or Expressive outcomes. Therefore, immediate post-test data was used to establish a base line for examining outcome differences and differences between protocols while weekly scores were analyzed by repeated measures to examine trends in the outcome measures.

Assessing significance in independent variables.

Backwards step-wise selection was used to assess the significance of each of the six of the covariates (age, gender, school, ethnicity, EVIP and Wolof Peabody) in a hierarchical linear regression model. Due to the limited sample size in the study, only variables that were integral to answering the research questions were included in the model. Variables were included in the model if they met one of two conditions:

1. There was at least one statistically significant difference in the variable at different levels of the Protocol.

2. The variable significantly predicted any immediate or delayed post-test outcome. Each covariate was added to a hierarchal linear regression model containing the other five variables to test for significance at each level of the Protocol. See Table 2.

This test determined that age, EVIP and Wolof Peabody were the covariates that made the most significant difference in the model and therefore were the covariates included in the linear regression analysis. Gender, ethnicity, and school were evenly distributed through each level of

independent variables and did not significantly predict any outcome nor did they significantly influence the predictive ability of other variables. As such, these variables were left out of the final model.

Immediate and delayed post-tests: Linear regressions.

Multivariable linear regressions were performed to determine to what extent any statistically significant differences existed between protocols for the Immediate and Delayed Summative Post-tests scores for each of the four domains --Receptive, Semantic, Syntactic and Expressive -- after adjusting for age, EVIP and Wolof Peabody. For valid inference using linear regression, certain assumptions must be met:

Normal distribution assumes the dependent variable should be normally distributed within groups. Overall the *F* test is robust to non-normality, if the non-normality is caused by skewness rather than outliers.

Linearity assumes that there are linear relationships among all pairs of covariates, and all dependent variable-covariate pairs in each cell.

Independence of observations assumes that the sample mean from a random sample is normal because of the central limit theorem.

Homogeneity of variances assumes that the dependent variables exhibit equal levels of variance across the range of predictor variables.

Procedures

In November 2011 contact was made with the two schools and professional development was conducted for the local teachers in these schools in Sénégal. Two Wolof language experts assisted in developing a Wolof version of the EVIP and cross checked the results. At this time, these assessments were piloted with students four to six years old and revisions were made in

word choice and the assessment procedure. French readers were created, working with native speakers, to include the structure and vocabulary needed for the study.

After revision of the design and materials, research began in Sénégal in October 2012. A parents' meeting was held to discuss the purposes and potential benefits of this study in their children's school. Each superintendent moderated the meetings, introduced the researcher and fielded any questions. Parents were told that they would be asked to sign a permission form, if they chose for their child to participate. The form was presented in written form in French and explained orally in Wolof by superintendents of each school. The parents were told that participation in the study was not mandatory and that at any time they or their child could opt out. The parents were informed that the children who participated in the study would each receive a French-Wolof picture dictionary and that the school itself was receiving books as a thank you for participation. Permission sheets were gathered on each individual child before beginning the study.

Prior to conducting the study, the researcher had a teachers' meeting and met with each teacher individually to discuss the goals, procedures, and parameters of the study. Also communicated was the importance of the children's not feeling coerced into doing anything they did not want to do. The researcher introduced herself and the study in each participating classroom with the assistants, who translated French to Wolof. The researcher indicated that she would be at the school for several weeks teaching students new vocabulary words using shared readers. It was indicated that if at any time individuals decided not to participate, all they had to do was to say so. This information was repeated in Wolof to make certain that all of the children understood what was taking place and that it was their right to opt out of the study at any time.

The researcher conducted a teacher in-service session regarding the use of two types of shared reading texts, predictable books and non-predictable story book texts. The differences in using the two were highlighted. The researcher modeled with the teachers how to read and use each. The teaching staff also discussed vocabulary development using dialogical reading and how to do this with students, practicing the procedures together.

The purpose and value of administering the EVIP in French and Wolof-Peabody was explained. The EVIP and Wolof translation of the EVIP was carried out with each student participating in the study, and the results were used as base-line measures of receptive vocabulary in French and Wolof.

Over the course of four days, individual children were asked to come to a quiet area the courtyard or a empty classroom where each were administered the Peabody vocabulary picture test, first in Wolof and then in French. Two local assistants were trained in the administration of the tests to help communicate with the children in Wolof. The assistants helped to ensure clear communication and accurate record keeping. Each child's responses were noted on the answer sheets and the testing sessions were videotaped.

The 42 students between four and six years old were randomly divided into three groups using a random number generator: P1 with predicable books and P2 with non-predictable books were the treatment groups. P3 with coloring activities was the control group. During the study the control group took part in normal classroom literacy activities of coloring a worksheet showing target words and pictures and the children in this group received the P1 treatment after the completion of the study.

In small groups each protocol group was introduced to the target vocabulary words using 8.5 X 11 image sheets of the target word with the French name printed under the image. During

this time of introduction to target words, a trained assistant showed the children a picture representing each vocabulary word, asked for the name of the word, pronounced the word in Wolof, asked the students to repeat the word at least three times and then modeled the word in French, repeating the word at least three to five times for an average of seven minutes. Following this, each group took part in a shared reading activity (P1 and P2) or coloring activity (P3), with each treatment and control condition taking about twelve minutes.

During the reading of the predictable book for P1, the children were asked dialogical questions in Wolof using the cover, and then with each image from the book that followed. In dialogic reading, adults asked open-ended questions to create opportunities for children to actively engage with the listening and discussion of a story (Wasik & Bond, 2001). Before reading children were asked to look at the cover and describe what they saw. This discussion took place primarily in Wolof. French words and pictures of target word concepts were asked for, offered and repeated by the children. During reading, the following questions were posed in Wolof: "What do you call this in French?" and "Where can we find this?" or "What does this do?" "What will happen next?" "What is on the next page?" "What is the character going to do?" On the first reading, characters and basic plot line were discussed in Wolof. Illustrations of target words were noted and children were asked to locate the word on the page and were asked for the French name. At the end of the reading a review of the story and vocabulary was conducted in Wolof. At times the children would repeat the recurring phrases or would offer them out before they were read. At a few points during the study the researcher heard children offer these phrases to her as she passed during recess.

During the reading of the non-predictable book for P2, the children were asked the same kinds of dialogical questions used for P1 in Wolof from the books' cover illustrations and then

with each image from the picture book. Characters and basic plot lines were discussed in Wolof and target words were translated into French as the book was read aloud to the children. Target words were noted and children were asked to locate the word on the page. The children offered comments and posed questions about the stories during the readings. After reading, a review of the story and vocabulary was conducted in Wolof.

Each story was read four consecutive days with the treatment groups. A study with kindergarteners by Robbins and Ehri (1994) demonstrated that young children who hear a word four times during book reading were more likely to learn the new word compared with children who only heard the word twice. This procedure was repeated with each of the books used over the course of the five weeks of the study.

At the end of four days of treatment, weekly assessments were given. The first assessment was the vocabulary picture test, evaluating receptive vocabulary. In this assessment, a child was shown four pictures that he or she had never seen before but one of which was a representation of one of the ten target vocabulary words learned for the week. The researcher asked the child to point to the picture for the word, by saying for example, "Où est la maison? " Each child pointed to one of the pictures that to them best represented "la maison," a house. Images different than the ones used to teach the vocabulary and the ones shown in the book were used to evaluate whether the children were choosing pictures correctly by chance or because they knew the visual representation of the word.

The second assessment was the semantic understanding assessment, which evaluated understanding of meaning in context. In this evaluation students were asked individually a series of three phrases, one in which the word was used in the proper context. The children responded

yes or no after each phrase when asked, "Is this true or false?" Example assessment questions are located in Appendix D.

Thirdly, the students were given a simple phrase that was either formed in correct word order or incorrect word order according to the French grammar or syntactic system. These phrases used target words and other familiar words from the readers. Phrases were formed consistent with syntactic structures to which students had been exposed in the readers. Students were asked to respond yes or no to the prompt: "Does this make sense? Does this sound right? Are the words in a good order?"

In the last evaluation, the children responded to the expressive vocabulary in context item. During the weekly assessments, the students were asked to tell the researcher everything they knew about a target word such as "mouche," which is fly. Responses were evaluated on either correct or incorrect. Examples can be found in Appendix D. This assessment was modified in the immediate and delayed post-test assessment when the children were presented a picture and asked to describe it. One point was given for each correct response in Wolof and two points were allotted for each correct response in French.

At the end of five weeks when the series of readers had been completed and 50 target words had been taught, immediate post-test assessments were given on a representative group of vocabulary words taught in the course of the study. Procedures for the immediate post-test were the same as in the weekly assessments, except for the expressive vocabulary test. In the immediate post-test students were shown images that represented target words and were asked to identify the images. One point was awarded if the student was able to articulate the concept in Wolof; two points were allotted if the student could also express the concept in French. Examples of these images are in Appendix D.

Using the same format as the immediate post-test, delayed post-tests were given eight weeks later to examine retention of taught vocabulary. The data were analyzed to discover if any significant differences in acquisition of new vocabulary existed between P1, P2, and P3. After the delayed post-test, the control took part in the P1, the treatment, because it was shown to have an overall more significant effect that the P2 treatment. A discussion of the analyses and results follow in Chapter 4.

Chapter 4: Results

Introduction

      This study was conducted to assess the relative effectiveness of the local schools' routine instructional practice of using coloring activities versus shared readings of picture books for helping young children learn vocabulary in an L2 academic context. In addition, data were collected to measure the effects of shared reading with predictable versus non-predictable stories on L2 learning for children shortly after their entry into formal schooling. Two primary research questions were addressed. First, were there statistically significant differences in effects of shared reading with predictable and non-predictable books versus control activities in use of L2 on the outcomes of receptive vocabulary, semantic understanding, syntactic patterns and expressive language? Secondly, were there statistically significant differences between the two shared reading protocols with predictable versus non-predicable texts in immediate and delayed post-test scores on the outcomes of receptive vocabulary, semantic understanding, syntactic pattern and expressive language?

Participants

      The research took place in the city of Dakar, Sénégal in West Africa. Participants included 42 preschool-aged children ranging from four to six years old. The preschoolers were from homes where sénégalo-guinéen languages were spoken and most parents were illiterate in L1. The official national school academic language is French, thus making all the children L2 learners. Although 33 of the children were from homes whose L1 was not Wolof, all children could understand and speak Wolof and chose to communicate in this language when speaking

with friends. Wolof was also the African language in which teachers and staff communicated

with children, parents, and each other.

Descriptive statistics.

Table 1
Summary of Descriptive Statistics

	P1: Predictable	P2: Non-Predictable	P3: Control	Overall
	(*n*= 15)	(*n*= 15)	(*n*= 12)	(*n*=42)
Gender				
Female	47% (7)	40% (6)	67% (8)	50% (21)
Male	53% (8)	60% (9)	33% (4)	50% (21)
Age[a]				
Median	70	63	62	64
Mean (SD)	68 (7.6)	65.8 (9.8)	60.8 (7.8)	65.2 (8.8)
Ethnic Group				
Wolof	13% (2)	20% (3)	42% (5)	24% (10)
Non-Wolof	87% (13)	80% (12)	58% (7)	76% (32)
School				
S1	53% (8)	60% (9)	50% (6)	55% (23)
S2	47% (7)	40% (6)	50% (6)	45% (19)
EVIP[b]				
Median	9.0	4.0	8.5	6.5
Mean (SD)	8.5 (4.2)	5.1 (3.1)	8.7 (5.3)	7.33 (4.5)
Wolof Peabody				
Median	16	15	18	15.5
Mean (SD)	20.2 (13.3)	14.9 (8.0)	16.5 (9.7)	17.3 (10.6)

Note. a = Age expressed in months; b = EVIP: Echelle de vocabulaire en image Peabody, the French version of Peabody Picture Vocabulary Test.

In terms of number of participants per group, P3, the control, initially had the same

number of members as P1 and P2. However, three children dropped out of the study before its

completion. There were 9 students of Wolof L1 ethnicity, and 33 that were from other L1 ethnic

groups. Although the Wolof and non-Wolof percentages were skewed toward non-Wolof for

both treatments, a backwards step-wise comparison was conducted to determine if L1 was

associated with outcome and results showed it to be statistically non-significant.

Outcomes

    Weekly measures.

After each week's treatment, students were evaluated on each of the four outcome measures (receptive, semantic, syntactic and expressive) to assess learning of ten target words. A repeated measures analysis of variance was performed on the data from the five weeks, accounting for the repeated measures and within-subject correlation, using performance for P1 and P2 or shared reading groups compared to performance for P3, control group, as the baseline predictors included in the model. The results are represented in Tables 2a and 5b and scores are displayed in Figure 4.1.

On the graphs in Figure 4.1, averages of the raw scores are plotted over the five weeks of the study. The vertical line represents the 5th and 95th percentiles, respectively. While the graphs do show variation in scores, there is a consistent overall trend, with P1 predictable books participants having consistently higher means than P2 with non-predictable books or P3, control group, particularly on receptive and expressive outcomes.

Figure 4.1 Summary of Weekly Scores for the Four Outcome Domains
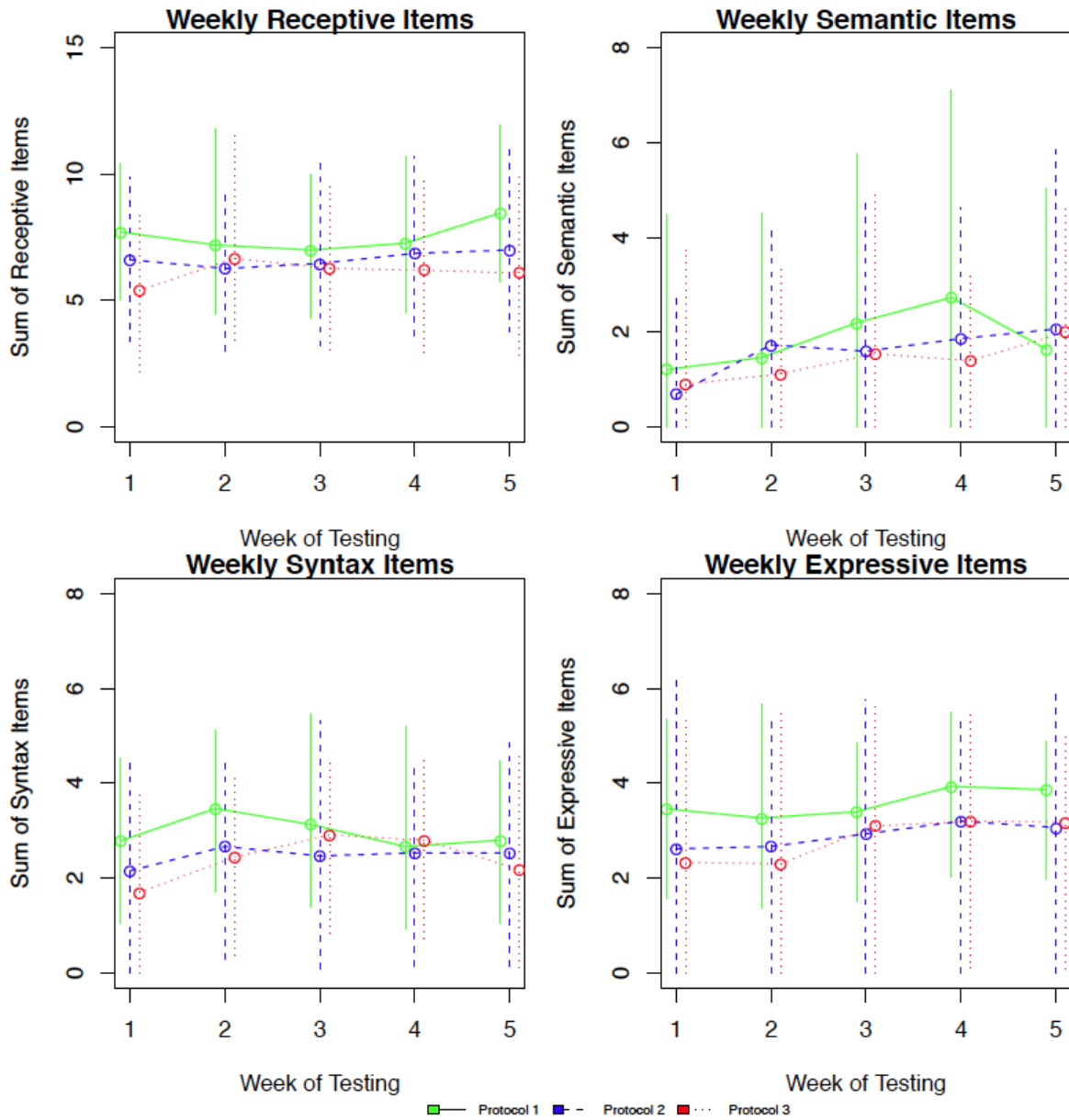
Note: Protocol 1 = predictable books; Protocol 2 = non-predictable books; Protocol 3 = control group.

The following tables (Tables 2a-5b) show the means and standard deviations of the protocols by week and results from the repeated measures ANOVAs.

Table 2a
Weekly Receptive Data: Means and Standard Deviations

	W1 *M* (SD)	W2 *M* (SD)	W3 *M* (SD)	W4 *M* (SD)	W5 *M* (SD)
P1 Predictable	7.71 (1.38)	7.20 (2.34)	7.00 (1.51)	7.27 (1.75)	8.47 (1.77)
P2 Non-Predictable	5.77 (2.35)	5.80 (2.27)	6.47 (2.16)	6.87 (1.96)	7.00 (2.14)
P3 Control	5.70 (1.42)	6.67 (2.60)	6.27 (1.74)	6.20 (1.87)	6.09 (1.97)
Total	6.49 (1.99)	654 (2.39)	6.61 (1.81)	6.85 (1.86)	7.29 (2.15)

Table 2b
Analysis of Variance for Weekly Receptive Data Using Only Protocol

	Df	Sum Sq	Mean Sq	F value	*p* value (>F)
P1 Predictable	1	69.04	69.04	17.73	<.01
P2 Non-Predictable	1	1.46	1.46	0.38	0.54
Residuals	195	759.34	3.89		

Table 3a
Weekly Semantic Data: Means and Standard Deviations

	W1 *M* (SD)	W2 *M* (SD)	W3 *M* (SD)	W4 *M* (SD)	W5 *M* (SD)
P1 Predictable	1.21 (1.67)	1.47 (1.55)	2.20 (1.82)	2.73 (2.22)	1.64 (1.74)
P2 Non-Predictable	0.69 (1.11)	2.07 (1.67)	1.60 (1.59)	1.87 (1.41)	2.07 (1.94)
P3 Control	0.90 (1.45)	1.13 (1.13)	1.55 (1.75)	1.40 (0.97)	2.00 (1.34)
Total	0.95 (1.41)	1.63 (1.53)	1.80 (1.71)	2.08 (1.73)	1.90 (1.69)

Table 3b
Analysis of Variance for Weekly Semantic Data Using Only Protocol

	Df	Sum Sq	Mean Sq	F value	*p* value (>F)
P1 Predictable	1	3.74	3.74	1.37	0.24
P2 Non-Predictable	1	2.08	2.08	0.76	0.38
Residuals	193	526.56	2.73		

Table 4a

Weekly Syntactic Data: Means and Standard Deviations

	W1 M (SD)	W2 M (SD)	W3 M (SD)	W4 M (SD)	W5 M (SD)
P1 Predictable	2.79 (0.89)	3.47 (0.83)	3.13 (1.19)	2.67 (1.29)	3.33 (2.02)
P2 Non-Predictable	2.15 (1.21)	2.67 (0.98)	2.47 (1.46)	2.53 (0.92)	2.53 (1.25)
P3 Control	1.70 (1.06)	2.44 (0.88)	2.91 (0.92)	2.80 (0.92)	2.18 (1.25)
Total	2.27 (1.12)	2.92 (0.98)	2.83 (1.22)	2.65 (1.05)	2.73 (1.61)

Table 4b

Analysis of Variance for Weekly Syntactic Data Using Only Protocol

	Df	Sum Sq	Mean Sq	F value	*p* value (>F)
P1 Predictable	1	18.36	18.36	12.78	<.01
P2 Non-Predictable	1	0.14	0.14	0.10	0.76
Residuals	195	280.09	1.44		

Table 5a

Weekly Expressive Data: Means and Standard Deviations

	W1 M (SD)	W2 M (SD)	W3 M (SD)	W4 M (SD)	W5 M (SD)
P1 Predictable	3.46 (0.97)	3.27 (1.22)	3.40 (0.74)	3.96 (0.80)	3.87 (0.52)
P2 Non-Predictable	2.62 (1.85)	2.67 (1.40)	2.93 (1.44)	3.20 (1.08)	3.07 (1.44)
P3 Control	2.33 (1.58)	2.30 (1.64)	3.10 (1.29)	3.20 (1.14)	3.18 (0.98)
Total	2.86 (1.54)	2.80 (1.42)	3.15 (1.17)	3.48 (1.04)	3.39 (1.09)

Table 5b

Analysis of Variance for Weekly Expressive Data Using Only Protocol

	Df	Sum Sq	Mean Sq	F value	*p* value (>F)
P1 Predictable	1	23.16	23.16	15.27	<.01
P2 Non-Predictable	1	0.12	0.12	0.08	0.77
Residuals	193	292.72	1.52		

Using the repeated measures model to account only for protocol, the weekly receptive outcomes revealed that P1 was significantly different from P3 ($p<.01$), while P2 was not different from P3 ($p=0.54$) as shown in Figure 4.1 and Table 2b. With respect to the weekly data for semantic outcomes, neither P1 ($p=0.24$) nor P2 ($p=0.38$) was significantly different from P3. See Figure 4.1 and Table 3b. With respect to the weekly data for syntactic outcome, P1 was significantly different from P3 (p<.01), while P2 was not different from P3 ($p=0.76$). See Figure 4.1 and Table 4b. With respect to expressive data, P1 was significantly different from P3 ($p<.01$), while P 2 was not different from P3 ($p=0.78$). Thus, when taking into account protocol alone in a repeated measures analysis for weekly outcomes, P1 was statistically significantly different than P3 in all domains except semantic and P2 was non-significant when compared to P3 for each of the four outcomes. See Figure 4.1 and Table 5b.

Overall results of these weekly assessments show learning trends that were distinctive among the protocols. Using the main effects model described above, however, these results did not take into account differences that may have been associated with covariates.

Table 6
Five-Week Mean and Percentage of Total Correct Scores in Outcome Domains

Domain	Receptive M (%)	Semantic M (%)	Syntactic M (%)	Expressive M (%)
	6.76 (68%)	1.67 (17%)	2.68 (45%)	3.14 (63%)

The five-week overall percent correct scores for outcomes in the four domains were from highest to lowest, respectively, 68 % for receptive; 63 % for expressive; 45% for syntactic, and 17 % for semantic (Table 6). Consequently, larger gains could be expected in the semantic domain because of the low initial scores at the starting point of the study.

Immediate and delayed post-test model selection results.

Due to the limited sample size in the study, only variables integral to answering the research questions were included in the hierarchical linear regression model. A backwards step-wise selection was conducted to determine which covariates (gender, age, ethnic group, school, EVIP and Wolof Peabody) would yield the most statistically significant differences in subsequent analyses using the hierarchical liner regression. Variables were included in the model if they met one of two conditions:

1. There was at least one statistically significant difference in the variable at different levels of the independent variable. P1 (predictable books) on average was significantly older than P3 (control) 9 M=68.0, 60.8, SD=7.6, 7.8, respectively; t=2.41, p=.02). Regarding the EVIP, P2 (non-predictable books) on average scored significantly lower than P1 (M= 8.5, 5.1, SD=4.2,3.1, respectively; t=2.55, p=0.02) or P3 (M=5.1,7.3, SD=3.1,5.3 respectively; t=2.08, p=.05). See Table 7.

2. The variable significantly predicted any immediate or delayed post-test outcome. Each variable was added to a hierarchal linear regression model containing the other five variables to test for significance at each level of the covariate. Age and Wolof Peabody significantly predicted all outcomes (p<.05) for receptive, semantic, syntax, and expressive but not for syntactic scores in both immediate and delayed post-tests. See Table 7.

Table 7
Correlation Table Demonstrating the Relationship Between Age and Wolof Peabody
Covariates on Immediate and Delayed Post-Tests.

	Imdt Post-Test Receptive	Imdt Post-Test Semantic	Imdt Post-Test Syntactic	Imdt Post-Test Expressive	Delayed Post-Test Receptive	Delayed Post-Test Semantic	Delayed Post-Test Syntactic	Delayed Post-Test Expressive
Age	.350*	.466**	.405**	.498**	.497**	.411**	.405**	.437**
Wolof Peabody	.506**	.457**	.315*	.399**	.420**	.457**	.273~	.437**

*Note. ~p<.10, *p<.05, **p<.01.*

Gender, ethnicity, and school were evenly distributed among each level of independent variables and did not significantly predict any outcome. Likewise, none of the three descriptors significantly influenced the predictive ability of other variables. Therefore, these variables were omitted from the final model.

EVIP equally did not significantly predict any outcome but was included in the model as it was used as a baseline score before treatment. However, as noted in Table 7, both age and Wolof Peabody had a significantly positive relationship with outcomes in both the immediate and delayed post-tests.

Immediate post-tests measures.

The first summative evaluation was given as the immediate post-test at the end of the five-week study. Students were evaluated on representative items from each week's four outcome assessments. The second summative measure was the delayed post-test given eight weeks after the immediate post-test.

Results.

The box plots in Figure 4.2 illustrate that median scores were consistently higher for P1 on all outcomes. The narrowness of the boxes shows that scores were fairly consistent overall except for P2 on receptive, semantic, and expressive outcomes. Even though the range of scores was highest for P2 on the receptive test, the scores were more widespread and therefore less consistent.

Figure 4. 2. Immediate Post-Test Data for the Four Outcome Measures
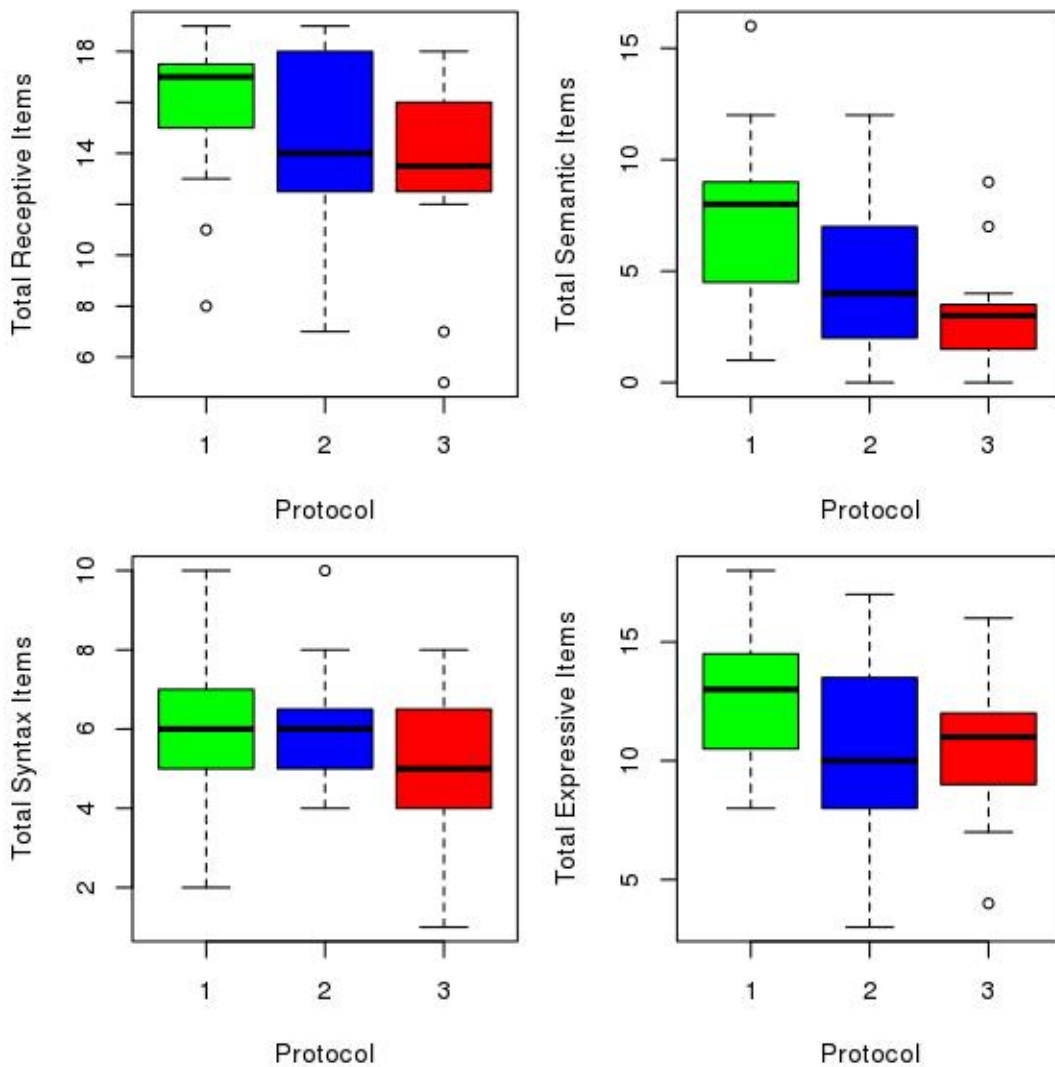
Note. Protocol 1 = predictable book group; Protocol 2 = non-predictable book group; Protocol 3 = control group.

Table 8
Immediate Post-Test Means and Percentages of Total Correct Scores in Outcome Domains

Domain	Receptive M (%)	Semantic M (%)	Syntactic M (%)	Expressive M (%)
Overall	17.0 (71%)	5.1 (26%)	5.7 (57%)	13.8 (58%)
P1				
Predicable	19.0 (79%)	7.0 (35%)	5.8 (58%)	15.0(63%)
P2				
Non-Predictable	17.0 (71%)	4.8 (24%)	6.2 (62%)	12.7 (53%)
P3				
Control	15.5 (65%)	3.2 (16%)	5.0 (50%)	14.6 (61%)

Table 8 shows the average and percentage of correct responses in the immediate post-tests. The percentages of correct answers for outcome domains from highest to lowest were receptive (71%), expressive (58%), syntactic (57%), and semantic (26%).

A linear regression was performed to assess differences in scores and was compared to the P3 control group predictors for the immediate post-test outcomes, while holding constant the scores for age, EVIP and Wolof Peabody.

The results for the immediate post-tests are displayed in Table 8. The beta scores reflected in the table for protocol, or categorical variables, estimate changes in scores as compared to P3 control group after adjusting for age, EVIP and Wolof Peabody. These beta scores predict the average change in immediate post-test outcome scores with P1 compared to P3 and P2 compared to P3. Table notes provide the beta scores for P1 compared to P2. For the three continuous variables, or covariates, the beta scores indicate the average change in score for a one-unit increase in that continuous variable.

A confidence interval (CI) gives an estimated range of values, which is likely to include an unknown population parameter, the estimated range being calculated from a given set of sample data. If independent samples are taken repeatedly from the same population, and a confidence interval calculated for each sample, then a certain percentage or confidence level of the intervals will include the unknown population parameter. Confidence intervals in this study

are calculated so that this percentage is 95. The width of the confidence interval indicates the

uncertainty associated with the parameter. A very wide interval may indicate that more data

should be collected before definite conclusions can be drawn about the parameter.

Table 9
*Results from the MLR Investigating the Association of Protocol on Immediate Post-Test Scores
After Adjusting for Age, EVIP and Wolof Peabody Scores*

	Receptive			Semantic			Syntactic			Expressive		
Covariate	Beta	95% CI	P	Beta	95% CI	P	Beta	95% CI	P	Beta	95% CI	P
Protocol			0.3			0.15			0.5			0.47
P1	1.62	(-0.90, 4.14)		2.53	(0.02, 5.03)		0.12	(-1.27, 1.51)		0.99	(-1.38, 3.36)	
P2	1.98	(-0.63, 4.59)		1.05	(-1.54, 3.64)		0.79	(.0.65, 2.23)		-0.40	(-2.85, 2.05)	
P3	0.0			0.0			0.0			0.0		
Age (per year)	0.08	(-0.04, 0.20)	0.20	0.13	(0.01, 0.25)	0.04	0.07	(0.00, 0.13)	0.05	0.15	(0.04,0.26)	0.01
EVIP[ab]	0.12	(-0.11, .035)	0.32	-0.06	(-0.29, 0.17)	0.62	-0.04	(-0.17, 0.09)	0.54	0.04	(-0.18, 0.26)	0.74
Wolof Peabody[b]	0.15	(0.05, 0.24)	<.01	0.12	(0.03, 0.22)	0.01	0.05	(0.00, 0.10)	0.08	0.07	(-0.02, 0.16)	0.16

Note. a = Echelle de vocabulaire en image Peabody; b = per 1 unit increase.
Beta estimates for P1 vs P2 (ref): -.036 (-2.78, 2.06); 1.48 (-0.93, 3.88); -0.67 (-2, 0.67); 1.39 (-0.88, 3.66) for receptive, semantic, syntactic and expressive domains respectively.

While none of the *p* values shown in Table 9 were statistically significant for receptive,

semantic, syntactic and expressive outcomes, many of the scores were noteworthy. For the

semantic domain, P1 with predictable books participants scored 2.53 points higher on the

immediate post-test on average that the P3 control group (95% CI = 0.02,5.03, *p*=0.15). For the

receptive domain, P2 with non-predictable books participants scored 1.98 points higher on

average compared to P3 participants (95% CI = -0.63,4.59, *p*=0.3) and P1 scored 1.62 points

higher on average than P3 participants (95% CI= -0.90, 4.14, *p*=0). The confidence interval for

this level suggests that participating in P1 with predictable books may have improved scores

when compared to P3 control group.

In comparing P1 with predictable books to P2 with non-predictable books, the largest

differences were demonstrated in the semantic domain where P1 scored 1.48 points higher on

averaged compared to P2 (95% CI = -0.93, 3.88, *p*=0.15) and in the expressive domain where P1

scored 1.39 points higher than P2 (95% CI = -0.88, 3.66, *p*=0.47).

Delayed post-test measures.

Eight weeks after the immediate post-test was given, a delayed post-test was administered. The items and procedures were the same as the immediate post-tests for the semantic and syntactic elements. The same words were used for the receptive and expressive elements. However, different images were used to test the recognition of the concept in order to avoid choice of pictures based on prior experience with the images. Using performance for P3 control group as a baseline, a multivariable linear regression was performed to determine predictors for delayed post-test outcomes, while holding constant the scores for age, EVIP and Wolof Peabody.

Results.

The box plots in Figure 4.3 illustrate that eight weeks after the end of instruction, median scores were consistently higher for P1 on all outcomes except for syntax. Of note was the narrowness of the range for P1 for receptive and expressive tests. This shows that scores were consistent. Also noteworthy was that for each measure, scores for P3 control group were markedly lower except for expressive measures. Also worthy of note was the semantic domain in which the box plot for P3 does not overlap with the boxplots for P1 and P2. This indicates very clear results, which were also demonstrated in the statistical analysis from the multivariable linear regression. In addition, comparing results from the immediate to delayed post-tests shows that scores were consistently lower in each of the four domains in the delayed post-test for P3. This indicates that vocabulary understanding gained during the study was not retained as well over time by the students participating in the P3 group as compared to P1 and P2 groups.

Figure 4.3. Delayed Post-Test Data for the Four Outcome Measures.
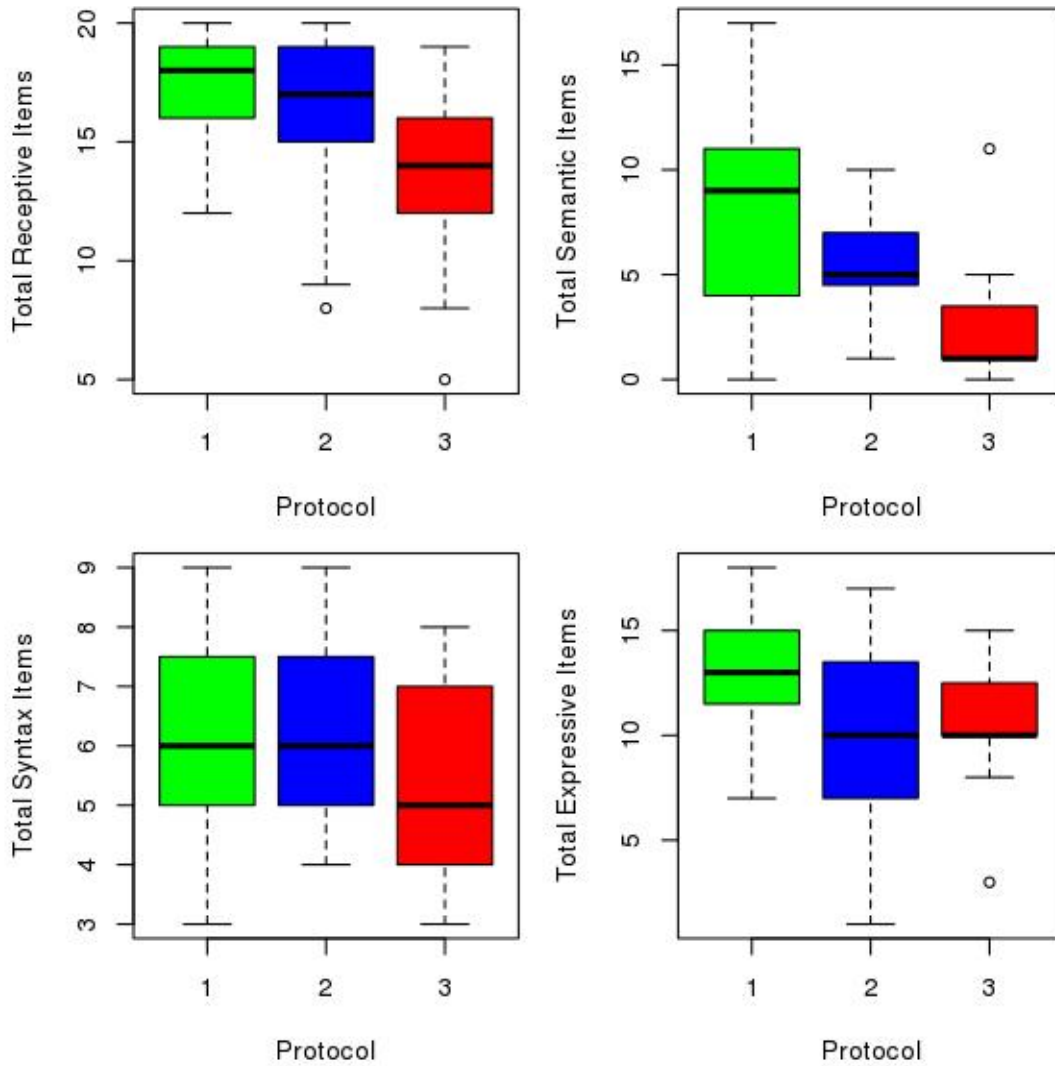
Note. Protocol 1 = predictable book group; Protocol 2 = non-predictable book group; Protocol 3 = control group.

Table 10

Delayed Post-Test Means and Percentages of Total Correct Scores in Outcome Domains

Domain	Receptive M (%)	Semantic M (%)	Syntactic M (%)	Expressive M (%)
Overall	17.4 (73%)	5.6 (28%)	6.0 (60%)	13.9 (58%)
Protocol 1 Predicable	19.6 (82%)	8.1(41%)	6.2 (62%)	15.0 (63%)
Protocol 2 Non-Predictable	17.4 (73%)	5.9 (30%)	6.3 (63%)	12.6 (53%)
Protocol 3 Control	14.3 (60%)	2.8 (14%)	5.5 (55%)	13.0 (54%)

Table 10 shows the average and percentage correct responses in the delayed post-tests. The percentages of correct answers for outcome domains from highest to lowest were receptive (73%), syntactic (60%), expressive (58%) and semantic (28%). This is a difference from the immediate post-test percentages of correct answers: receptive (71%), expressive (58%), syntactic (57%) and semantic (26%).

The results displayed in Table 11 indicated that for both P1 and P2 the vocabulary understanding gained in the study was retained over time. For the semantic domain, P1 scored 4.45 points higher on the delayed post-test on average than P3 control group participants (95% CI = 1.75, 7.14, p=0.01). This is statistically significant. In the semantic domain, P2 with non-predictable books scored 2.68 points higher than P3 control group participants (95% CI = -0.10, 5.47, p=0.01). Although this confidence interval indicates that the effect was less powerful than compared to P1 with predictable books scores in this domain, this difference was noteworthy. Also of note were the scores for the Receptive domain, wherein P1 participants scored 2.38 points higher on average than P3 participants (95% CI = -0.05, 4.70, p=0.1) and P2 participants scored 2.28 points higher on average than P3 participants (95 % CI = -0.12, 4.68, p=0.1).

Table 11

Results from the MLR Investigating the Association of Protocol on Delayed Post-Test Scores After Adjusting for Age, EVIP and Wolof Peabody Scores

	Receptive			Semantic			Syntactic			Expressive		
Covariate	Beta	95% CI	P	Beta	95% CI	P	Beta	95% CI	P	Beta	95% CI	P
Protocol			0.1			0.01			0.5			0.47
P1	2.38	(0.05, 4.70)		4.45	(1.75, 7.14)		0.30	(-0.99, 1.59)		0.98	(-1.78, 3.74)	
P2	2.28	(-0.12, 4.68)		2.68	(-0.10, 5.47)		0.79	(-0.56, 2.10)		-0.68	(-3.54, 2.17)	
P3	0.0			0.0			0.0			0.0		
Age (per year)	0.14	(0.03, 0.25)	0.02	0.09	(-0.04, 0.22)	0.14	0.07	(0.00, 0.12)	0.05	0.15	(0.02, 0.28)	0.03
EVIP[ab]	0.08	(-0.14, .030)	0.47	-0.06	(-0.31, 0.19)	0.65	-0.04	(-0.07, 0.17)	0.43	0.01	(-0.24, 0.27)	0.93
Wolof Peabody[b]	0.11	(0.02, 0.20)	0.02	0.15	(0.05, 0.25)	<0.01	0.03	(-0.02, 0.08)	0.22	0.11	(0.00, 0.21)	0.05

Note. a = Echelle de vocabulaire en image Peabody; b = per 1 unit increase.
Beta estimates for P1 vs P2 (ref): 0.10 (-2.13, 2.33); 1.77(-0.82, 4.35); -0.47 (-1.7, 0.77); 1.67 (-0.98, 4.31) for receptive, semantic, syntactic and expressive domains respectively.

The note below the table gives the comparisons of results between P1 and P2. The largest differences are demonstrated in two domains. In the semantic domain, P1 scored 1.77 points higher on average compared to P2 (95% CI = -0.82, 4.35, *p*=0.01). In addition, in the expressive domain, P1 scored 1.67 points higher on average compared to P2 (95% CI = -0.98, 4.31, *p*=0.47).

Summary

For the delayed post-test, the results on the linear regression holding constant age, EVIP, and Peabody Wolof were significantly different when comparing shared reading groups to control in the semantic domain. In addition, definitive trends were evident throughout the weekly, immediate post-test, and additional delayed post-test analyses. Findings demonstrated that shared reading, especially with predictable books, was associated with statistically significant gains on participants' semantic understanding and positively predicted receptive and expressive vocabulary but not syntactic understanding. Further, whereas the control group's mean outcome scores decreased over time, the shared reading group using predictable books demonstrated greater retention of L2 vocabulary over the other two groups. In addition,

Protocol 1 exhibited higher scores than P2 or P3 on semantic outcomes and the differences were statistically significant. Findings from this study demonstrated positive results for the use of shared reading as compared to coloring activities in L2 vocabulary learning and supported the use of predictable books more than non-predictable books for the L2 student participants. Conclusions based on results, limitations of the study, and educational implications will be discussed in Chapter 5.

Chapter 5: Discussion and Conclusions

Introduction

This study was undertaken in Dakar, Sénégal with 42 children from four to six years old to examine their learning and retention of novel L2 French vocabulary in two conditions of shared reading, one with predictable and the other with non-predictable books, and a control condition with schools' practices of using coloring activities for initial L2 instruction. All the children participating were L2 learners whose academic language at school was French, but whose L1 was one of 33 languages typical for this area of West Africa. The French vocabulary words targeted for testing were the same for children in the two shared reading treatment conditions and the control condition. The words were presented in predictable and non-predictable stories for the shared reading conditions and on coloring sheets for the control condition over the course of five weeks. Learning outcomes were measured in four language domains: receptive, semantic, syntactic and expressive; and measures were registered at three intervals: weekly, immediately after the completion of the study, and eight weeks after the last instructional session as a delayed post-test.

Summary of Results

Before treatment, baseline vocabulary scores were taken as a measure of French vocabulary knowledge. All participants' scores were decidedly low, well below the first percentile mark, establishing little to no prior French vocabulary knowledge. Descriptive statistics revealed very little range in EVIP scores between subjects. However, group mean raw scores and standard deviations (SD) on the EVIP for P1 with predictable books , P2 with non-

predictable books and P3 with coloring activities were 8.5 (4.2), 5.1 (3.1) and 8.7 (5.3), respectively.

Step 1, a repeated measure analysis of variance, was performed on the weekly data, accounting for the repeated measures and within-subjects correlations, using only protocol (as dummy variables) as a predictor, performance for P3, the control group, as a baseline for comparisons to P1 and P2. This revealed that predictable books indeed had statistically significant effects on weekly receptive (n= 15, $f_{(4,22)}$=17.73, p<.01), expressive (n= 15, $f_{(4,22)}$=15.27, p<.01), and semantic (n= 15, $f_{(4,22)}$=12.78, p<.01) measures in that order from larger to smaller. Non-predictable books were not identified in the model as having any statistically significant effects. Means for the raw scores are shown in Figure 4.1 and Tables 2a to 5b. Despite an absence of significant results in the syntactic domain, weekly measures indicated that students participating in the shared reading group with predictable books developed significantly greater receptive, expressive, and semantic language competencies with novel French vocabulary than the other two groups.

For Step 2, linear regressions were used to identify differences that were attributable to covariates and to determine which had the largest effect in the model. As 76% of the participants were from non-Wolof L1 homes, and Wolof was the language used to make a liaison with cognitive concepts and French vocabulary in preview-review and concurrent translation strategies, it was anticipated that ethnic group and home language would emerge as a statistically significant factor within the model. Surprisingly, this was not the case. Whether participants were from Wolof L1 homes or not proved to have no significant affect on outcomes. The analysis revealed that age and Wolof Peabody were the covariates most closely associated with outcomes. This was not surprising as age is a known predictor of performance on cognitive tests

(Piaget & Inhelder, 1973). In addition, EVIP and Wolof Peabody are indicators not only of

baseline word knowledge in the two languages but also of potential for developing language

competency (Neisser et al., 1996).

Step 3 involved linear regressions that adjusted for age, EVIP and Wolof Peabody. These

analyses were conducted to determine if protocol was significantly associated with outcomes for

the immediate and the delayed post-tests. Beta scores as seen in Table 9 indicated definitive

differences. Compared to the control group's performance on the Immediate Post-Tests, shared

reading groups showed significantly greater gains in all four outcome domains (Receptive,

Semantic, Syntactic, and Expressive) except for the comparison between the control group and

the group with non-predictable books in the expressive domain.

Especially strong results were indicated for the predictable reading group in the Semantic

and Receptive domains. For the Semantic domain, P1 with predictable books participants scored

2.53 points higher on average compared to P3 control participants (95% CI = 0.02, 5.03,

p=0.15). For the Receptive domain, P2 with non-predictable books participants scored 1.98

points higher on average compared to P3 participants (95% CI = -0.63, 4.59, p=0.3) and P1

scored 1.62 points higher on average compared to P3 participants (95% CI = -0.09, 4.14, p=0.3).

In comparing P1 with predictable books to P2 with non-predictable books, the largest

differences were demonstrated in the semantic domain where P1 scored 1.48 points higher on

average compared to P2 (95% CI = -0.93, 3.88, p=0.15) and in the expressive domain where P1

scored 1.39 points higher (95% CI = -0.88, 3.66, p=0.47).

Although the scores were not statistically significant at the p = .05 level, the confidence

intervals revealed that these types of shared reading books had potential as good predictors of L2

vocabulary acquisition. On the immediate post-test, students participating in both shared reading

groups learned more receptive vocabulary than students in the control group, and students in the

shared reading group with predictable books also showed significant gains in semantic

understandings as well.

Eight weeks later on the delayed post-test, outcomes were even more definitive. Again,

both shared reading groups produced significantly greater gains than the control group in all four

outcome domains (receptive, semantic, syntactic, and expressive) except for comparison between

the control group with the non-predictable books in the expressive outcome as seen in Table 11.

Statistically significant results were noted for outcome scores in the semantic domain. For this

particular domain, P1 with predictable books scored 4.45 points higher on the delayed post-test

on average compared to P3 control participants (95% CI = 1.75, 7.14, p=0.01) and P2 with non-

predictable books scored 2.68 points higher compared to P3 control participants (95% CI = -

0.10, 5.47, p=0.01). Although this confidence interval for the P2 comparison indicated that the

effect was less powerful than compared to P1 scores in this domain, this difference was

noteworthy. Also of note were the scores for the receptive domain, wherein P1 with predictable

books scored 2.38 points higher on average compared to P3 participants (95% CI = -0.05, 4.70,

p=0.1) and P2 (non-predictable books) participants scored 2.28 points higher on average

compared to P3 participants (95 % CI = -0.12, 4.68, p=0.1).

In comparing P1 to P2, the largest differences are demonstrated in two domains. In the

semantic domain, P1 scored 1.77 points higher on average compared to P2 (95% CI = -0.82,

4.35, p=0.01). In addition, in the expressive domain, P1 scored 1.67 points higher on average

compared to P2 (95% CI = -0.98, 4.31, p=0.47). Children participating in shared reading of the

predictable books not only retained the learned vocabulary over time, they also scored higher

than both the non-predictable-book reading group and the control group. Like scores on the

immediate post-test, the delayed post-tests scores in the receptive, syntactic and expressive domains were not statistically significant at the $p = .05$ level. However, the confidence intervals revealed that scores were noteworthy, especially in the semantic and receptive domains and they indicated that shared reading, and in particular with the use of predictable books, may potentially serve as a predictor and facilitator of L2 learners developing understandings of word meanings in addition to receptive knowledge of vocabulary.

Also worthy of note were mean raw scores on the delayed post-test for both shared reading groups in each domain (receptive, semantic, syntactic and expressive). These means demonstrated increases in scores for shared reading groups from the Immediate to the Delayed Post-Tests, whereas mean raw scores for the control group declined. Consequently, results indicated that the shared reading groups not only retained knowledge of French vocabulary, they also continued to progress in the receptive, semantic, syntactic and expressive domains in the eight weeks between the immediate and delayed post-tests, suggesting that shared reading groups may have learned L2 skills and concepts fostering continued vocabulary development. Like results from research conducted by Elley (1989), data from this study showed that shared reading promoted retention and increased performance over time on target language vocabulary for young L2 students.

Discussion

In this study, *L'Echelle du vocabuaire en images Peabody* or EVIP, the French version of the Peabody Picture Vocabulary Test or PVVT was used as a baseline evaluation of oral vocabulary in the target language, French. In research conducted by Wasik and Bond (2001) in which shared reading with L1 learners was determined to have a significant effect on oral language development, the PVVT was also used as a baseline measure for vocabulary

knowledge. In more recent research done by Wasik and Bond (2006), the PVVT was used as a pre-test at the beginning of the school year and as a post-test measure at the end of the school year. In a similar study by Whitehurst et al. (1988) the PVVT was used as an outcome measure in which shared reading had a significant effect on children's language skills. However, the PVVT was used immediately after treatment and then as a post-test measure nine months later. Concerns have been raised about whether the significant gains in PVVT scores in these studies were due to the effects of treatments, or to language development and maturity (Wasik & Bond, 2006; Whitehurst, Falco, Lonigan, Fishel, DeBaryshe, Valdez-Menchaca & Caufield, 1988). The PVVT is a instrument that is designed to measure vocabulary development over time. For this study, it was determined that a five-week duration did not offer a long enough period to use a broad term evaluation instrument such as the Peabody test as an end-of-study outcome measure and that the EVIP was sufficient to establish basic French language knowledge before the study began. For this research, pretest measures of actual receptive, semantic, syntactic and expressive items included in weekly tests and immediate and delayed post-tests were not administered. This action was taken to guard against participant bias toward items that were to be measured during and after the study, a situation that Campbell and Stanley (1963) noted as a potential threat to validity.

During this study L2 language read aloud strategies found effective in research by Ulanoff and Pucci (1999) were employed. These researchers used shared readers with 60 third grade students in Los Angeles and found that utilizing L1 in previewing and reviewing shared stories was effective in promoting L2 learners' acquisition of novel vocabulary. Based on field-testing prior to this study with Sénégalese children, the researcher and author of this dissertation also concluded the necessity of using L1 as a bridge for teaching L2 target vocabulary. As a

result it could be assumed that L1 mastery could affect outcome scores. Thus, it was expected that children who were from Wolof L1 homes would have advantage in the study. Surprisingly, backward step-wise analysis showed ethnic group had no statistically significant impact on outcomes in any of the domains.

However, basic word knowledge in Wolof as indicated by scores on the Wolof Peabody did prove to have an impact on scores, affecting the semantic domain the most. These results have corroborated those from research showing that L1 word knowledge positively impacts L2 learning (Bialystock, 1991; Colllier, 1988, 1989, 1995). However, the interesting dynamic for these participants was that the large majority (76%) came from homes where the mother tongue was not Wolof. In this multi-lingual context, all the participants primarily spoke Wolof with teachers and friends at school and in their community, but for the majority it was not the language in which they began to learn their first language structures as an infant. This made Wolof a second L1 of sorts, rather than a pure first language for most of these L2 learners of French.

Although scores on the EVIP and Wolof Peabody were in the first percentile range and showed very little variation among the participants' performance, it was expected that students' base line knowledge in vocabulary would correlate with their ability to learn novel vocabulary. As the Wolof Peabody demonstrated the largest p values of all covariates, the hierarchical linear regression models were adjusted to determine protocol influence on outcomes.

The Wolof Peabody was the covariate shown to have the most significant effect in the model, particularly in scores for the receptive and semantic domains. This was not surprising as the Peabody test is generally considered an indicator of language development and potential intelligence (Neisser et al., 1996). Although the Wolof translation of EVIP is not normalized and

76% of the children were from non-Wolof L1 homes, it was expected that a greater base knowledge in the lingua franca of the culture and country would indicate a greater capacity for comprehension and understanding of L2 vocabulary.

Outcomes

Data related to students' age, EVIP and Wolof Peabody, gender, ethnicity, and school scores were collected in Table 1. It was assumed that older children generally would have a more sophisticated understanding and command of language than younger children. It was expected that EVIP and Wolof Peabody scores would be associated with language acquisition, as these assessments were designed to evaluate baseline word knowledge in French (EVIP) and Wolof (Wolof Peabody). Results of the study reported here provided no evidence that language was learned differently by females as compared to males, native Wolof speakers as compared to non-Wolof native speakers, or between School 1 and School 2, which have similar demographics.

The most statistically significant gain in the shared reading groups as compared to the control group in terms of novel French vocabulary growth was demonstrated in the semantic domain. As the study was designed to help L2 learners build vocabulary knowledge, this was expected. However, it must be noted that the semantic domain was the area of vocabulary learning in which participants gave the lowest percentage of correct answers with an overall of 17 % correct on the weekly tests as shown in Table 6. Also, in the weekly tests repeated measures analyses, unlike the other outcome scores, the semantic domain did not make a statistically significant difference in the model. Because of the low initial scores at the starting point of the study, larger gains could be expected in the semantic domain. The immediate and delayed post-test semantic scores shown in Tables 8 and 10 should be highlighted as well. In terms of semantic understanding, P1 increased from 35% correct responses in the immediate

post-test to 41% correct responses eight weeks later in the delayed post-test, and P 2 increased

from 24% to 30% from the immediate to delayed post-test. However, P3 control group's scores

decreased from 16% correct answers to 14% from the immediate to the delayed post-test. Shared

reading groups, in particular those who participated in the reading of predictable books, made

significant gains in semantic understanding of vocabulary over the course of the study.

There were other scores worth noting as well. Although the outcomes in the linear

regressions did not indicate statistically significant differences in treatments and control

performance, growth in raw score outcomes in the syntactic domain were substantial. In addition,

the overall average percentage of correct answers in the weekly tests regarding syntactic

understanding was 45%. Average scores were considerable lower for the weekly tests than the

post-tests for this domain. In the immediate post-test the percentage of correct responses

increased to 57% for correct answers, and continue to improve syntax score with 60% of overall

correct answers in the delayed post-test. From being one of the weakest areas of performance in

the weekly tests, the syntactic domain became the second strongest outcome domain in raw score

averages for the delayed post-test, falling into place just behind receptive understanding.

Often native language speakers know if a word is used in the correct sense or not but may

not be able to explain grammatical rules. Several L2 researchers (Elley, 1989; Ellis, 2008,

Goodman, 1986) have proposed that the ability to understand language emerges before an

individual is able to express oneself and to detect subtle meanings and rules in any language.

Indicators in this study seem to support results from research (Karwait & Wasik, 1996)

demonstrating that exposure to a novel language context may aid in building a sense of syntax.

In this investigation scores in the Syntactic domain varied and were among the lowest for the

outcome measures at the onset, but ended up being the second strongest domain in percentage for

correct responses. These results support Elley's (1989) conclusions with respect to incidental language learning that syntax can be transferred by mere exposure to the L2 context. Because the treatments in this dissertation research provided only approximately 15 minutes of daily exposure to shared reading in French, this syntactic growth was a surprising outcome. The younger participants in this study had the greatest difficulty acquiring syntactic competencies. As comprehending syntax is a capacity that increases with exposure to language (Wong Fillamore, 1985) it may be that the limited shared reading time was not sufficient to increase syntactic understanding for the younger the children. Already noted was that participants had the majority of their exposure to French within the school context. The Sénégalese children from Schools 1 and 2 simply did not have the opportunity to learn L2 via immersion within their homes or neighborhoods. Therefore, it was not surprising that the older children who had three years experience in the school language environment tended to perform better in this domain than the younger children who had just begun school. Also studies note that older learners often benefit from understanding the typical language pattern forms of their L1, and that grammatical knowledge can aid them in learning L2 syntactic patterns (Collier, 1987, 1988, 1995; Cummins 1989,1991, 1996; Johnson and Roen, 1989; Snow, 1990). Therefore, it was expected that scores would be low on syntactic domain and that older children would tend to perform better on tests of this domain.

The highest raw scores on average for the shared reading groups in terms of novel French vocabulary growth were demonstrated in the receptive domain. This was expected as receptive understanding of words is the first area in which learners develop competencies when learning L2 (Krashen, 1981,1982). Receptive understanding requires that a person recognized a word, but not necessarily attach any meaning to it, and therefore, it is the first and easiest process involved

in vocabulary acquisition. Consequently it was assumed that, overall, this would be the domain in which all three protocol groups were most successful, a point validated by the results from the study. The protocol groups collectively succeeded on 68%, 79% and 73% of the items in the weekly, and immediate and delayed post-tests respectively. In addition, the post-test results indicated that the shared reading groups were more successful in retaining learned target words than the control group. The shared reading groups' scores increased over time while P3 scores decreased. Although the differences in weekly receptive scores proved to be statistically significant, the post-tests analyses indicated that scores for the shared reading groups were notably but not statistically different than the control group's scores. Vocabulary gains from shared reading in this study were similar to the gains produced by interactive shared reading in research with L1 children from low-income environments who exhibited language delays (Karweit & Wasik, 1996; Pollard-Durodola et al., 2011) as well as with L2 learners (Collins, 2010). Post-test beta scores and confidence intervals indicated that P1 with predictable books was most successful in the receptive domain over time and may have potential for even more powerful results given a larger sample size.

Elley and Mangubhai (1983) conducted reading research with 614 L2 students from nine to eleven years old and had an average of well over 100 children per three treatment groups with shared and silent reading treatments, and a control group with typical school instruction using basal readers. Their research concluded that L2 learners' acquisition of novel vocabulary in the shared reading group was greater than in the silent reading and the control groups and the differences were was statistically significant. Children participating in the research were at ages at which they were still formulating lexicons from environmental exposure to L2 but were also mature enough to make connections among the roles and functions of words in contexts. Delayed

post-tests one-year post-study revealed that gains in word knowledge were residual. Like the findings from the Elley and Mugughai's research, the use of shared readers in this study resulted in retention over time of novel vocabulary for L2 learners.

Sénéchal (1995) worked with a population of students in a similar age range as this study and found that shared reading produced statistically significant gains in vocabulary development for L1 learners. Even though participants in Sénéchal's study were from language-poor contexts and were behind their classmates in language development, the children were still L1 learners with opportunities to hear models of the target language, English, a benefit of living in an Anglophone country. However, the participants of this study rarely had opportunities to hear the target language, French, in their time away from school. One hour of French cartoons daily seemed to be the most exposure that these children had to hear the L2, and many did not have even that much access to French.

The field test made it evident that scaffolding in L1was necessary to help teach novel L2 vocabulary because of the young participants' limited knowledge of L2. In research conducted by Ulanoff and Pucci (1999) preview-review and concurrent translation strategies were used with shared readers to teach children L2 vocabulary. Their results demonstrated that participants made statistically significant gains in L2 word acquisition when instructors used L1 before and after reading (preview-review) and only L2 during reading. This investigation was conducted with Sénégalese children who had little to no exposure to shared reading experiences, and a preview-review strategy in Wolof was employed. However, because of the novel nature of these experiences, the researcher found it necessary in weeks one and two of the study to facilitate concurrent translation with text and words in the read alouds. By week three, the participants were more familiar with the procedures and shared reading experience. The researcher was then

able to engage in more dialogical discussion in French alone. By book three, questions were posed to the children in French the L2 during reading (i.e, "*Ou est le poisson?*" or "Where is the fish?" in English) without translation into Wolof, the L1. At this point students were more actively engaged in the reading process, and they were repeating and anticipating repetitive phrases, pointing to images of novel words in the text, posing questions, and making comments. Replicating the study over a longer period of time would allow participants to become accustomed to the novel experience and could potentially lead to more consistent and robust results.

Educational Implications

There is little research available on the development of oral language for L2 learners as a precursor to learning written language. This study demonstrated that shared reading, in particular with predictable books, helped young L2 learners of French acquire and retain oral vocabulary over time. The use of books with images that were culturally relevant engaged and captured the attention of these West African school children. The results from this study support efforts that promote the development of more of these culturally and developmentally appropriate materials for shared reading and the provision of professional tools for schoolteachers in developing countries such as Sénégal. There are few book choices for instruction in LDCs and what is available is often cost-prohibitive for community schools. There is simply a limited accessibility to quality culturally relevant picture books. Educators need additional resources and materials in order to implement shared reading consistently and effectively as a routine part of classroom instruction.

In addition, there is a great need for professional development with the instructors in LCD areas. Few teachers in Sénégal have experience with shared reading, and most had never

had a story read aloud to them. First, educators such as these need to be convinced of the value of shared reading for their students. Then the teachers must be equipped with the knowledge and skills necessary for implementing shared reading effectively with their students. Research (Wasik & Bond, 2001) has demonstrated positive results from the training of early elementary instructors in teaching strategies that support vocabulary acquisition from storybook reading.

One of the requisites for developing mastery in L2 is having a high level of competent language models in the target language (Wong Fillamore, 1985). Well-written and engaging stories can provide models of correct language structures and provide for language contexts that are often lacking in multi-lingual contexts as is commonly found in West Africa. Often, as was the case of School 1 and School 2 in this study, teachers have developed competencies in the L2 target language but for all this was not their first language. Shared readers written by native-speaking authors can provide for a nuance of language that may otherwise be absent. Children in such complex second-language contexts need assistance building conceptual understandings in the unfamiliar language before they are asked to learn sound-letter correspondences in a language for which they have limited competency and to which they have limited exposure. Providing consistent instruction using shared readers could help young language learners develop listening and speaking skills as well as competencies in language concepts and could lead to more long-term success for L2 learners in academic contexts.

Considerations for Further Study

Results of this study demonstrated positive relationships between L2 vocabulary acquisition in four language domains (receptive, semantic, syntactic and expressive) and shared reading, particularly with predictable books. However, further research is needed to confirm the effect of factors and trends found in this study. Although analyses of main effects and mean raw

scores demonstrated clear trends in effects of shared reading on L2 language acquisition, a larger sample size of slightly older children would have had the potential to produce more conclusive results. The mean for the number of participants in the three protocol groups, $n = 14$, limited the power of the models used for analyses in this study. Results indicated post-test weakness in power was largely due to a small sample size.

A longer period for implementing additional of studies is also recommended. Children in these types of LDC contexts who have had little experience with shared reading need time to get accustomed to new reading aloud experiences. L2 learners in complex multi-lingual environments need to be familiar with the concepts of print, how to ask questions, and how to actively listen and learn to engage their minds and imaginations with pictures. An adjustment period of at least two to three weeks is recommended prior to beginning any further research on shared reading with L2 students.

The use of L1 is a key to building a bridge to understanding of L2 novel vocabulary and story books. Wu and Hsieh (2008) concluded that L2 learners must have experience with specific discourse demands of a specific task in order to acquire oral language skills in L2. In future investigations the researcher would like to employ more rigorously the preview/ review strategy (Ulanoff & Pucci, 1999). Using L1 as a scaffold to building concepts before and after reading but then interacting with children solely in L2 during the shared reading could be helpful in allowing students to more fully engage in the target language and lessen the likelihood of relying on an anticipated translation into their mother tongue.

It is recommended that the interventions and procedures used in this study be replicated with L2 learners who have had more exposure in the L2 school context than some of the participants in this study who could benefit from learning novel words and concepts. Elementary

school children in LDCs are still building oral language competencies. From observations that were made in this study, children from five to seven seem to possess the developmental maturity to benefit from vocabulary instruction more than children who are just entering the academic context and hearing French for the first time.

Although some younger participants did well on the evaluative tasks, it was evident during the assessments that some of the tasks were very taxing for the four-year-olds. Lower scores were indicated in the syntactic and semantic domains for the youngest children. In addition, the linear regression models revealed that age had a statistically significant impact on scores. Thus, it is suggested this study be replicated in similar L2 contexts with slightly older children who are developmentally more mature but still have gaps in oral language that hinder their success in phonological and conceptual understandings of written language (Bialystok, 1991).

Even though there were limitations to the generalizations that may be drawn from the results in this study, findings were encouraging. Main effect analyses of means did show that shared book reading made a statistically significant difference in vocabulary learning for Sénégalese preschoolers. Both predictable and non-predictable books had a more positive impact on word learning than coloring activities in the control condition; however, shared reading of the predictable books was associated with more consistent and higher averages in measures of language domains, especially in the area of semantic understanding.

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Appendix A

Letters of Permission to Conduct Research from Le Bon Samaritain and

Institute Scolaire Esperance Vivante in

Dakar, Sénégal, West Africa

Groupe Scolaire le Bon Samaritain

Dakar, le 27 Février 2012

Au comité d'examen institutionnel bureau c/o de recherche de sujets humains
115 Ramsey Hall University Auburn, AL 36849

Chers membres d'IRB,

Après révision de l'étude proposée, « L'instruction de vocabulaire utilisant des histoires partagées pour les Pré-Lecteurs L2 : Les livres prévisibles contre les textes riches de Story book », présentés par Mme Kimberly Smith, un étudiant de troisième cycle à l'université auburn, je lui ai accordé la permission pour que l'étude soit conduite au nom d'école.

Le but de l'étude est de déterminer si les textes prévisibles améliorent de manière significative le développement de vocabulaire au-dessus des textes riches de story book parmi des pré-lecteurs de deuxième-langue. L'activité primaire emploiera les lecteurs partagés et s'engagera dans une activité sémantique de mot avec des pré-lecteurs. Seulement les étudiants dans le pré-jardin d'enfants, le jardin d'enfants et les premières catégories sont éligibles pour participer.
Je sais que le partage de la lecture des groupes avec la discussion de vocabulaire, en plus de l'évaluation du vocabulaire se produira pendant trois semaines pendant l'instruction de salle de classe normale, et pendant les étudiants régulièrement programmés lisant l'instruction. C'est un événement quotidien, avec des leçons durant de 30 à 45 minutes. Je compte que ce projet finira plus tard en Août 2013. Mme Smith contactera et recrutera nos étudiants et rassemblera des données au nom d'école.

Je sais aussi que Mme Smith recevra le consentement des parents et ou tuteurs pour tous les participants. Elle a aussi la confirmation et la coopération des professeurs de salle de classe. Mme Smith a accepté de fournir à mon bureau une copie de toute l'université auburn IRB-approuvée, documents emboutis de consentement avant qu'il recrute des participants sur le campus. N'importe quelles données rassemblées par Mme Smith seront maintenues confidentielles et stockées dans une armoire d'archivage verrouillé dans le bureau de son conseiller d'AU sur le campus et dans une serviette verrouillée sur l'emplacement ici au Sénégal. Mme Smith a également accepté de nous fournir une copie des résultats globaux de son étude comme des copies des livres utilisés dans l'étude.

Si l'IRB a des soucis concernant la permission accordée par cette lettre, svp contactez-moi au numéro de téléphone énuméré ci-dessous.

Sincèrement,
Mamadou Diop
Président du conseil d'administration de l'école primaire Le Bon Samaritain
Adresse. Diamaguene SICAP Mbao- DAKAR
Numéro de téléphone. 00221 77 633 42 75
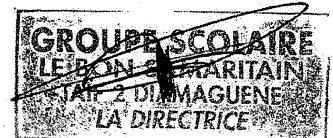**Email adresse** : mamadiop45@gmail.com

Pour le comité
DIOP Mamadou

Groupe Scolaire le Bon Samaritain Taif II Diamaguène Sicap Mbao
Tel. (00221)776334275
B.P. 16979 Dakar-Fann
Mail : mamadiop45@gmail.com

Groupe Scolaire le Bon Samaritain

Dakar le 02/27/12

Institutional Review Board c/o Office of Human Subjects Research
115 Ramsey Hall Auburn University, AL 36849

Dear IRB Members,

After reviewing the proposed study, "Vocabulary Instruction Using Shared Stories for L2 Pre-Readers: Predictable Books vs. Rich Storybook Texts", presented by Ms. Kimberly Smith, a graduate student at Auburn University, I have granted permission for the study to be conducted at Le Bon Samaritan.

The purpose of the study is to determine if predictable texts significantly improve vocabulary development over rich storybook texts among second-language pre-readers. The primary activity will be using shared readers and engaging in a semantic word activity with pre-readers. Only students in the pre-kindergarten, kindergarten and first grades are eligible to participate.

I understand that shared reading groups with vocabulary discussion, in addition to assessment of vocabulary will occur for three weeks during normal classroom instruction, and during students' regularly scheduled reading instruction. This is a daily event, with lessons lasting from 30 to 45 minutes. I expect that this project will end not later than August 2013. Ms. Smith will contact and recruit our students and will collect data at Le Bon Samaritain.

I understand that Ms. Smith will receive parental/guardian consent for all participants, and have confirmed that she has the cooperation of the classroom teachers. Ms. Smith has agreed to provide to my office a copy of all Auburn University IRB-approved, stamped consent documents before he recruits participants on campus. Any data collected by Ms. Smith will be kept confidential and will be stored in a locked filing cabinet in his AU advisor's office on campus and in a locked briefcase on site here in Senegal. Ms. Smith has also agreed to provide to us a copy of the aggregate results from her study as well as copies of books used in the study.

If the IRB has any concerns about the permission being granted by this letter, please contact me at the phone number listed below.

Sincerely,
Mamadou Diop
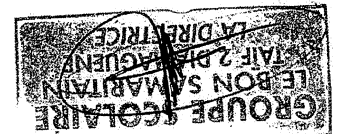Président du conseil d'administration de l'école primaire Le Bon Samaritain
Adresse. Diamaguene SICAP Mbao- DAKAR
Numéro de téléphone. (00221) 77 633 42 75
Email adresse : mamadiop45@gmail.com

Pour le comité
DIOP Mamadou

Groupe Scolaire le Bon Samaritain Taif II Diamaguène Sicap Mbao
Tel. (00221)776334275
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Mail : mamadiop45@gmail.com

Dakar, le 27 Février 2012

Au comité d'examen institutionnel bureau c/o de recherche de sujets humains
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Je sais que le partage de la lecture des groupes avec la discussion de vocabulaire, en plus de l'évaluation du vocabulaire se produira pendant trois semaines pendant l'instruction de salle de classe normale, et pendant les étudiants régulièrement programmés lisant l'instruction. C'est un événement quotidien, avec des leçons durant de 30 à 45 minutes. Je compte que ce projet finira plus tard en Août 2013. Mme Smith contactera et recrutera nos étudiants et rassemblera des données au nom d'école.

Je sais aussi que Mme Smith recevra le consentement des parents et ou tuteurs pour tous les participants. Elle a aussi la confirmation et la coopération des professeurs de salle de classe. Mme Smith a accepté de fournir à mon bureau une copie de toute l'université auburn IRB-approuvée, documents emboutis de consentement avant qu'il recrute des participants sur le campus. N'importe quelles données rassemblées par Mme Smith seront maintenues confidentielles et stockées dans une armoire d'archivage verrouillé dans le bureau de son conseiller d'AU sur le campus et dans une serviette verrouillée sur l'emplacement ici au Sénégal. Mme Smith a également accepté de nous fournir une copie des résultats globaux de son étude comme des copies des livres utilisés dans l'étude.

Si l'IRB a des soucis concernant la permission accordée par cette lettre, svp contactez-moi au numéro de téléphone énuméré ci-dessous.

Sincèrement,
Emilie SY Mamadou Diop
Directrice du Groupe Scolaire le Bon Samaritain
Adresse. Diamaguene SICAP Mbao- DAKAR
Numéro de téléphone. 00221 76 582 99 38
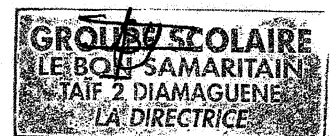**Email adresse** : diakheresy@yahoo.fr

La directrice
SY Émilie

Groupe Scolaire le Bon Samaritain Taif II Diamaguène Sicap Mbao
Tel. (00221)776334275
B.P. 16979 Dakar-Fann
Mail : mamadiop45@gmail.com

GROUPE SCOLAIRE
LE BON SAMARITAIN
TAIF 2 DIAMAGUENE
LA DIRECTRICE

Groupe Scolaire le Bon Samaritain

GSBS

Dakar le 02/27/12

Institutional Review Board c/o Office of Human Subjects Research
115 Ramsey Hall Auburn University, AL 36849

Dear IRB Members,

After reviewing the proposed study, "Vocabulary Instruction Using Shared Stories for L2 Pre-Readers: Predictable Books vs. Rich Storybook Texts", presented by Ms. Kimberly Smith, a graduate student at Auburn University, I have granted permission for the study to be conducted at Le Bon Samaritan.

The purpose of the study is to determine if predictable texts significantly improve vocabulary development over rich storybook texts among second-language pre-readers. The primary activity will be using shared readers and engaging in a semantic word activity with pre-readers. Only students in the pre-kindergarten, kindergarten and first grades are eligible to participate.

I understand that shared reading groups with vocabulary discussion, in addition to assessment of vocabulary will occur for three weeks during normal classroom instruction, and during students' regularly scheduled reading instruction. This is a daily event, with lessons lasting from 30 to 45 minutes. I expect that this project will end not later than August 2013. Ms. Smith will contact and recruit our students and will collect data at Le Bon Samaritain.

I understand that Ms. Smith will receive parental/guardian consent for all participants, and have confirmed that she has the cooperation of the classroom teachers. Ms. Smith has agreed to provide to my office a copy of all Auburn University IRB-approved, stamped consent documents before he recruits participants on campus. Any data collected by Ms. Smith will be kept confidential and will be stored in a locked filing cabinet in his AU advisor's office on campus and in a locked briefcase on site here in Senegal. Ms. Smith has also agreed to provide to us a copy of the aggregate results from her study as well as copies of books used in the study.

If the IRB has any concerns about the permission being granted by this letter, please contact me at the phone number listed below.

Sincerely,
Emilie SY
Directrice du Groupe Scolaire le Bon Samaritain
Adresse. Diamaguene SICAP Mbao- DAKAR
Numéro de téléphone. (00221) 76 582 99 38
Email adresse : diakheresy@yahoo.fr

La Directrice
SY Émilie

Groupe Scolaire le Bon Samaritain Taif II Diamaguène Sicap Mbao
Tel. (00221)776334275
B.P. 16979 Dakar-Fann
Mail : mamadiop45@gmail.com

Le 10 mars, 2012

Institutional Review Board
c/o Office of Human Subjects Research
115 Ramsey Hall
Auburn University, AL 36849

Cher membres d' IRB:

After reviewing the proposed study, "Vocabulary Instruction Using Shared Stories for L2 Pre-Readers: Predictable Books vs. Rich Storybook Texts", presented by Ms. Kimberly Smith, a graduate student at Auburn University, I have granted permission for the study to be conducted at Institut Scolaire Esperance Vivante, Yeumbeul, Senegal.

The purpose of the study is to determine if predictable texts significantly improve vocabulary development over rich storybook texts among second-language pre-readers. The primary activity will be using shared readers and engaging in a semantic word activity with pre-readers. Only students in the pre-kindergarten, kindergarten and first grades are eligible to participate.

I understand that shared reading groups with vocabulary discussion, in addition to assessment of vocabulary will occur for three weeks during normal classroom instruction, and during students' regularly scheduled reading instruction. This is a daily event, with lessons lasting from 30 to 45 minutes. I expect that this project will end not later than August 2013. Ms. Smith will contact and recruit our students and will collect data at Institut Scolaire Esperance Vivante.

I understand that Ms. Smith will receive parental/guardian consent for all participants, and have confirmed that she has the cooperation of the classroom teachers. Ms. Smith has agreed to provide to my office a copy of all Auburn University IRB-approved, stamped consent documents before she recruits participants on campus.   Any data collected by Ms. Smith will be kept confidential and will be stored in a locked filing cabinet in her AU advisor's office on campus and in a locked briefcase on site here in Senegal. Ms. Smith has also agreed to provide to us a copy of the aggregate results from her study as well as copies of books used in the study.

If the IRB has any concerns about the permission being granted by this letter, please contact me at the phone number listed below.

Sincerely,

Rev. Will Radford,
Promoteur, Institut Scolaire Esperance Vivante
BP 15917
Dakar-Fann
Senegal, West Africa
221-77-511-9467
radfordfamille@orange.sn

115

PAOC ⟨⟩ APDC

The Pentecostal Assemblies of Canada • Les Assemblées de la Pentecôte du Canada

March 10, 2012

Institutional Review Board
c/o Office of Human Subjects Research
115 Ramsey Hall
Auburn University, AL 36849

Dear IRB Members,

After reviewing the proposed study, "Vocabulary Instruction Using Shared Stories for L2 Pre-Readers: Predictable Books vs. Rich Storybook Texts", presented by Ms. Kimberly Smith, a graduate student at Auburn University, I have granted permission for the study to be conducted at Institut Scolaire Espérance Vivante, Yeumbeul, Senegal.

The purpose of the study is to determine if predictable texts significantly improve vocabulary development over rich storybook texts among second-language pre-readers. The primary activity will be using shared readers and engaging in a semantic word activity with pre-readers. Only students in the pre-kindergarten, kindergarten and first grades are eligible to participate.

I understand that shared reading groups with vocabulary discussion, in addition to assessment of vocabulary will occur for three weeks during normal classroom instruction, and during students' regularly scheduled reading instruction. This is a daily event, with lessons lasting from 30 to 45 minutes. I expect that this project will end not later than August 2013. Ms. Smith will contact and recruit our students and will collect data at Institut Scolaire Espérance Vivante.

I understand that Ms. Smith will receive parental/guardian consent for all participants, and have confirmed that she has the cooperation of the classroom teachers. Ms. Smith has agreed to provide to my office a copy of all Auburn University IRB-approved, stamped consent documents before she recruits participants on campus.   Any data collected by Ms. Smith will be kept confidential and will be stored in a locked filing cabinet in her AU advisor's office on campus and in a locked briefcase on site here in Senegal. Ms. Smith has also agreed to provide to us a copy of the aggregate results from her study as well as copies of books used in the study.

If the IRB has any concerns about the permission being granted by this letter, please contact me at the phone number or email listed below.

Sincerely,

Rev. Willard Radford,
Superintendent
Institut Scolaire Espérance Vivante
BP 15917
Dakar-Fann
Senegal, West Africa
221-77-511-9467
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116

Appendix B

Informed Consent Letter to Participate in Research to Parents/Guardians of

Prospective Student Participants

CONSENTEMENT PARENTAL
pour un projet de recherche « Augmenter les compétences
de lecture chez les apprenants d'une langue seconde en
Afrique de l'Ouest à travers le développement du vocabulaire oral »

Votre enfant est invité à participer à une étude de recherches pour augmenter l'apprentissage du vocabulaire grâce à la lecture. L'étude est conduite par Kimberly Smith, assistante diplômée de recherche, sous la direction du Dr. Edna Brabham, professeur à l'Université d'Auburn du programme d'études et d'enseignement. Comme votre enfant est un pré-lecteur apprenant le français, il a été choisi en tant que participant potentiel. Votre enfant étant mineur, nous devons avoir votre permission pour sa participation au projet.

Qu'implique la participation de votre enfant ? Si vous décidez de permettre à votre enfant de participer à ce projet de recherches, il sera invité à écouter des histoires lues à haute voix et à accomplir des activités de vocabulaire. Son engagement sera approximativement de 4 semaines.

Y a-t-il des risques ? Les risques liés à cette étude sont un sentiment éventuel de contrainte à la participation pour votre enfant. Pour minimiser ces risques, nous vous demandons de réfléchir à la participation de votre enfant et d'en discuter avec lui. Nous décrirons également les activités aux enfants et nous leur demanderons s'ils préfèrent participer sans la présence de leur professeur afin qu'ils ne se sentent pas obligés de contenter leur professeur.

Y a-t-il des avantages pour votre enfant ? Si votre enfant participe à ce projet, il peut s'attendre à bénéficier du vocabulaire français développé pendant l'étude. Nous ne pouvons pas vous promettre que votre enfant bénéficiera de ces avantages en partie ou en totalité.

Recevrez-vous ou votre enfant une compensation pour la participation ? Votre enfant recevra un livre d'images en français en remerciement à sa participation. Chaque salle de classe participant à la recherche conservera également les livres utilisés pendant le projet afin d'encourager la lecture à la maison et à l'école.

Des enregistrements audio, vidéo et des photographies avec votre enfant seront réalisés pendant ce projet de recherche. Ces enregistrements et photographies seront utilisés pour des publications professionnelles et seront conservés pour une période de 6 années. En signant ce consentement, vous donnez votre permission pour l'utilisation et la conservation de ces enregistrements et photographies. Si vous ne

1

voudriez pas que les enregistrements être gardés en utilisant pour le avenir, marquez ici. Parent _____ L'enfant _____

Si vous ou votre enfant changez d'avis au sujet de sa participation, votre enfant peut être retiré de l'étude à tout moment. La participation de votre enfant est sur la base du volontariat. Si vous choisissez de retirer votre enfant, ses données pourront être retirées du projet tant qu'elles sont identifiables. Votre décision de permettre ou non à votre enfant de participer ou de mettre fin à sa participation ne compromettra pas vos ou ses futures relations avec l'université d'Auburn, le département du programme d'études et d'enseignement, ou l'école du Bon Samaritain.

L'anonymat de votre enfant sera protégé. N'importe quelle information obtenue en liaison avec cette étude demeurera anonyme. Les données rassemblées seront protégées sur un ordinateur portable avec mots de passe qui sera mis sous clef dans un bureau à l'université d'Auburn. Les informations obtenues grâce à la participation de votre enfant pourront être utilisées pour un doctorat, être publiées dans un journal professionnel ou être présentées lors d'une réunion professionnelle.

Si vous ou votre enfant avez des questions au sujet de cette étude, svp posez-les dès maintenant ou contactez Kimberly Smith kas0015@auburn.edu ou Mamadou Diop au 77 633 42 75. Une copie de ce document vous sera délivrée.

Si vous avez des questions au sujet des droits de votre enfant en tant que participant à la recherche, vous pouvez contacter le bureau de Human Subjects Research de l'université d'Auburn ou le comité d'examen institutionnel par téléphone (334)844-5966 ou par mail hsubjec@auburn.edu ou IRBChair@auburn.edu.

Après avoir lu les informations fournies, vous devez décider si vous souhaitez que votre enfant participe ou non à ce projet de recherche. Votre signature indique votre volonté de permettre à votre enfant de participer.

Signature de l'Investigateur obtenant le consentement | Signature d'un parent / tuteur | Signature de l'enfant

Nom et prénom en toutes lettres | Nom et prénom en toutes lettres | Nom et prénom en toutes lettres

Date | Date | Date

2

PARENTAL PERMISSION/CHILD ASSENT
for a Research Study entitled
"Building Beginning Literacy Skills in L2 Learners in West Africa through Oral Vocabulary Development Using Shared Readers"

Your child is invited to participate in a research study to increase vocabulary learning using readers. The study is being conducted by Kimberly Smith, Graduate Research Assistant, under the direction of Dr. Edna Brabham, Professor in the Auburn University Department of Curriculum and Teaching. Your child was selected as a possible participant because he or she is a pre-reader learning French. Since your child is age 18 or younger we must have your permission to include him/her in the study.

What will be involved if your child participates? If you decide to allow your child to participate in this research study, your child will be asked to listen to stories read aloud and complete vocabulary activities. Your child's total time commitment will be approximately 4 weeks.

Are there any risks or discomforts? The risks associated with participating in this study are the potential of feeling coerced into participation. To minimize these risks, we will ask you to consider participation and discuss this will your child. We will also describe the activities and ask the students if they would like to participate without the presence of their teacher in order the child not feel like he had to please his teacher.

Are there any benefits to your child or others? If your child participates in this study, your child can expect to receive enhanced research-based instruction to help facilitate vocabulary development in French. I cannot promise you that your child will receive any or all of the benefits described.

Will you or your child receive compensation for participating? To thank your child for participating, your child will be offered a French picture book. Each participating classroom will also receive multiple copies of large picture books that we will use in our treatments and to encourage literacy at home and at school.

Audio and video recordings as well as photographs will be taken during your child's participation in the study. These recordings

and photographs will be used for professional publications and training beyond the immediate needs of this study. These recordings and images will not be destroyed but and will be retained for six years. Your signature gives us permission to do so.

If you or your children change your mind about your child's participation, you child can be withdrawn from the study at any time. Your child's participation is completely voluntary. If you choose to withdraw your child, you child's data can be withdrawn as long as it is identifiable. Your decision about whether or not to allow your child to participate or to stop participating will not jeopardize your or your child's future relations with Auburn University, the Department of Curriculum and Teaching or Le Bon Samaritan School.

Your child's privacy will be protected. Any information obtained in connection with this study will remain anonymous. The data collected will be protected by on a password-protected laptop and kept under lock and key at in an office at Auburn University. Information obtained through your child's participation may be used to complete a doctoral dissertation, published in a professional journal or presented a professional meeting

If you (or your child) have questions about this study, *please ask them now or* contact Kimberly Smith at aks0015@auburn.edu or Mamadou Diop at 77 633 42 75. A copy of this document will be given to you to keep.

If you have questions about your child's rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH FOR YOUR CHILD TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO ALLOW YOUR CHILD TO PARTICIPATE. YOUR CHILD'S SIGNATURE INDICATES HIS/HER WILLINGNESS TO PARTICIPATE.

_____   _____
Investigator obtaining consent   Date

_____
Printed Name

_____   _____
Parent/Guardian Signature   Date

_____
Printed Name

_____   _____
Child's Signature   Date

_____
Printed Name

Appendix C

List of Shared Readers and Fifty Target Words Used in Treatments

Non-Predictable and Predictable Shared Readers Used in the Study

Week 1
Non-predictable book:
Boissard, P. & Smith, K. (2012). *L'Anniversaire Surprise de Madame Questio*n. Aix Editions. AU. *384 words*.

Predictable book:
Boissard, P. & Smith, K. (2012). *Madame Question et Ses Amis*. Aix Editions. AU. *Question and Answer/ Repeated Phrase. 119 words.*

Week 2
Non-predictable book:
Sneider, H., & Smith, K. (2012). *L'Annivesaire du Petit Poisson Blanc*. Aix Editions. AU. *669 words.*

Predictable book:
Genechten, G.V. (2010). *Petit Poission Blanc Devient Grand*. Belgique. Mojade. ISBN 978-2-0816-267-4. *Question and Answer/ Repeated Phrase 140 words*.

Week 3
Non-predictable book
Guatier, V. , (2007). *Le Petit Eléphant Têtu*. Père Castor Flammarion, France. ISBN 978-2-87142-699-8. *871 words*.

Predictable book:
Boissard, P. & Smith, K. (2012). *Tetu, Un Elephant Perdu*. Aix Editions. AU. *Repeated Phrase/ Question and Answer. 192 words*

Week 4
Krings, A., 20012. *Patouch La Mouche*. Gallimard jeunesse, France. ISBN 978-2-07-058780-3. 596 words.

Predictable book:
Boissard, P. & Smith, K. (2012). *La Mouche Patouch Ne Fait Jamais*. Aix Editions. AU. *Repeated Phrase/ Circular Story.142 Words*

Week 5
Brun- Casme, N. (2005). *Grand Loup et Petit Loup*. Père Castor Flammarion, France. ISBN 978-2-0816-267-4. *923 words*

Predictable book:
Boissard, P. & Smith, K. (2012). *En Haut de la Colline*. Aix Editions. AU. *Repeated Episode/ Repeated Phrase.258 Words*

Vocabulaire Ciblé (Target Vocabulary)
Fifty French Target Words Assessed During the Study

Week 1
Noms (nouns) :
soleil : sun
nuage : cloud
gâteau : cake
cadeau : gift

Verbes (verbs) :
parler : speak or talk
rire : laugh or smile
se brosser les dents :
        brush teeth
marcher : walk
manger : eat
crier : yell

Week 2
Noms (nouns) :
fête : party
poisson : fish
*crevette : shrimp
anniversaire :birthday

Adjectif (adjectives) :
sale : dirty
propre :clean
droite : straight
longe : long
petite : short, small
grosse : fat

Week 3
Noms (nouns) :
éléphant : elephant
*perroquet : parakeet
singe : monkey
famille : family
*gazelle : gazelle

Verbes (verbs) :
tomber : fall
se promener : to walk
        around
sauter : jump
jouer : play
Week 4
Noms (nouns) :
mouche : fly (insect)
maison : house
lit : bed
abeille : bee
leur : flower
papillon : butterfly
miel :honey
Verbes
faire le ménage to
        clean the house
faire sa toilette : to
        clean oneself
prendre son repas : to
        get food

Week 5
Noms (nouns)
arbre : tree
loup : wolf
colline : hill
fruit : fruit
déjeuner : lunch
nuit : night
feuilles : leaves
Verbes
grimper : to climb
regarder : to look
se coucher : to go to
        bed
dormir : act of sleeping

* only words not found on Chall and Dale (1997) list of commonly used oral vocabulary.

124

Appendix D

Sample Scripts for Outcome Measures

Sample Scripts for Evaluators of Outcome Measures
Description de l'évaluation
Chaque élève réalisera cette évaluation individuellement,
en face en face avec le chercheur.

1. Evaluation par les images de la réception du vocabulaire.

Une série de quatre images sera présentée à l'élève. Une de ces images représentera un mot du vocabulaire présenté dans les histoires. L'image aura une forme et une apparence différentes de l'image représentée dans le livre, mais représentera clairement le mot.

Par exemple, pour le mot « lapin », les images d'un ours, d'un éléphant, d'un lapin et d'un loup seront présentées à l'élève.

Le chercheur dit : « Nous allons jouer à un jeu. Je vais te montrer quatre images. Je vais te demander d'utiliser la baguette pour indiquer le mot que je dis. Nous avons parlé de ce mot dans l'histoire cette semaine. »
Le chercheur montre la couverture du livre à l'élève.

« Par exemple, si je dis «est-ce que tu peux me montrer « jaune » avec la baguette ? ». Le chercheur montre à l'élève l'image de la couleur rouge, bleue, jeune et verte, puis montre la couleur correcte et dit « oui, cette image-là est la couleur jaune ».

« Est-ce que tu es prêt ? »

« Est-ce que tu peux me montrer le gâteau avec la baguette ? »
La première série d'images est un gâteau, un cadeau, un soleil et un chien.

Une série de quatre images est ainsi présentée pour chaque mot enseigné. De plus, les images de quelques mots non enseignés seront inclues pour vérifier si la connaissance de nouveaux mots est réellement due aux activités du projet.

Pour chaque mot de vocabulaire, le nom des objets sera indiqué. Le chercheur marquera l'image choisie par l'élève avec un X.
Par exemple :

＿ (le) cadeau
＿ (le) soleil
✓ (le) gâteau
＿ (le) chien

2. Evaluation de décision sémantique du vocabulaire ciblé.

Dix mots seront évalués dans cette activité. Chaque mot sera utilisé dans trois phrases différentes mais une seule d'entre elles sera correcte. Le chercheur prononcera chaque phrase et l'élève dira « oui » s'il pense que la phrase est correcte, et dans ce cas le

chercheur marquera cette phrase par un [+], ou « non » s'il pense que la phrase est fausse, alors marquée par un [−] par le chercheur. Les réponses seront chronométrées afin d'avoir une indication sur le l'instantanéité de la compréhension du mot.

Le chercheur dit : « Maintenant nous allons jouer à un jeu. Je vais d'abord te dire trois phrases et une seule sera correcte. Ensuite, je vais te répéter les phrases les unes après les autres et tu vas me dire « oui » si tu penses que la phrase est correcte et « non » si tu penses qu'elle est fausse. Je vais te chronométrer pour voir combien de temps il te faut pour réfléchir à ces phrases. »

« Par exemple, je vais démarrer le chronomètre et dire :
La table parle avec ses amis.
La chaise parle avec ses amis.
Je parle avec mes amis.
Je vais ensuite répéter les phrases une à une et pour chacune d'elles tu vas me dire « oui » ou « non » mais il n'y aura qu'un « oui ». Est-ce que tu peux me dire quelle phrase est correcte ?
La table parle avec ses amis. Oui ou non ? Non, ok !
La chaise parle avec ses amis. Oui ou non ? Non, ok !
Je parle avec mes amis. Oui ou non ? Oui, ok !
Maintenant nous allons essayer avec d'autres, est-ce que tu es prêt ? »

Le mot ciblé est « manger »

Je mange francais
Je mange un cadeau
✓ Je mange un gâteau

Je parle avec les poisons
✓ Je mange du poisson
Le passion crie

3. Evaluation de décision syntaxique du vocabulaire ciblé.

Cinq structures de phrases seront évaluées dans cette activité. Le chercheur prononcera chaque phrase et l'élève dira « oui » s'il pense que la structure de la phrase est correcte, et dans ce cas le chercheur marquera cette phrase par un [+], ou « non » s'il pense que la structure de la phrase est fausse, alors marquée par un [−] par le chercheur. Chaque phrase sera construite sur le modèle des phrases de l'histoire prévisible de la semaine.

Le chercheur dit : « Maintenant nous allons jouer à un jeu. Je vais te dire une phrase et tu vas me dire si tu penses qu'elle est correcte. Si ce n'est pas le cas, tu peux la corriger si tu le souhaites.
Par exemple, je dis « je marcher aime ». Est-ce que cette phrase est correcte ? Non ? Est-ce que tu peux la corriger ? « J'aime marcher ». C'est mieux, non ? Est-ce que tu peux

expliquer pourquoi « je marcher aime » est faux ? » Le chercheur attend une réponse avant d'en proposer une. « [marcher] devrait être après [j'aime], ok ? »

« Est-ce que tu es prêt ? »

Procédure :
1. Le chercheur dit la phrase.
2. Il demande « est-ce que cette phrase est correcte ? »
3. Si l'élève répond non, il demande « est-ce que tu peux la corriger ? »
4. Si l'élève répond, il demande « est-ce que tu peux expliquer pourquoi c'est faux ? »

Le chercheur enregistre et note les réponses de l'étudiant et l'encourage à s'exprimer autant que possible.

	Le chercheur dit :	Réponses correctes :
X	voyager aime je	j'aime voyager
✓	il adore se laver les mains	il adore se laver les mains
X	manger qu'est-ce que veux tu	qu'est-ce que tu veux manger ?
X	la pluie sous marcher déteste je	je déteste marcher sous la pluie
✓	je mange avec ma famille	je mange avec ma famille

4. Evaluation de l'utilisation du vocabulaire ciblé en contexte.

Le chercheur demandera à l'élève d'employer les nouveaux mots de vocabulaire dans une phrase afin d'évaluer le vocabulaire en contexte et la reproduction des structures de phrases vues dans les histoires prévisibles.

Par exemple, le chercheur dit « est-ce que tu peux me dire quelque chose à propos du soleil ? »
Le chercheur enregistrera la phrase de l'élève et l'évaluera en fonction d'un tableau, comme dans l'exemple suivant :

N° de l'élève : 5	Date : 15/10/2012	Résultat : 4 /5
La phrase est complète		✓
La phrase a un sens		✓
La phrase est grammaticalement correcte		
La phrase montre la complexité de la réflexion		✓
La phrase suit un modèle vu lors d'une histoire		✓

Appendix E

Examples of Outcome Measures

Receptive Vocabulary Test

Students were given a receptive vocabulary assessment to evaluate their understanding of each week's target words. Each child was individually presented with four novel color images measuring four-by six-inches and then asked to touch the picture that best represented the word. An attempt was made to select culture-neutral or West African-centric images for this assessment.

Semantic Understanding Test

Students were presented a target word used in three different sentences, with only one sentence using the word in the correct sense. Explanations and an example were presented in Wolof in order to ensure each child understood the directions correctly. These were scored as correct or incorrect. The correct sentence is highlighted.

1. A. Je mange français.
    B. Je mange un gâteau.
    C. Je mange un cadeau.

2. A. Le soleil est jaune.
    B. Le soleil est bleu.
    C. Le soleil est vert.

3. A. J'aime le cadeau.
    B. Je marche le cadeau.
    C. Je ris le cadeau.

4. A. Je mange le gâteau.
    B. Je ris le gâteau.
    C. Je marche le gâteau.

5. A. Je parle avec les poissons.
    B. Je mange du poisson.
    C. Le poisson crie.

6. A. Je fais la fête.
    B. Je mange la fête.
    C. Je crie la fête.

7. A. L'anguille est longue.
    B. Le soleil est long.
    C. L'oursin est long.

8. A. Le soleil est propre.
    B. Le nuage est propre.
    C. La maison est propre.

9. A. Le cadeau se promène.
    B. Le soleil se promène.
    C. Les amis se promènent.

10. A. Ma famille est bleue.
    B. Ma famille est à la maison.
    C. Ma famille est le soleil.

11. A. Le gâteau saute.
    B. Le singe saute.
    C. Le nuage saute.

12. A. Le gâteau vole.
    B. Le cadeau vole.
    C. Le perroquet vole.

13. A. Le lit vole.
    B. Le lit est grand.
    C. Le lit se promène.

14. A. La maison est propre.
    B. La maison marche.
    C. La maison saute.

15. A. L'enfant fait sa toilette.
    B. La fête fait sa toilette.
    C. La maison fait sa toilette.

16. A. La fleur saute.
    B. La fleur mange.
    C. La fleur est rose.

17. A. L'éléphant grimpe.
    B. Le poisson grimpe.
    C. Le singe grimpe.

18. A. Le singe est dans l'arbre.
    B. L'éléphant est dans l'arbre.
    C. Le poisson est dans l'arbre.

19. A. Le voisin se couche.
    B. Le miel se couche.
    C. Le nuage se couche.

20. A. La fleur dort.
    B. Le loup dort.
    C. Le lit dort.

Syntactic Patterns Test

Students were presented with a sentence and had to decide whether it contained proper word order or not. The children were given instructions and an example in Wolof and then were asked to indicate if a given phrase "made sense" or "sounded right" or not. The highlighted sentences were read to the students. The sentences in the bracket indicate the sentence correctly stated.

Week 1 *Madame Question et Ses Amis*
1. Dit : voyager aime je
       [J'aime voyager.]
2. Dit : se laver il adore les mains
       [Il adore se laver les mains.]
3. Dit : manger qu'est-ce que veux tu
       [Qu'est-ce que tu veux manger ?]
4. Dit : la pluie sous marcher déteste je
       [Je déteste marcher sous la pluie.]
5. Dit : mange avec je ma famille
       [Je mange avec ma famille.]

Week 2 *Le Petit Poisson Blanc*
1. ans quatre ai je
       [J'ai quatre ans.]
2. le voisin chez aller va qui
       [Qui va aller chez le voisin ?]
3. cadeau gros il venir avec va un
       [Il va venir avec un gros cadeau.]
4. faire des cadeaux aime qui
       [Qui aime faire des cadeaux ?]
5. me brosser vais les dents je
       [Je vais me brosser les dents.]

Week 3 *Le Petit Éléphant*
1. Dit: nous faisons qu'est-ce que maîtresse bonjour
       [Bonjour, maîtresse. Qu'est-ce que nous faisons?]
2. Dit: La sale mer trop est
       [La mer est trop sale.]
3. Dit: mes veux rire je amis avec
       [Je veux rire avec mes amis.]
4. Dit: je grand suis
       [Je suis grand.]
5. Dit: amis avec mes jouer moi veux je aussi
       [Moi aussi, je veux jouer avec mes amis.

Week 4 *La Mouche Patouch*
1. Dit: la cuisine ne fais je jamais
   [Je ne fais jamais la cuisine.]
2. Dit: jamais l'avion prend ne Superman
   [Superman ne prend jamais l'avion.]
3. Dit: prends le diner un restaurant dans je
   [Je prends le diner dans un restaurant.]
4. Dit: chez prends un ami je thé mon
   [Je prends un thé chez mon ami.]
5. Dit: ne jamais elle se promène
   [Elle ne se promène jamais.]

Week 5 *Grand Loup, Petit Loup*
1. Dit: joue sous l'enfant lit son
   [L'enfant joue sous son lit.]
2. Dit: Quand mon ami rit, je ris aussi.
   [Quand mon ami rit, je ris aussi.]
3. Dit: l'été je marche tout
   [Je marche tout l'été.]
4. Dit: est le singe de l'arbre en haut
   [Le singe est en haut de l'arbre.]
5. Dit : Mes enfants jouent en haut de la maison.
   [Mes enfants jouent en haut de la maison.]

133

Expressive Language Test

For weeks one through five, the participants were individually presented a target word in Wolof and asked to share everything they knew about the word. Students received a point if they were able to translate the word into French or say something about the word in French. No points were given for students' expressions in Wolof.

For the immediate and delayed post-tests, this assessment was modified. Students were presented a novel image illustrating a target word and had to describe or tell about it. If the target word or an explanation was given in Wolof, one point was received. If the child gave the French equivalent of the word or described it in French, two points were awarded.

Appendix F

Target Vocabulary by Parts of Speech

Target Vocabulary by Parts of Speech

Receptive

Noms

(le) soleil
(la) fête
(le) gâteau
(le) perroquet
(la) famille
(le) papillon
(le) lit
(les) feuilles
(la) colline
*(l)hiver
*(l) ensemble

Verbes

se brosser les dents
crier
tomber
voler
prendre son repas
faire sa toilette
grimper
se coucher

Adjectifs

sale
droite
long
*triste
*courbée

Semantic

Noms

(le) soliel
(le) voisin
(le) nuage
(le) cadeau
(la) fête
(le) poisson

(l') oursin
(l')éléphant
(le) perroquet
(le) singe
(la) famille
(la) maison
(la) fleur
(le) papillon
(le) miel
(l')arbre
(le) loup
(la) nuit

Verbes

Parler
rire
se promener
sauter
marcher
manger
crier
jouer
voler
faire sa toilette
grimper
se coucher
dormir

Adjectifs

Propre
Droite
long

Syntactic

Noms

*(les) amis
(le) cadeau
(la) famille
(la) singe

(la) maison
(l ») arbre

Verbes

Se brosser les dents
Manger
Se promener
jouer

Adjectif

grosse

Expressive

Noms

(le) nuage
(le) poisson
(la) crevette
(le) singe
(la) mouche
(le) loup
*(le) cheval
*(les) chausseurs

Verbes

Manger
Sauter
faire le ménage
dormir

* non-taught items

136

Appendix G

Examples of Predictable and Non-Predictable Texts Used in Treatments

Têtu, Un Éléphant Perdu.
192 mots (192 words)
Predictable Book

1. Têtu ne veut pas partir se promener avec sa famille.

2. Têtu veut rester seul…

3. Têtu veut rencontrer les animaux de la Savane.

4. - Bonjour Gazelle ! Qu'est-ce que tu fais ?
– Je saute !
– Moi aussi je veux sauter avec toi ! Pppfffff… je suis trop lourd !

5. - Bonjour Lézard ! Qu'est-ce que tu fais ?
– Je glisse !
– Moi aussi je veux glisser avec toi ! Boum Bada Boum… je tombe !

6. - Bonjour Singes ! Qu'est-ce que vous faites ?
– Nous jouons !
– Moi aussi je veux jouer avec vous ! Bof… je suis trop grand !

7. - Bonjour Perroquet ! Qu'est-ce que tu fais ?
– Je vole !
– Moi aussi je veux voler avec toi ! Boum Bada Boum… je retombe !

8. Skip.

9. - Je veux retrouver mes parents, je m'ennuie…

10. - Bonjour Ma Famille ! Qu'est-ce que vous faites ?
– Nous nous promenons !
– Moi aussi je veux me promener avec vous !

11. - Aaahhh… comme je suis content !

Le Petit éléphant Têtu
871 mots (871 words)
Non-Predictable Book

1.   Il était une fois un tout jeune éléphant qui vivait en Afrique. It était têtu et aimait n'en faire sa tête. Un jour toute la famille éléphant décida de faire une longue promenade dans la brousse.
   - En route ! annonça le papa éléphant.
   - Je ne veux pas aller me promener ! répondit le petit éléphant.
   - Nous somme tous prêts, viens avec nous ! lui dit sa maman.

2.   Le petit éléphant secoua la tête :
   - Non et non, j'ai pas envie.
   - Allez viens, arrêt de bouder ! insistèrent son frère et sa sœur.
   - NON, NON, et Non, je veux rester ici !!!
   - Eh, bien, dit papa éléphant, puisque c'est comme ça, nous partirons sans toi.

3.   Et toute la famille éléphant partit, les parents devant, les enfants derrière. Confortablement installé a l'ombre d'un grand acacia, le petit éléphant les entendit s'éloigner dans la chaleur du matin.

4.   « Je suis bien content de rester ici, se dit-il. J'ai horreur de marcher des heures sous le soleil. »

5.   Le temps passa. Le petit éléphant commença a s'ennuyer et a regretter de ne pas avoir suivi sa famille. « Ils m'ont tous abandonne, gémit-il. Ils auraient pu m'attendre ! Puisque c'est comme ca, je ne veux plus être un éléphant… »
   Il se roula dans l'herbe, les quatre pattes en l'air, en poussant des cris de fureur, pour imiter les petits lionceaux qu'il avait vus la veille dans la grande prairie.

6.

7. Une gazelle arriva en sautillant sur ses longues pattes fines. En voyant l'éléphanteau, elle prit peur et se mit a courir, en faisant des grand sauts élégants. « Et, voilà une bonne idée !» se dit le petit éléphant. Et il commença a sauter pour imiter las gracieuse gazelle.

8. Mais il s'emmêla la trompe et les pattes, et s'arrêta tout essoufflé. « Oh, ce n'est pas amusant d'être une gazelle, c'est même fatigant ! » se dit-il , en secouant ses grandes oreilles pour se rafraichir.

9. Tout à coup, l'œil du petit lézard vert qui glissait lentement le long d'une liane.
« Tiens, c'est une idée, se dit le petit éléphant, je vais faire du toboggan comme lui ! »

10. Aussitôt, il attrapa une grosse liane avec sa trompe mais sous son poids celle-ci se rompit comme un brin d'herbe. Et le petit éléphant se retrouva par terre la trompe dans la poussière. « Oh, ce n'est pas du tout amusant d'être un lézard ! » se dit-il, en se frottant le derrière.

11. Le petit éléphant entendit le cri des singes qui se poursuivaient dans la clairière. « Quelle bonne idée ! si dit-il. Je vais jouer à cache-cache comme eux ! » Et il se précipita pour les rejoindre. Et une minute, les singes l'avaient encerclé des tous les côtés, ils lui tiraient la queue et les oreilles, ils glissaient sur sa trompe, ils montaient sur son dos.

12. Mais le petit éléphant ne put en attraper aucun. « Je ne veux pas être un singe ! se dit-il. Ils sont vraiment trop bruyants ! » Et il se sauva en se bouchant les oreilles pour ne plus entendre leurs rires moqueurs.

13. Un perroquet au plumage multicolore passa dans la lumière du soleil.

- Je veux faire comme toi ! s'écria le petit éléphant. Apprends-mois à voler !

- Rien de plus facile ! répondit le perroquet. Et il montra a son nouvel ami comment voler de branche en branche.

- A ton tour, maintenant !

14. Le petit éléphant fit un saut, puis un autre et encore un autre.

Mais pour tout résultat, il se tordit deux pattes en retomba dans l'herbe la tête première.

- Ne t'inquiète pas, suis-moi ! dit le perroquet. Je vais te montre l'endroit où prendre ton envol.

15. Le perroquet s'envola jusqu'au sommet d'une petite colline. Le petit éléphant le suivit péniblement en boitillant.

- Fait comme moi, élance-toi, conseilla e perroquet.

Et l'oiseau descendit en planant vers la rivière qui coulait en bas.

Le petit éléphant respira profondément, prit son élan et sauta dans le vide en lançant ses pattes devant lui.

16.

17. Heureusement la rivière était peu profonde. Le petit éléphant atterrit dans la boue sans se faire de mal.

Il remonta furieux sur la rive, le poil mouillé et avec une énorme bosse qui grossissait sur son front.

C'est alors qu'il entendit un bruit derrière lui.

17.

18.

19. Le petit éléphant se retourna et aperçut toute sa famille qui buvait un peu plus loin dans la rivière. Ses parents le regardaient avec étonnement. Son frère et sa sœur se cachaient derrière leur trompe pour rire.

Le petit éléphant baissa la tête et s'approcha d'eux.

- S'il vous plaît, dit-il, d'une toute petite voix, est-ce que je peux me promener avec vous ?
- Bien sûr, mon garçon, lui dit son papa.
- Viens marcher près de moi, lui dit sa maman.

20.

21. Après s'être tous rafraichis dans la rivière, parents et enfants se remirent en route, Et c'est ainsi que la famille éléphant au grand complet continua sa promenade. Le petit éléphant marchait devant tout heureux.