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THE RELATIONSHIP BETWEEN COMPREHENSION OF DESCRIPTIVE AND
SEQUENTIAL EXPOSITORY TEXTS AND READER CHARACTERISTICS IN
TYPICALLY DEVELOPING KINDERGARTEN CHILDREN

by

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A dissertation submitted in partial fulfillment of requirements
for the degree of Doctor of Philosophy
in the College of Education and Human Performance
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ABSTRACT

Researchers have found that children need to be proficient in reading and writing expository text to succeed academically as well as in their future careers. More than ever before, children in primary grade classrooms are being exposed to and expected to comprehend a variety of expository text types. However, empirical evidence to support the use of expository texts in kindergarten classrooms, in particular, is sorely lacking. To begin to fill this gap, this study was conducted to investigate kindergarten children's comprehension of two types of expository text structures (i.e., descriptive and sequential) commonly found in kindergarten classrooms. Specifically, the aims of the study were three fold: (1) to investigate if there is a relationship between prior knowledge and the comprehension of descriptive or sequential expository text; (2) to determine if the comprehension of descriptive and sequential expository text are important predictors of performance on the Token Test for Children-2 (TTFC-2) and the Assessment of Literacy and Language (ALL); and (3) to determine if there is a correlation between the descriptive and sequential expository text comprehension measures (i.e., retelling of expository text and answering comprehension questions) on the researcher created Expository Text Protocol.

The sample included 45 typically developing kindergarten children (ages 5 years, 8 months to 6 years, 10 months). All children passed a vision and a hearing screening; were enrolled in kindergarten for the first time (no history of retention); scored within the normal range on a non-verbal intelligence screener; and, were not receiving services in the English for Speakers of Other Languages (ESOL) program or the Exceptional Student Education (ESE) program. Each child participated in two, one-hour, assessment sessions on two separate days.

During the sessions, children were administered formal (i.e., TTFC-2 & ALL) and informal (i.e., Expository Text Protocol) assessments, counter balanced across the sessions. The standardized tests were administered in the prescribed manner. During administration of the researcher created Expository Text Protocol children listened first to either an illustrated descriptive expository text or an illustrated sequential expository text read aloud by a researcher. After the reading, the children either first retold the text without the use of the corresponding expository text or answered a set of 12 comprehension questions for each type of expository text (i.e., descriptive and sequential). The order of the retelling and comprehension questions were counter balanced across children.

Simple linear regressions, multiple linear regressions, and partial correlational analyses were used to assess the data obtained in this study. The research findings indicated that a statistically significant relationship exists between the comprehension of expository text and the following reader characteristics: listening comprehension ability, language ability, and literacy ability. However, a statistically significant relationship was not found between the comprehension of the expository text types and prior knowledge. In addition, a statistically significant relationship was found between each of the two types of comprehension measures: retelling of descriptive and sequential expository texts and answering comprehension questions related to each type of text.

This investigation revealed that the incorporation of descriptive and sequential expository text structures into the kindergarten curricula is appropriate and the exposure to expository texts may facilitate language and literacy growth and build upon kindergarten children's existing prior knowledge. In turn, exposure to expository texts also may be beneficial in expanding children's

use of expository language found in these types of texts. Future research is needed to examine kindergarten children's comprehension of other types of expository text structures found in kindergarten classrooms.

To my parents, Ted and Betty; my sister, Kristy; and my fiancé, Arny
With their patience, understanding, support, and most of all love,
I was able to complete this dissertation.

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“Go and chase your dreams, you won't regret it. Anything can happen if you let it.” - Mary Poppins

“Anything is possible. Anything can be.” - Shel Silverstein

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CHAPTER ONE: INTRODUCTION

Statement of the Problem

Reading is fundamental to success in today's society. Currently, the workplace and economic demands of society are increasing with regard to literacy expectations and technological advancements. The fact is, to succeed in the 21st century, children need to be proficient in discussing, reading and writing expository (i.e., informational) text (Kamil, 2003; 2004; Moss, 2005) given that expository text makes up most of the text found in high school, college, and the workplace (Achieve Inc., 2007; CCSS National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010; Venezky, 2000).

Since the 1990's, researchers have been calling for educators of primary grade children (Kindergarten through second grade) to not only focus on narrative texts (i.e., stories), but to provide a balance of textual experiences in the classroom by including both narrative and expository texts (Caswell & Duke, 1998; Duke, 2000; Duke & Kays, 2000; Pappas, 1990, 1991, 1993; Sanacore, 1991; Saul & Dieckman, 2005; Shanahan et al., 2010). In fact, exposure to and instruction in expository text structures in the early grades are important curricular components that have been shown to make a positive contribution to children's literacy success (Duke & Bennett-Armistead, 2003a; Hall, Sabey, & McClellan, 2005; Kraemer, McCabe, & Sinatra, 2012; Moss, 2005; Ray & Meyer, 2011; Shanahan et al., 2010; Williams, Hall, Lauer, Stafford, DeSisto, & deCani, 2005). As a result, there is a push across all educational levels, from preschool through secondary grades, to emphasize interactions with expository text by integrating it into assessment and instructional practices in the classroom (Hall et al., 2005; Ray et al., 2011; Shanahan et al., 2010; Williams et al., 2005).

In the 1980's and 1990's, researchers and educators were questioning why so many children were not succeeding in high school, college and the workplace. One possible reason suggested for this lack of success was the major shift in the reading comprehension demands placed on children in third through fifth grade. In the primary grades, children mainly are instructed to decode and comprehend narrative text; however, in third through fifth grade, children are expected to read to learn through comprehension of expository text. Researchers (Chall, Jacobs, & Balwin, 1990) have coined the phrase "fourth-grade slump" to refer to the challenges children face in comprehending expository text. In addition to the limited exposure to and instruction in expository text resulting in insufficient knowledge of expository text structures (e.g., sequential, cause and effect), a lack of prior knowledge on specific topics, and unfamiliar vocabulary all contribute to the challenges faced by primary grade children when reading expository text (Chall et al., 1990; Duke et al., 2003a; Hall et al., 2005; Sanacore & Palumbo, 2009). Researchers continue to suggest that the "fourth-grade slump" is an essential reason for the push to incorporate expository text into the primary grades (Duke, 2000; Kraemer et al., 2012; Sanacore et al., 2009).

During the 1990's and 2000's researchers began investigating the presence of expository text in the primary grade classrooms as well as the amount of time teachers spent on incorporating expository text into their instructional practices. In her study, Pappas (1991) suggested that primary grade children typically encounter narrative text, while older children experience primarily expository text in their classrooms. A survey conducted by Pressley, Rankin & Yokoi (1996) found that only 6% of the materials read throughout the day in 83 classrooms (i.e., 23 kindergarten, 34 first-grade, and 26 second-grade) happened to be expository

text. Similarly, the results of a study by Duke (2000) indicated that first grade teachers spent approximately 3.6 minutes a day exposing children to expository text. These researchers concluded that primary grade children were faced with an inadequate amount of exposure to and instruction in expository text (Duke, 2000; Pappas, 1991; Pressley et al., 1996). In addition, the researchers concluded that there was a big difference in textual demands as children advanced in their schooling.

The increased focus on expository text in the primary grades has not only been attributed to recognition of the “fourth-grade slump”, but to other factors as well, including standards based education, assessment practices, advancements in technology, and workforce demands (CCSS, 2010; Hall et al., 2005; Heider, 2009; Kamil & Lane, 1998; Moss, 2005; Saul et al., 2005). Due to the initiation of No Child Left Behind (NCLB) legislation (2002), Race to the Top (U.S. Department of Education, 2009), and societal demands, there has been increased pressure for schools and educators to create a learning environment that fosters a meaningful curriculum, monitors children’s performance levels, and maintains children’s learning gains. Because of the increased pressure placed on educators to achieve high standards of literacy in the United States (Achieve Inc., 2007; Achieve Inc., 2013; National Association for the Education of Young Children-NAEYC, 2015), researchers and educators continue to emphasize the importance of reading and exposing children to expository text across all grade levels (Goldstein, 2016; Ray et al., 2011; Shanahan et al., 2010). This is apparent in The English Language Arts (ELA) Common Core State Standards (CCSS, 2010). The Common Core State Standards (CCSS, 2010), which 42 states, the District of Columbia, four territories, and the Department of Defense Education Activity (DoDEA) have adopted, include learning standards related not only to

narrative text but expository text in all grade levels, kindergarten thru high school (CCSS, 2010). For both exposure and instruction, a ratio of 50% narrative and 50% expository text has been recommended for children in elementary school, which includes kindergarten through fifth grade (CCSS, 2010). Additionally, children across all grade levels are expected to comprehend and discuss as well as write expository text (CCSS, 2010; Goldstein, 2016). Even for kindergarten children, reading and discussing primarily narrative texts in classrooms is no longer the norm (CCSS, 2010; Moss, 2004; Moss, 2005). Kindergarten children are being exposed to a variety of expository text structures (e.g., descriptive, sequential, compare and contrast, cause and effect, and problem and solution) and are now expected to comprehend these texts read aloud with support and prompting.

As curricula at the primary grade levels increasingly focuses on expository text, assessment practices have mirrored this focus (NAEYC, 2015; Salinger, Kamil, Kapinus, & Afflerbach, 2005; Saul et al., 2005; Snyder & Caccamise, 2010). This is illustrated by content changes in the National Assessment of Educational Progress (NAEP), a large-scale standardized assessment widely used in public schools. The 2009 NAEP included the addition of more expository text compared to the 1992 NAEP reading assessment (National Assessment Governing Board, 2008; Salinger et al., 2005). That is, the percentage of expository passages on the 2009 NAEP reading assessment increased as children advanced in grade levels: 50% increase for the fourth grade passages, 55% increase for the eighth grade passages, and 70% increase for the twelfth grade passages. Snyder et al. (2010) compared the percentage of narrative and expository text passages on a standardized test of reading comprehension administered to children in second and fourth grade. The results indicated that at the second grade level, the

majority of passages were narrative stories (73%) whereas 70% of the passages for fourth grade children were found to be expository text (Snyder et al., 2010). Recommendations drawn from NAEP (2009) and the Snyder et al. study (2010) indicated that as children increase in grade level their ability to comprehend expository text should increase as well.

For the past 35 years, the majority of research on the knowledge of expository text structures and the comprehension of expository text has been conducted with school aged (second through fifth grade), middle school, high school and college students (Armbruster, Anderson, & Ostertag, 1987; Englert & Hiebert, 1984; Ray et al., 2011; Taylor, 1982). Recently, Ray et al. (2011) completed a narrative literature review on individual differences in the knowledge of expository text structures with children in second grade through high school. Based on the review, children in these grade levels appeared to benefit from their awareness of and exposure to a variety of expository text structures as well as the incorporation of explicit instruction of expository text structures in the curriculum. Specifically, less skilled comprehenders appeared to benefit the most from explicit instruction (Ray et al., 2011). Interestingly, not one of the studies included in the review, focused on children in kindergarten or first grade.

A literature search conducted by this researcher, focused on kindergarten children's comprehension of expository text, revealed only two studies (Duke et al., 1998; Pappas, 1990, 1991, 1993). The Pappas citations (1990, 1991, 1993) reflect published articles reporting on the results of one single study. Both the Duke et al. (1998) and Pappas (1990, 1991, 1993) studies included kindergarten children engaged in pretend readings of both narrative and expository texts. In the Pappas study (1990, 1991, 1993), kindergarten children were asked to pretend to

read a narrative text and an expository text that they had previously heard read aloud. She found that kindergarten children were able to recall the content of both types of text. In the Duke et al. (1998) study, kindergarten children pretended to read an expository text that included informational features (e.g., timeless verb constructions, generic noun constructions, technical vocabulary, comparative/contrastive structures and classificatory or descriptive structures). The children were able to replicate the informational book language while pretending to read the book on their own. Kindergarten children in both studies were able to reproduce certain features specific to expository text in their pretend readings.

Due to the limited extant research on the comprehension of expository text in the primary grades, this study aims to begin to address the gap, specifically with regard to kindergartener's comprehension of two expository text structures (i.e., descriptive and sequential) commonly found in kindergarten curricula (Hall et al., 2005; McGee & Richgels, 1985; Stead, 2002). In addition, there is a lack of research addressing the important question of the relationship of the comprehension of expository text to reader characteristics such as prior knowledge, listening comprehension ability, language ability, and literacy ability with regard to kindergarten children. Research is needed to support the use of expository texts in kindergarten classrooms and to identify the most developmentally appropriate expository text structures for kindergarten children. An investigation into the relationship between comprehension of expository text and reader characteristics could add to the literature base and inform decision making with regard to incorporating expository text in kindergarten classrooms and the appropriateness of exposing and teaching kindergarten children about descriptive and sequential expository text structures. Ultimately, kindergarten children will benefit from the implementation of developmentally

appropriate assessment and instructional practices that enhance language and literacy skills, and future academic growth.

Purpose

The primary purpose of this study was to determine if there is a relationship between the comprehension of descriptive and sequential expository text and reader characteristics (i.e., prior knowledge, listening comprehension ability, language ability, and literacy ability) in typically developing kindergarten children. The aims of this study were: (1) to investigate if there is a relationship between prior knowledge and the comprehension of descriptive or sequential expository text; (2) to determine if the comprehension of descriptive and sequential expository text are important predictors of performance on the Token Test for Children-2 (TTFC-2) and the Assessment of Literacy and Language (ALL); and (3) to determine if there is a correlation between the descriptive and sequential expository text comprehension measures (i.e., retelling of expository text and answering comprehension questions) on the researcher created Expository Text Protocol.

Research Questions

The research questions investigated in this study include the following:

1. Is there a relationship between prior knowledge of a topic and the comprehension of two types of expository text (i.e., descriptive, sequential)?
 1. a) Is there a relationship between prior knowledge of a topic and the descriptive expository text retelling scores?

1. b) Is there a relationship between prior knowledge of a topic and the descriptive expository text comprehension question scores?

1. c) Is there a relationship between prior knowledge of a topic and the sequential expository text retelling scores?

1. d) Is there a relationship between prior knowledge of a topic and the sequential expository text comprehension question scores?

2. To what extent can listening comprehension ability (as measured by the Token Test for Children-2 (TTFC-2)) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

3. To what extent can language (i.e., receptive and expressive) ability (as measured by the Assessment of Literacy and Language (ALL) Language Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

4. To what extent can emergent literacy ability (as measured by the Assessment of Literacy and Language (ALL) Emergent Literacy Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

5. To what extent can phonological awareness ability (as measured by the Assessment of Literacy and Language (ALL) Phonological Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

6. To what extent can sound/letter association ability (as measured by the Assessment of Literacy and Language (ALL) Phonological-Orthographic Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

7. Is there a relationship between the retelling of the descriptive expository text and the retelling of the sequential expository text (as measured by the researcher created Expository Text Protocol) after controlling for text order and measure order?
8. Is there a relationship between the comprehension questions for the descriptive expository text and the comprehension questions for the sequential expository text (as measured by the researcher created Expository Text Protocol) after controlling for text order and measure order?

Limitations of the Study

The following limitations apply to this correlation study:

- The participants are from one central Florida elementary school and may not be representative of all typically developing kindergarten children.
- The participants participated on a voluntary base.
- The assessment setting may be more structured than their classroom environment.
- The participants only retold each type of expository text one time; therefore, conclusions drawn from a single digital audio recording should be interpreted with caution.
- The kindergarten children's interest in the topic selected by the researcher might impact their retelling of the texts.

Delimitations

The delimitations of this correlation study include the following:

1. This study included 45 kindergarten participants between the ages of 5 years, 8 months and 6 years, 10 months ($M = 74.6$ months, $SD = 4.04$ months).
2. The participants had to meet the following inclusion criteria:
 - English is spoken in the home as reported on the Parent Questionnaire (Appendix A);
 - Not receiving services in the English for Speakers of Other Languages (ESOL) program verified through school records;
 - Achieve a standard score within one standard deviation below and above the mean on the Matrices nonverbal subtest of the Kaufman Brief Intelligence Test: II (KBIT-2) (Kaufman & Kaufman, 1994) (i.e., any participant that scored below 85 or above 115 was not included in the study);
 - Pass a bilateral hearing screening (25dB at 500, 1000, 2000, and 4000 Hz) verified through school records;
 - Pass a vision screening verified through school records;
 - Not receiving services in an Exceptional Student Education (ESE) program (e.g., speech therapy, occupational therapy) verified through school records;
 - Enrolled in kindergarten for the first time, no history of retention, verified through school records.
3. The parents completed the following:
 - Consent Form (Appendix B);
 - Parent Questionnaire
4. The participants were administered the following:

- Bilateral hearing screening by the school speech-language pathologist (frequency levels of 500, 1000, 2000, and 4000 Hz at 25dB) if not verified through school records;
 - Vision screening cleared by a vision specialist if not verified through school records;
 - Kaufman Brief Intelligence Test: II (KBIT-2) - Matrices Subtest of the Nonverbal Subscale (Kaufman & Kaufman, 1994);
 - Token Test for Children- 2nd Edition (TTFC-2) (McGhee, Ehrler, & DiSimoni, 2007);
 - Assessment of Literacy and Language (ALL) (Lombardino, Lieberman & Brown, 2005);
 - Researcher created Expository Text Protocol (Appendix C)
5. The initial assessment session was completed within 6 weeks of a parent signing consent to allow their child to participate in the research study.
 6. The assessments were divided between 2 days and were scheduled no more than 21 days apart.

Assumptions

This study makes the following assumptions:

1. The school reported hearing and vision screening results are accurate.
2. The topic of frogs, typically taught in the participant's school curriculum, was not taught to kindergarten children in their general education classrooms until after the study was complete.

3. The researcher, an American Speech-Language-Hearing Association (ASHA) certified and state licensed speech-language pathologist, is qualified to conduct the assessment sessions.
4. The research assistants supervised by the researcher are appropriately trained and qualified to score all assessment tasks.
5. The assessments completed by the parents and participants are accurate and portray accurate information.

Operational Definitions

The following terms are operationally defined as follows for the purposes of this study.

1. *Typically developing kindergartener* - a kindergarten child that was not receiving any special education services at the start of, or during, the study.
2. *Primary grades* - usually includes the first three years of elementary school. For the purposes of this study, the term primary grades will include kindergarten through second grade children.
3. *Expository text* - text that explains, informs or presents information about the natural or social world. For the purposes of this study, the terms expository and informational are considered to be synonymous with one another.
4. *Illustrated expository text* – a book that has many pictures and is usually read to young children. For the purposes of this study, the illustrated expository texts (i.e., descriptive and sequential) were wordless picture books. That is, no printed words were included in the books.

5. *Expository text structure* - refers to the overall organization of ideas in a text (Meyer, 1975, 1985).
6. *Descriptive expository text* - the author describes in detail objects, events or things by listing characteristics, examples or features.
7. *Sequential expository text* - the author presents the information by listing, explaining items or events in a chronological or sequential order.
8. *Reader characteristics* - are factors that are internal to the reader. Examples of these include, but are not limited to, the following: age, interests, prior knowledge, academic ability, language ability, and working memory ability (Meyer, 2003; Ray et al., 2011). This study focused on prior knowledge, listening comprehension ability, language ability, and literacy ability.

Summary

This chapter presented the current problem, purpose of the study, specific research questions, hypotheses, study limitations and delimitations, assumptions, and operational definitions. The next chapter includes a review of the literature.

CHAPTER TWO: LITERATURE REVIEW

Children who are literate are likely to succeed both in school and throughout their lives as productive members of our society. In fact, we know that illiteracy affects children's achievement in school and is associated with social problems such as: dropout, incarceration, and unemployment (McGill-Franzen, 1987; National Center for Education Statistics, 1995; Snow, Burns, & Griffin, 1998; Stanovich, 1986; Vanderstaay, 2006). Additionally, we know that children who struggle in reading have difficulty succeeding not only academically, but in the workplace as well (Bursuck & Damer, 2007; Cunningham & Stanovich, 1997). It has been proposed that it is essential for children to achieve proficiency in reading and writing expository text to succeed in the 21st century, no matter the child's career path (Kamil, 2003, 2004; Moss, 2005). Interestingly, Kamil et al. (1998) found that 96 percent of the text on the World Wide Web is expository. The reality is that most of the reading and writing individuals eventually do as adults, will involve informational text (Achieve Inc., 2007; CCSS, 2010; Venezky, 2000). Therefore, the ability to read and comprehend expository text is essential to the success of children not only in their schooling, but also in their future endeavors (Heider, 2009; Kamil, 2003, 2004; Moss, 2005; Ray et al., 2011; Shanahan et al., 2010).

Currently in education, there is pressure for administrators and educators in the schools to raise and maintain children's achievement because of the No Child Left Behind (NCLB) legislation (2002), Race to the Top (U.S. Department of Education, 2009), Common Core State Standards (CCSS, 2010), and societal demands. The reality is, children as young as kindergarten age are encountering expository text in their curricula on a daily basis and are expected to comprehend and produce expository discourse throughout their educational journeys. The

current evidence base on the comprehension of expository text is primarily with older children (second grade and higher), including an emphasis on the effects of instruction in using and understanding a variety of expository text structures (Ray et al., 2011). While there has been some interest in investigating primary grade children's knowledge and use of expository text (Moss, 2005), to date, minimal research is available that concentrates on kindergarten children's exposure to and comprehension of various types of expository text structures.

In this chapter, research related to expository text in the primary grades is explored. The review of the literature focuses on the following topics: the nature of text, importance of expository text, expository text structure, factors that influence the understanding of expository text, comprehension of expository text, and expository text assessment measures.

The Nature of Text

Young children listen to and read all types of literature including stories, informational books, and poems. Narrative and expository texts are the two main text types children are exposed to in classrooms. Narrative text tells a story, whereas expository text conveys information or communicates factual information to educate the reader about a specific topic. Researchers have clearly differentiated narrative text from expository text based on a number of distinguishing features (Taylor, 1982; Duke et al., 2003a; Snow, Griffin, & Burns, 2005). The first and most obvious is that they each contain unique organizational patterns. Typically, narrative text follows a predictable structure known as story grammar structure (e.g., character, setting, plot, and resolution), whereas expository text includes various types of text structures (e.g., description, sequential, compare and contrast) that refer to the way ideas and information

are presented and connected to each other to communicate the significance of the information being conveyed in the text. Kurkjian & Livingston (2005) suggested the organizational complexity of the writing and the density of information found in expository text, in addition to children's unfamiliarity with reading expository text, all contribute to the fact that expository text can be more difficult to read and comprehend as compared to narrative text (Kurkjian et al., 2005).

Not only are narrative and expository text structured differently (Duke et al., 2003a; Kurkjian et al., 2005; Snow et al., 2005), they also differ in their use of the following: (a) complexity of vocabulary (Pappas, 1993; Snow et al., 2005); (b) illustrations (Duke et al., 2003a; Snow et al., 2005); and (c) signal or cue words (Meyer & Poon, 2001; Meyer, 2003; Ray et al., 2011). First, the type of vocabulary that is found in narrative text and expository text varies. Narrative text usually contains words commonly found in our everyday spoken language (Pappas, 1993; Snow et al., 2005) therefore, making narrative text easier to comprehend. Expository text, on the other hand, typically includes technical vocabulary that is often unfamiliar and complex, thus making the text more challenging to understand. Secondly, illustrations differ between these two types of text. For example, in narrative text the illustrations are typically depicting familiar scenes or cartoon drawings while in expository text, the illustrations are often diagrams or figures (Duke et al., 2003a; Snow et al., 2005). Narrative and expository text both include signal words or cue words to organize the text. However, specific signal words correspond to each of the various expository text structures to facilitate comprehension. For example: common signal words associated with the compare and contrast expository text structure include the following: however, but, also, different, in contrast, and

similar. Signal words are used by the author to organize information presented in the expository text, as well as, to “signal” or “cue” the reader into the text structure used by the author (Meyer & Poon, 2001; Meyer, 2003). Signal words have been found to aid children’s ability to identify text structures and recall more information in an organized manner (Hall et al., 2005; Williams et al., 2005; Ray et al., 2011). The research on the understanding and use of signal words is limited with regard to primary grade children; hence more research is needed in this area.

Children also experience increased difficulty in recalling and comprehending expository text in comparison to narrative text (Berkowitz & Taylor, 1981; Rey et al., 2011; Spiro & Taylor, 1980; Taylor & Samuels, 1983; Williams, Hall, & Lauer, 2004). Williams et al. (2004) noted that children in second grade found narrative text easier to comprehend compared to expository text, due to the fact that expository text often includes unknown vocabulary, unfamiliar content, and multiple text structures. The difficulty in understanding expository text has been attributed to the lack of explicit instruction and exposure (Duke, 2000; Hall et al., 2005). Not only are primary grade children not exposed to expository text as frequently as narratives, the instructional time spent on teaching expository structures in the primary grades is limited. This may be a possible reason why so many children in middle and high school continue to have difficulty understanding expository text (Duke, 2000).

Pappas (1990, 1991, 1993) was one of the first researchers to challenge the belief that kindergarten children were only capable of comprehending and retelling specific language features of narrative text, as opposed to expository text. Pappas (1990) investigated the pretend readings of both narrative and expository text of 20 (10 males and 10 females) kindergarten children from a suburban school, outside a large Midwest urban city. A total of three narrative

books and three expository books were read aloud by an adult over the course of the kindergarten school year (October, January, April). During each stage of the study (October, January, April), there were repeated readings of one narrative book and one expository book over the course of three days. Immediately, following the books read aloud by an adult, the children were asked individually to “read” or to “pretend read” the texts aloud (Pappas, 1990). Although there were no statistical analyses provided, Pappas (1990) concluded that children were able to retell the textual features of both the narrative book and expository book.

In a subsequent publication, Pappas (1991) illustrated the differences in the retellings of the narrative text and the expository text of one kindergartener named “*Jean*”, included in the Pappas (1990) study. Pappas (1991) analyzed “*Jean’s*” pretend readings or retells of the same two books (1 narrative and 1 expository) read aloud over three consecutive days. One difference between “*Jean’s*” retellings of the narrative and expository texts reflected the author’s use of co-referentiality (the + noun) in the narrative text and the author’s use of co-classification (a + noun) in the expository text (Pappas, 1991). For example, on the first day, when “*Jean*” retold the narrative text she used the pronoun (he) and the definite article (the + noun) to refer to the character in the story, therefore she demonstrated the use of co-referentiality. On the same day when “*Jean*” retold the expository text, she used the plural form (squirrels) suggesting that “she understands that a class of squirrels is involved here, not just a particular squirrel (Pappas, 1991, p. 457); thus, she demonstrated the use of co-classification (a + noun). Another difference noted between the retelling of the texts was the use of past and present verb tenses. As expected, past tense verbs were used in retelling the narrative text, whereas present tense verbs were primarily used in the retelling of the expository text (Pappas, 1991). The final difference reflected in the

retellings of the two types of text was that expository text retelling was comprised of more types of descriptive constructions such as attributions (e.g., ears that are furry, two front teeth that are very long, very long sharp nails) than narrative text. “*Jean’s*” additional retellings, on day two and day three, demonstrated that she was able to add in the specific discourse features of verb tense and descriptive constructions that were found in each type of text, consequently implying that she was able to comprehend both narrative and expository text (Pappas, 1991).

In another publication, Pappas (1993) investigated the vocabulary (lexical) knowledge of 16 of the 20 kindergarten children from the original study (Pappas, 1990). The data was analyzed from the second (January) pretend readings of the narrative and expository texts. Pappas (1993) concluded that kindergarten children were able to include key expository text vocabulary knowledge (e.g., tunnel, circular) in their retell of an expository text. In addition, her study revealed that even if children did not use the exact vocabulary words in their retell, they were able to put in synonyms or make-up their own words in place of the vocabulary word found in the expository text read aloud (e.g., sad for unhappy). Thus, demonstrating that kindergarten children are able to understand and use the vocabulary in both narrative and expository texts. Pappas (1990, 1991, 1993) found that kindergarten children were able to understand and recall the content of both narrative and expository texts.

Importance of Expository Text

Children in primary grades, in the past, have not been exposed to expository texts to the same degree as narrative texts (Duke, 2000; Hall et al., 2005; Yopp & Yopp, 2006). The emphasis on expository text in the Common Core State Standards (CCSS, 2010) and the use of

large-scale standardized assessments (Salinger et al. 2005; Snyder et al., 2010) implemented in schools now necessitates primary grade educators to deemphasize narrative text, by balancing children's exposure to other text experiences (Sanacore, 1991; Saul et al., 2005; Shanahan et al., 2010). Since the study by Duke in 2000, the amount of exposure to expository text in the primary grades has increased slightly (Moss, 2003; Moss, 2008; Pilonieta, 2011). Pilonieta (2011) investigated basal readers and compared results from the Moss and Newton's (2002) study with her results (Pilonieta, 2006) and found that the amount of expository text found in the basal readers increased 15% from 1997 to 2003, and the percentage of expository pages in the basal readers increased 9%. While these changes were not significant, they do demonstrate an increase in the amount of expository text incorporated into primary grade classrooms (Pilonieta, 2011).

Hall et al. (2005) speculated that the imbalance between narrative text and expository text exposure in the classroom was perhaps a result of a lack of clearly written expository texts. Moss (2003) affirmed that more than half of the new books published each year are non-fiction. Further, researchers have suggested that primary grade libraries and instructional lessons should include at least 50% expository text (CCSS, 2010; Kletzien et al., 2005; Moss, 2003). In their study, Caswell et al. (1998) encouraged educators to expose and incorporate expository text into young children's educational curricula as a means to tap into a literacy rich environment that includes various types of texts. Especially since children encounter more expository text as they move through the grades, exposure and instruction in expository text could put children in a better position to comprehend the language and literacy demands of their later schooling and

future employment settings (Caswell et al., 1998; Duke et al., 1998; Duke, 2000; Duke, 2003; Moss, 2005; Pappas, 1991, 1993).

Types of Expository Text Structures

Early works led by Meyer & Freedle (1984) grouped expository text structures in terms of the following five organizational patterns (i.e., least to most organized): description, sequential, comparison (compare and contrast), causation (cause and effect), and problem and solution. The descriptive organizational text structure is used when an author describes, provides examples or identifies features of objects, events, or items. An author incorporates the sequential organizational structure to present information by listing or explaining items or events in a chronological or sequential order. When an author explains one or more concepts by showing how they are alike and/or how they are different, the text structure they are using is compare and contrast. Another expository text structure is cause and effect; the author identifies the cause(s) and the resulting effect(s) of an event. The last organizational text structure commonly found in expository text is problem and solution, in which an author states a problem and provides one or more solutions to the problem. The following short examples are used to illustrate what is meant by each of the expository text structures (National Geographic, 2016).

- Description – Poisonous dart frogs are small brightly colored frogs that live in Central and South America. There are over 175 species of these toxic frogs that are often found in the rainforest. Poisonous dart frogs use their long, sticky tongues to catch flies, fire ants, spiders, and termites.

- Sequential – First, a female poisonous dart frog lays her eggs on land. Then, the tadpole’s hatch and wiggle on their mother’s back. Next, the mother brings the tadpoles to live in a plant called a bromeliad. After that, the tadpoles turn into baby poisonous dart frogs. Finally, the grown frogs leave the bromeliad to live in the forest.
- Compare and Contrast – Frogs and toads are alike and different. Both frogs and toads are amphibians. They also both eat insects with their sticky tongues. Even though they have similarities, they also have some differences. Frogs have smooth skin and long legs so they can jump. Toads have bumpy dry skin and have short legs for walking, unlike frogs.
- Cause and Effect – Ecologists have attributed the declining population of poisonous dart frogs to humans cutting and clearing of the timber in the rainforest (deforestation). As a result, poisonous dart frogs are now classified as an endangered species.
- Problem and Solution – Ecologists agree that there are many problems with the fact that humans are cutting and clearing the rainforest (deforestation). Three problems are the extinction of plants and animals, the disruption of the water cycle, and the destroying of the livelihood of villagers that live in these areas. As an individual, what can be done to save the rainforest? A solution that has been proposed by many is to recycle and purchase recycled products, as it creates less waste and limits the need for more new raw materials.

Expository texts usually incorporate a combination of two or more of the previously discussed expository text structures (Chambliss & Calfee, 1989; Moss, 2004; Meyer, 2003; Ray et al., 2011). For example: a book on frogs and toads could include the following three text structures: (1) a descriptive text structure - describing both a frog and a toad; (2) a sequential text structure - explaining their life cycle; and (3) a compare and contrast text structure - stating similarities and differences between a frog and a toad. Researchers have found that when a text includes multiple expository text structures, as opposed to a single text structure, children's and adult's ability to recall information is often reduced, along with their comprehension of the information (Meyer, Brandt, & Bluth, 1980; Carrell, 1992; Meyer, 2003; Moss, 2004; Ray et al., 2011).

The majority of the research on awareness of expository text structures, knowledge of expository text structures and the effects of instruction on awareness of and comprehension of expository text structure types, primarily has focused on children in second grade thru high school (Ray et al., 2011). Awareness of expository text structures has been found to be important in enhancing recall and comprehension for children who are aware or sensitive to the text structures when reading (Meyer et al., 1980; Taylor & Samuels, 1983). Taylor and Samuels (1983) studied, fifth and sixth grade children who read 'structured' and 'unstructured' expository text passages. The children were scored according to their ability to recall the passages and then, classified as aware or unaware of the type of text structure. Those who were aware of the text structures had greater recall of the expository passages. The researchers found that awareness and use of text structures was a critical factor in older children being able to recall expository text accurately and in an organized manner (Meyer et al., 1980; Taylor and Samuels, 1983).

Research also has been conducted to determine if there is a developmental sequence with regard to the awareness and the knowledge of specific types of expository text structures based on age and grade level (Ray et al., 2011). The results of the research have been inconclusive. The following studies corroborate the inconsistencies found in the research. Englert et al. (1984) investigated four expository text structures (i.e., sequence, compare and contrast, description, and enumeration-listing) on the comprehension of 76 third-grade children and 70 sixth-grade children representing three levels of reading ability: high, medium and low reading ability. The children were provided with two topic sentences representing each of the paragraphs that targeted each of the text structures. Then, they were asked to identify sentences that corresponded to each paragraph using a rating scale. The researchers found that the sixth grade children were more aware of the type of expository text structure than the third grade children (Englert et al., 1984). In addition, descriptive and compare and contrast text structures were the most difficult for children at both grade levels. Similar results were found in another study (Englert & Thomas, 1987) that compared third grade and fourth grade children with sixth grade and seventh grade children. The participants at each grade level included normal achieving and low achieving children as well as children with learning disabilities. The children were given a paragraph representing each of the following text structures: description, enumeration (listing), sequence, and compare and contrast. Then, the children were asked to identify selected sentences that related to each of the four paragraphs. Overall, results of the study found that the children scored the best on the sequence text structure, as compared to enumeration (listing) and description. They had the most difficulty with the compare and contrast text structure (Englert et al., 1987). A study by Richgels, McGee, Lomax & Sheard (1987), found that sixth grade

children were the most aware of and able to recall the compare and contrast text structure as compared to the description, sequence, and causation (cause and effect) text structures. These researchers (Richgels et al., 1987) also indicated that children had the most difficulty with cause and effect text structure. Similar to Richgels et al. (1987) study, Yochum (1991) found that fifth grade children were able to recall more ideas when reading a compare and contrast expository text compared to a descriptive expository text. As illustrated above, there were mixed findings in the research that focused on expository text structures, therefore, one should be hesitant to apply the research on the specific knowledge of text structures conducted with older children to younger children since, the textual demands are very different in upper grades as compared to primary grades.

Currently the research is shifting from which type of expository text structure is easier or more difficult to comprehend to the effects of instruction on children's awareness and comprehension of expository text. Hall et al. (2005) conducted a study with 72 second-grade children (46 males and 26 females) to examine the effectiveness of teaching children an expository text structure strategy during guided reading groups that met 2-3 times per week for 20-25 minutes over a six-week period. Six second-grade teachers volunteered to be part of the study and attended a few training sessions to learn their role in implementing the procedures delineated in the study (Hall et al., 2005). The six classrooms were from a Title-1 school in a metropolitan area. Classrooms were randomly assigned to one of the three following conditions: those receiving the text structure instruction, those receiving content only instruction, and those receiving no instruction (control group) (Hall et al., 2005). The following science related materials were used in the text structure and content structure groups: informational books and

researcher created compare and contrast paragraphs that focused on animal classification. The text structure instruction group focused on the structure of the text (compare and contrast), whereas the content only instruction group focused on the content such as the facts and vocabulary of the text (Hall et al., 2005). The control group did not receive any specific instruction; the teachers were instructed to teach as they normally would in the classroom. On all three of the strategy posttest measures (i.e., recall of cue words, use of a graphic organizer and use of clue words in a summary), the text structure group scored significantly higher than the content and no instruction group, suggesting that instruction in expository text structure (compare and contrast) was effective for second grade children (Hall et al., 2005).

In a very similar way to the Hall et al. (2005) study, Williams et al. (2005) conducted a study with 128 second-grade children (7- and 8-year-olds) during whole group classroom lessons. The 10 second-grade teachers who volunteered to participate in the study attended training sessions and were randomly assigned to one of three conditions (i.e., text structure instruction, content instruction and no instruction-control). The text structure instruction group focused on clue words, questioning, discussion, and the use of a graphic organizer related to the compare and contrast text structure. The content instruction group focused on information and facts about animals, not the text structure. The second grade children in the text structure group significantly outperformed the children in both the content instruction group and the no instruction group based on four out of the six-strategy posttest measures (Williams et al., 2005). In both studies, the authors concluded that children as young as second grade were sensitive to the compare and contrast expository text structure and suggested that it would be “well advised” to incorporate instruction of expository text structures as early as second grade (Hall et al., 2005;

Williams et al., 2005). Hall et al. (2005) and Williams et al. (2005) revealed that second grade children are capable of being explicitly taught the compare and contrast expository text structure in both small and large group instructional settings. The authors noted that the children were not able to transfer what they learned to another type of text structure, indicating the possibility that children might have to be explicitly taught each of the text structures separately (e.g., sequence, cause and effect, etc.).

In summary, there are inconsistencies in the research that has been conducted on the awareness and comprehension of expository text structures with children from second grade through high school. Even though in the research, a developmental hierarchy progression of expository text structures has not been established, researchers agree that awareness and knowledge of expository text structures appears to increase as children advance in age and grade level (Ray et al. 2011). Also, some studies have shown that children demonstrate increased comprehension when they are aware of text structures and their organization.

In schools today, kindergarten children are being increasingly exposed to expository text structures. As evident in the research presented in this section, there has been a lack of empirical research conducted with regard to the awareness, knowledge and instruction of expository text structures as it relates to children younger than second grade. Yet, due to the implementation of the CCSS (2010) children are now expected to discuss and comprehend the various expository text structures found throughout the kindergarten curricula. Currently, educators of kindergarten children are applying and incorporating instructional practices focusing on expository text in their classrooms with little evidence to support these practices.

Factors that Influence the Understanding of Expository Text

Early studies have shown that inclusion of expository texts in primary grade classrooms have contributed to children's understanding of expository text structure (Caswell et al., 1998; Duke et al., 1998; Moss, 1997; Pappas, 1990, 1991, 1993). A number of factors related to primary grade children's understanding of expository text have been identified including: (1) interest and attitude (Caswell et al., 1998; Correia, 2011; Duke, Martineau, Frank, Stebbe, and Bennett-Armistead, 2011; Kraemer, et al., 2012; Yopp et al., 2006); (2) expanding prior knowledge and experience (McNamara, Floyd, Best, & Louwerson, 2004; Best, Floyd, & McNamara, 2008); and (3) facilitating comprehension of expository text (Caswell et al., 1998; Duke et al., 1998; Moss, 1997; Pappas, 1990, 1991, 1993). These three specific factors will be addressed in the following sections.

Interest and Attitude

A positive attitude towards reading is key to being a successful learner. However, a number of factors have been identified that may cause children to have less than positive attitudes toward reading that, in turn, impact their motivation to learn (e.g., a lack of parent support, availability of developmentally appropriate reading materials, access to technology) (Kraemer et al., 2012; Sanacore et al., 2009). Educators can enhance learning by determining what really interests a child and then use the child's interests to foster their reading experiences. For example, providing children at an early age with motivating and engaging topics to read, improves their interest and attitude towards learning (Duke et al., 2011). While children can enjoy reading all types of texts, some children actually prefer reading expository text versus

other types of text (e.g., narrative, poetry) (Caswell et al., 1998; Correia, 2011; Kraemer et al., 2012). Kraemer et al. (2012) investigated 77 first-grade children's (42 boys and 35 girls) preferences in reading, either reading on their own or having an adult read to them, a narrative or an expository book. Significantly more first grade children preferred the expository books (77%) to the narrative books (23%) whether reading on their own or when read to by an adult.

In addition, there is research to indicate that boys tend to show a stronger preference and interest for expository text than girls (Correia, 2011; Mohr, 2006; Yopp et al., 2006). Yopp et al. (2006) studied read-aloud practices with kindergarten children ($n=20$, 11 males and 9 females) in the home environment. Parents of the kindergarten children completed monthly logs (November to May) of books they read aloud in the home environment. The researchers discovered there was a statistically significant difference in the kinds of books read aloud to boys compared to girls. In particular, boys were exposed to significantly more mixed texts, which included both narrative and informational book elements, and expository texts than the girls. A study by Mohr (2006) also found that boys had a preference for expository text. Mohr examined 190 first graders' (104 males and 86 females) preferences in choosing a picture book they would want to own. The books included various themes (e.g., history, fantasy), as well as different genders, ethnicities (e.g., Asian, African American), and genres. Children were provided with a 90-minute block of time to select their book. Results indicated that of the 190 children, 159 (84%) selected non-fiction books. There was a significant difference between the males' and the females' selections, with the males selecting to read more non-fiction books (96%) than the females (69%) (Mohr, 2006). In a more recent study, Correia (2011) investigated the book preferences of a small group of kindergarten children ($n=15$, 10 males and 5 females). She found

that during 14 out of the 19 weeks of the study, the group of kindergarten children checked out more informational text than fiction text, from the school library. Unfortunately, gender specific information was not included in the results of her study. In each of these studies, researchers found that kindergarten age boys and girls selected informational text to read. However, boys tended to select and were read informational text significantly more often than the girls.

Caswell et al. (1998) completed a case study over the course of a few years describing in detail their work with two male children, a first grader and a fourth grader. Both male children struggled in school and had low motivation due to difficulties in school and at home. Over time, the researchers realized that when the boys were reading informational books their performance and motivation increased. By the end of the study, the majority of their reading instruction included informational text and both children made progress in improving their reading ability. Caswell et al. (1998) stated, “non-narrative text capitalized on these children’s interests, which in turn led them to be more purposeful, perseverant, active, and prolific readers” (p.114). Furthermore, the authors encouraged others to follow in their footsteps of including expository text into early literacy education and to use expository text with struggling readers.

Multiple researchers have suggested that by incorporating expository text into the primary grade classroom environment, educators are tapping into children’s unique areas of interest and possibly improving their overall attitude towards reading. Ultimately this may positively affect their progress in school and their success in later grades (Caswell et al., 1998; Correia, 2011; Kraemer et al., 2012; Yopp et al., 2006).

Prior Knowledge and Experience

Expository texts are rich in content information, which builds upon children's prior knowledge, and supports reading in the later grades (Duke et al., 2003a; Hall & Sabey, 2007; Wilson & Anderson, 1986). Prior knowledge is a mental representation of knowledge learned through experiences. An individual creates a schema of important and relevant information that is stored in memory. The individual then retrieves and relates prior knowledge to new information that is encountered through experiences or when reading. Comprehension of text depends a great deal on knowledge of the world and relating prior knowledge or experiences to a text has shown to facilitate comprehension (Anderson & Pearson, 1984; Best et al., 2008; Hall et al., 2007; McNamara et al., 2004; Pearson et al., 1991). Children therefore, rely on prior knowledge when interacting with text. Duke et al. (2003) conjectured that by including more expository text in the classroom children would "...build background knowledge. And the more background knowledge children have the stronger their comprehension is likely to be" (p. 22).

Currently, there is a lack of empirical research on the relationship of prior knowledge to the comprehension of expository text specific to kindergarten children, although, research supports such a relationship for older children (McNamara et al., 2004; Best et al., 2008). McNamara et al. (2004) investigated the effects of text genre, decoding skills, and world knowledge of 61 third-grade children's (32 females and 29 males) comprehension of a narrative text passage and an expository text passage. The children silently read each of the two second-grade passages (counterbalanced for order of presentation) followed by the administration of three tasks: a free recall task, a cued recall task and a multiple-choice question task to measure comprehension of the text. They found that the children's comprehension, as measured on all

three tasks, was significantly better after reading the narrative text. In addition, they found that the children with *high* world knowledge performed significantly better than the children with *low* world knowledge on the expository text comprehension measure. In a subsequent article, Best et al. (2008), found that children's world knowledge was a statistically significant predictor of expository text comprehension on each of the tasks included in the McNamara et al. (2004) study. Best et al. (2008) also found that world knowledge; accounted for approximately 14% - 19% of the variance in the expository text comprehension measures concluding that comprehension of expository text was related primarily to children's world knowledge. The results of these studies suggest the possibility that third grade children could experience added difficulty in comprehending expository text if they have *low* levels of world knowledge.

Comprehension of Expository Text

Children's comprehension of text has been and continues to be a concern of educators, theorists and researchers. The ability to comprehend expository text, in particular, is a critical aspect of academic achievement since the majority of classroom curricula in later elementary grades through high school is taught using expository text. Therefore, the ability to comprehend expository text appears to be imperative for school success. There is some research to support the notion that children as young as kindergarten can understand expository text structures (Duke et al., 1998; Moss, 1997). Further, researchers have determined that kindergarten and first grade children are capable of retelling as well as comprehending expository text (Duke et al., 1998; Moss, 1997; Pappas, 1990, 1991, 1993).

Moss (1997) explored 20 first-grade children's ability to comprehend an expository text read aloud. The children were from a rural northeastern elementary school, where socioeconomic levels ranged from lower to upper-middle class. The informational trade book selected for the study was clearly written and included a sequential expository text structure. Research assistants first showed the cover of the book, and then the children made a prediction about what they thought the book would be about. Next, the book was read aloud followed by the children retelling the book either by using the book as a guide or by just recalling the text. A modified version of the Five-Point Scale for Judging Richness of Retelling (Irwin & Mitchell, 1983) was used to assign a score ranging from 1 (low) to 5 (high) to indicate each of the children's ability to retell the book (Moss, 1997). Eighteen of the twenty first-grade children scored a 3 or better on the 5 point adapted scale indicating that they were able to tell the main idea, provide details in sequence, and summarize the book (Moss, 1997). Eight children scored a 4 or better (7 children scored a level 4, and 1 child scored a level 5) demonstrating that they extended their retells to include inferences from the text and/or related the text to their own lives (Moss, 1997).

In their study, Duke et al. (1998) investigated what kindergarten children knew and could learn about the language of expository text. The study included 20 children (10 females and 10 males) ranging in age from 5 years 1 month to 6 years 0 months of age. At the beginning of the school year, the participants were asked to first look through the pages of either a narrative storybook or the unfamiliar wordless informational book while thinking about what they could say about the book. Afterwards they were asked to pretend to read the book (Duke et al., 1998). Half of the participants read the narrative storybook first and then the informational book

whereas the other half of the participants read the informational book first and then the narrative storybook. An important point to clarify is that the researchers did not read the books aloud to the children, but instead asked them to look through the books and then pretend to read the books aloud. During the time between the first data collection point (September) and the next data collection point (December), the classroom teacher read aloud a storybook and an informational book almost daily in the classroom. In December, the children were asked to pretend to read the same books from the initial data collection point. The pretend readings were transcribed using the occurrence of intonation units of the children's speech as indicated by a pause and/or inflection, which is comparable to a comma or period when reading written language aloud (Duke et al., 1998). The transcripts were then coded for key informational text features such as timeless verb constructions, generic noun constructions, technical vocabulary, comparative/contrastive structures and classificatory or descriptive structures.

Results indicated that the kindergarten children showed a significantly greater knowledge of the use of generic noun structures and timeless-present tense verb constructions in pretend readings from September to December. Also, Duke et al. (1998) found that children used more comparative/contrastive and classificatory or descriptive structures from the first to the second pretend readings demonstrating their knowledge and use of the key features that are related to informational book language. Duke et al. (1998) concluded that the inclusion of expository text in primary grades might be "well advised" for children's educational success. These studies (Duke et al., 1998; Moss, 1997) illustrate that children as young as kindergarten are successful in both understanding expository text and incorporating language features when retelling or pretending to read expository text.

There is a paucity of empirical literature focusing on primary grade children's comprehension of expository text structures. There exists a need for continued research on the awareness and comprehension of expository text structures and how the understanding of expository text relates to future school success.

Expository Text Assessment Tools

Due to the increased emphasis on the inclusion of expository texts in primary grade classrooms, there is a need for reliable and valid tools for evaluating young children's knowledge and skills related to the various expository text structures (e.g., descriptive, sequential, compare and contrast). To date, the comprehension of expository text has primarily been measured by asking the child comprehension questions based on an expository text or passage and/or the retelling of information based on an expository text or passage.

The most traditional method of evaluating reading comprehension is by asking and answering questions (Buck, 2001). The practice of asking and answering comprehension questions is included on standardized tests and used by educators on summative and formative assessments to monitor teaching effectiveness and the children's learning of the CCSS (2010). When teachers have children answer questions aloud, it can provide the teacher with insight into their understanding and knowledge of the curricula. In fact, a kindergarten standard within the CCSS (2010) states, "kindergarten children will ask and answer questions about key details in a text, both narrative and informational, with prompting and support."

There are different types of questions a teacher can ask children to evaluate their understanding of facts as well as their ability to make inferences based on information conveyed

in an expository text. For example, literal (factual) questions have responses that are directly stated in the text, while inferential questions have responses that are indirectly stated, induced, or require other information. Even though asking children questions about what they have read is a common assessment practice in the school setting (Buck, 2001; CCSS, 2010), surprisingly, not one of the previous studies conducted with kindergarten children included asking and answering questions as a way to assess young children's comprehension of expository text (Duke et al., 1998; Moss, 1997; Pappas, 1990, 1991, 1993).

Currently, in the primary grades a typically occurring informal assessment practice is to have children retell narrative text, as well as expository text, to measure their knowledge of oral language and the comprehension of the text (Moss, 1997; Moss, 2004; Pappas, 1990, 1991, 1993; Rathvon, 2004). Retelling provides children with an opportunity to express the knowledge that they have comprehended and learned. When retelling a text, the child must hold in memory the details of the text read aloud, and then integrate the information so that, they can organize, sequence and express the ideas and details retained from reading. Retelling is incorporated into various kindergarten CCSS (2010). The specific standard related to informational text states "Kindergarten children will identify the main topic and retell key details of a text with prompting and support" (CCSS, 2010). Presently, Pappas (1990, 1991, 1993) is the only researcher to study retelling of expository text, after hearing a book read aloud, with kindergarten children.

Evaluating young children's comprehension of expository text through the use of answering comprehension questions and retelling has the potential to help educators (a) identify children at risk for language and literacy difficulties; (b) monitor the progress of children's individual growth; and (c) evaluate the effectiveness of teacher's instruction of expository text.

Indeed, these two types of informal assessment tools can be valuable for monitoring expository text comprehension but more evidence is needed with regard to kindergarten age children.

Summary

Children's comprehension of expository text is an important area of study for many reasons. The existing evidence to support including expository text in the classroom in the primary grades mainly stems from research conducted with older children. As a result, research to support the exposure to and comprehension of various types of expository text structures with kindergarten children as well as assessment practices is minimal. While the literature suggests that it is beneficial to include expository text into the kindergarten curricula, there is a need for more research to be conducted with kindergarten children. Additionally, there are no studies that have investigated if a relationship exists between reader characteristics (i.e., prior knowledge, listening comprehension ability, language ability, and literacy ability) and comprehension of expository text. Therefore, the aims of this study were: (1) to investigate if there is a relationship between prior knowledge and the comprehension of descriptive or sequential expository text; (2) to determine if the comprehension of descriptive and sequential expository text are important predictors of performance on the Token Test for Children-2 (TTFC-2) and the Assessment of Literacy and Language (ALL); and (3) to determine if there is a correlation between the descriptive and sequential expository text comprehension measures (i.e., retelling of expository text and answering comprehension questions). The next chapter provides a description of the methods used in conducting the study.

CHAPTER THREE: METHODOLOGY

Introduction

This chapter begins with a brief overview of the purpose of the study followed by a description of the participants, school district demographics, school demographics, setting, instrumentation, materials, procedures, data collection techniques, transcription procedures and reliability procedures. The chapter ends with the research design and data analysis procedures.

Purpose

The primary purpose of this study was to determine if there is a relationship between the comprehension of descriptive and sequential expository text and reader characteristics (i.e., prior knowledge, listening comprehension ability, language ability, and literacy ability) in typically developing kindergarten children. The aims of this study were: (1) to investigate if there is a relationship between prior knowledge and the comprehension of descriptive or sequential expository text; (2) to determine if the comprehension of descriptive and sequential expository text are important predictors of performance on the Token Test for Children-2 (TTFC-2) and the Assessment of Literacy and Language (ALL); and (3) to determine if there is a correlation between the descriptive and sequential expository text comprehension measures (i.e., retelling of expository text and answering comprehension questions) on the researcher created Expository Text Protocol.

Study Participants

A total of 83 potential participants were recruited for the study. Thirty-eight potential participants did not meet inclusion criteria. The 45 participants included in the study were between the ages of 5 years, 8 months and 6 years, 10 months ($M = 74.6$ months, $SD = 4.04$ months) and were enrolled in a full-day kindergarten program at a public school. Additional descriptive data verified through school records is presented in Table 1.

Table 1: *Characteristics of the Sample- Frequency Data*

| Characteristic | Frequency | % |
|------------------------|-----------|------|
| Gender | | |
| Male | 24 | 53.3 |
| Female | 21 | 46.7 |
| Race-Ethnicity | | |
| White | 22 | 48.9 |
| Hispanic | 16 | 35.6 |
| African-American | 4 | 8.9 |
| Asian/Pacific Islander | 1 | 2.2 |
| Multi-racial | 2 | 4.4 |
| Free and Reduced Lunch | | |
| Yes | 13 | 28.9 |
| No | 32 | 71.1 |

The parents of the included participants completed a Parent Questionnaire that provided further descriptive data. This information is presented in Table 2.

Table 2: *Parent Reported Characteristics of the Sample- Frequency Data*

| Characteristic | Frequency | % |
|---|-----------|------|
| Multiple languages spoken in the home | | |
| Yes | 8 | 17.8 |
| No | 37 | 82.2 |
| Previous history of child having a disability | | |
| Yes | 8 | 17.8 |
| No | 37 | 82.2 |
| Father's highest level of education completed | | |
| High school or GED | 7 | 15.6 |
| Some college or technical school | 14 | 31.1 |
| Bachelor's degree | 17 | 37.8 |
| Graduate degree | 7 | 15.6 |
| Mother's highest level of education completed | | |
| High school or GED | 4 | 8.90 |
| Some college or technical school | 16 | 35.6 |
| Bachelor's degree | 14 | 31.1 |
| Graduate degree | 11 | 24.4 |

All participants were recruited from a public elementary school in central Florida. The primary language of all participants as reported on the Parent Questionnaire was English; however, eight of the participants' parents reported a second language was spoken in the home. In addition to English, six parents reported that Spanish was spoken in the home; one parent reported both Spanish and Dutch were spoken in the home; and, one parent reported Icelandic was spoken in the home. The Parent Questionnaire also included two questions asking if their child had ever been diagnosed with a disability or had ever received any therapies (e.g., speech, occupational, or vision). Eight of the participants' parents reported that their child had been diagnosed with a disability and previously received speech therapy (3 participants), occupational therapy (2 participants), vision therapy (1 participant) and/or a combination of two therapies (2 participants). However, at the time of the study all participants had been dismissed from their

respective therapies. All included participants passed a hearing screening, vision screening, and a screening of their nonverbal intelligence.

Participant Selection

At the end of March 2015, kindergarten teachers sent home a packet with each kindergarten child ($N = 195$) that included an overview of the study (Appendix D), a Consent Form, a parent copy of the Consent Form (Appendix E) and a Parent Questionnaire. The day the packets went home, teachers also sent an e-mail to parents notifying them of the research study (Appendix F) and that information relating to the study was in each child's school to home communication binder. If parents agreed to have their child participate in the study, they returned a signed Consent Form, and completed Parent Questionnaire to their child's classroom teacher. The researcher provided each kindergarten teacher with a large envelope in which to place all paperwork that was received from the parents. On the Consent Form, parents had the option to have their child participate in the study during school hours, after school hours, or either time. One week after sending home the packet to parents, the classroom teachers sent home a flyer in the school to home communication binder as well as a follow-up e-mail with a JPEG version of the flyer (Appendix G) to remind parents of the study.

A total of 83 parents returned the Consent Form and Parent Questionnaire within 3 weeks of them being disseminated. A total of seven packets were received with either missing signatures or incomplete Parent Questionnaires. The researcher made two attempts, either by phone and/or e-mail, to obtain completed paperwork. The researcher successfully contacted two

of the seven parents and obtained their missing information from the packets. The recruitment process yielded 78 potential participants.

The researcher completed the School Information Sheet (Appendix H) on the 78 potential participants and verified they met the following eligibility criteria:

- English is spoken in the home as reported on the Parent Questionnaire;
- Not receiving services in the English for Speakers of Other Languages (ESOL) program verified through school records;
- Achieved a standard score within one standard deviation below and above the mean on the Matrices nonverbal subtest of the KBIT-2 (i.e., any potential participant scoring below 85 or above 115 was not included in the study);
- Passed a bilateral hearing screening (25dB at 500, 1000, 2000, and 4000 Hz) verified through school records;
- Passed a vision screening verified through school records;
- Not receiving services in an Exceptional Student Education (ESE) program (e.g., speech therapy, occupational therapy) verified through school records;
- Enrolled in kindergarten for the first time, no history of retention, verified through school records.

After completing and reviewing the School Information Sheet, 25 of the potential participants did not meet the first round of the eligibility: two potential participants did not pass the hearing screening, five did not pass the vision screening, 15 were receiving services in the ESOL program, and three were receiving services in an ESE program. The researcher re-administered a hearing screening to the two potential participants who failed the school

administration screening. Both passed the hearing screening (25dB at 500, 1000, 2000, and 4000 Hz). The researcher contacted the parents of the five potential participants that did not pass the school vision screening. All five of the parents reported they had provided the school documentation from a vision specialist that their child's vision was cleared. Since these seven potential participants now met the inclusion criteria, they were eligible to move to the next eligibility assessment. Sixty potential participants met the inclusion criteria and moved on to the next inclusion criteria stage.

Participant Inclusion

A total of 60 potential participants were scheduled for an initial testing session. On the Consent Form, parents had the option to indicate when they preferred to have their child participate in the study. Of the 60 potential participants, 27 (45%) parents preferred to have their child participate in the study during school hours, 2 (3.33%) parents preferred after school hours, and 31 (55.67%) indicated either time. The majority of the testing sessions took place during school hours. A total of 49 (81.67%) potential participants were tested during school hours, whereas 11 (18.33%) were tested after school hours. The initial assessment session was completed within one month of a parent signing consent allowing their child to participate in the research study. During the initial assessment session, all 60 potential participants were administered the KBIT-2 to determine eligibility for inclusion in the study.

Table 3 includes the characteristics and KBIT-2 assessment scores of the 45 participants that met the inclusion criteria. Table 4 includes KBIT-2 assessment scores of the participants that did not meet inclusion criteria.

Table 3: *Included Participant Characteristics and Assessment Scores on KBIT-2*

| Included Participant | Age ^a | Gender | KBIT-2 ^b |
|----------------------|------------------|--------|---------------------|
| 0101 | 77 | F | 103.00 |
| 0202 | 80 | M | 104.00 |
| 0301 | 75 | F | 104.00 |
| 0401 | 70 | M | 99.00 |
| 0501 | 71 | F | 103.00 |
| 0602 | 74 | F | 93.00 |
| 0702 | 68 | M | 110.00 |
| 0801 | 68 | F | 115.00 |
| 0901 | 77 | F | 89.00 |
| 1010 | 71 | M | 86.00 |
| 1102 | 69 | M | 112.00 |
| 1201 | 78 | M | 100.00 |
| 1301 | 77 | M | 103.00 |
| 1402 | 72 | M | 93.00 |
| 1502 | 75 | M | 102.00 |
| 1602 | 73 | F | 114.00 |
| 1701 | 79 | M | 100.00 |
| 1801 | 76 | M | 113.00 |
| 1902 | 76 | M | 89.00 |
| 2001 | 69 | F | 103.00 |
| 2102 | 82 | M | 96.00 |
| 2202 | 72 | M | 102.00 |
| 2302 | 76 | M | 89.00 |
| 2401 | 77 | F | 85.00 |
| 2502 | 79 | F | 85.00 |
| 2602 | 69 | M | 89.00 |
| 2701 | 69 | M | 92.00 |
| 2801 | 75 | M | 104.00 |
| 2902 | 77 | F | 113.00 |
| 3001 | 71 | M | 103.00 |
| 3102 | 70 | F | 105.00 |
| 3201 | 71 | F | 110.00 |
| 3302 | 76 | F | 109.00 |

| Included Participant | Age ^a | Gender | KBIT-2 ^b |
|----------------------|------------------|--------|---------------------|
| 3401 | 78 | M | 98.00 |
| 3501 | 78 | M | 106.00 |
| 3601 | 68 | F | 110.00 |
| 3702 | 73 | M | 109.00 |
| 3802 | 79 | M | 89.00 |
| 3901 | 80 | F | 104.00 |
| 4002 | 72 | F | 86.00 |
| 4101 | 80 | F | 107.00 |
| 4202 | 75 | F | 102.00 |
| 4302 | 79 | F | 115.00 |
| 4402 | 78 | F | 109.00 |
| 4501 | 81 | M | 93.00 |

^aAge= age in months; ^bKBIT-2= Kaufman Brief Intelligence Test-2nd Edition, Matrices Subtest, Standard Score

Table 4: *Excluded Participants Characteristics and Assessment Scores on KBIT-2*

| Excluded Participant | Age ^a | Gender | KBIT-2 ^b |
|----------------------|------------------|--------|---------------------|
| 1 | 75 | M | 127.00 |
| 2 | 75 | F | 130.00 |
| 3 | 70 | M | 126.00 |
| 4 | 72 | F | 122.00 |
| 5 | 73 | M | 127.00 |
| 6 | 80 | M | 121.00 |
| 7 | 75 | M | 122.00 |
| 8 | 73 | M | 127.00 |
| 9 | 72 | M | 122.00 |
| 10 | 80 | F | 121.00 |
| 11 | 72 | M | 130.00 |
| 12 | 75 | F | 127.00 |
| 13 | 71 | F | 120.00 |
| 14 | 69 | M | 126.00 |
| 15 | 72 | F | 127.00 |

^aAge= age in months; ^bKBIT-2= Kaufman Brief Intelligence Test-2nd Edition, Matrices Subtest, Standard Score

Attendance/Attrition

A total of 45 (75%) participants met the inclusion criteria and completed all of the assessment sessions. The assessments were divided between 2 days and were scheduled no more than 21 days apart. If a child was absent on the scheduled day of testing or not available due to school events (e.g., field trip, guest speaker), they were scheduled for a different day.

Expository Text Selection

The context for investigating participants' knowledge of descriptive and sequential expository text structures was determined by a review of the kindergarten Journeys Reading curriculum (Houghton Mifflin Harcourt, 2014) and the kindergarten Science Fusion curriculum (Houghton Mifflin Harcourt, 2012) used in the kindergarten classrooms. The curricula were examined by the researcher to find a topic that met the following criteria: contains descriptive and sequential expository text structures, uses illustrated books appropriate for kindergarten children and incorporates a topic that would not be taught until the end of the kindergarten year. Based on the criteria and through consultation with four experienced kindergarten classroom teachers prior to the start of the study, the researcher concluded that the topic of frogs would be the most appropriate for this study.

In the beginning of March 2015, the researcher and the school principal met with the kindergarten grade level team, which was comprised of 14 certified bachelor level teachers, to explain their role in the research study and to ask them to refrain from teaching anything about the topic of frogs until the very end of the school year (i.e., beginning of June 2015). The kindergarten teachers verbally expressed that they were willing to participate in the research

study and agreed not to include the topic of frogs in their curriculum until the very end of the school year.

Setting

This study was approved by a large public school district in central Florida and was conducted during the spring of 2015 (Appendix I). The study took place in a single elementary school (Kindergarten through fifth grade). The participants were kindergarten children recruited from eight kindergarten classrooms. The researcher was granted permission by the participating school (Appendix J), to complete all testing sessions either during school hours or after school hours depending on the preferences of the participants' parents. Six of the kindergarten classrooms were co-taught by two certified elementary teachers and the other two kindergarten classrooms were each taught by one certified elementary teacher. All testing was completed in a quiet classroom or resource room, on the school campus.

District Demographics

The most recent school district demographic data (October 2014) included an estimate of 191,942 students for grades Pre-K to 12. The race-ethnicity of students included: Caucasian (30%), Hispanic (37%), African American (27%), Asian/Pacific Islander (4%), and Multi-racial (2%) (Orange County Public Schools Pocket/Budget Guidelines, 2014-2015).

School Demographics

The March 2015 school demographic data for grades Kindergarten through fifth included an estimated population of 1,315 (684 male [52%], 631 female [48%]) students. The race-

ethnicity of students at the elementary school included: 549 (41.7%) Caucasian (286 male [21.7%], 263 female [20%]); 515 (39.2 %) Hispanic (228 male [21.1%], 237 female [18%]); 121 (9.2 %) African American (56 male [4.3%], 65 female [4.9%]); 92 (7.0%) Asian/Pacific Islander (48 male [3.7%], 44 female [3.3%]); 1 (0.1%) American Indian/Alaskan Native (0 male [0%], 1 female [0.1%]); and 37 (2.8%) Multi-racial (16 male [1.2%], 21 female [1.6%]). Approximately 58 (4.4%) students across grades were enrolled in an ESE program, approximately 262 (19.9%) students were enrolled in the ESOL program, and approximately 421 (32%) students were economically disadvantaged (FLDOE, 2014).

According to the March 2015 grade level demographic data, a total of 195 (98 male [50.3%], 97 female [49.7%]) students were enrolled in kindergarten. The race-ethnicity of kindergarten students at the elementary school included: 76 (39%) Caucasian (35 male [17.9%], 41 female [21%]); 81 (41.5%) Hispanic (46 male [23.6%], 35 female [17.9%]); 18 (9.2 %) African American (8 male [4.1%], 10 female [5.1%]); 12 (6.2%) Asian/Pacific Islander (7 male [3.6%], 5 female [2.6%]); 0 (0%) American Indian/Alaskan Native (0 male [0%], 0 female [0%]); and 8 (4.1%) Multi-racial (2 male [1%], 6 female [3.1%]). Approximately 3 (1.5%) kindergarten students were enrolled in an ESE program, approximately 62 (31.8%) kindergarteners were enrolled in the ESOL program and approximately 55 (28.2%) kindergarten students were economically disadvantaged (FLDOE, 2014).

Instrumentation to Address Eligibility of Participants

Three tests were administered to potential participants to determine eligibility for participation in the study. Hearing screenings were administered to potential participants if

results could not be verified through school records. If the vision screening results could not be verified through school records, then parents were contacted to provide documentation that a vision specialist cleared their child's vision. The KBIT-2 (Kaufman & Kaufman, 1994) a nonverbal intellectual functioning test was given to all potential participants.

Hearing Screening

A pure-tone conduction hearing screening was used to measure hearing sensitivity (25dB at 500, 1000, 2000, and 4000 Hz). The school wide hearing testing had been completed for all children who were in attendance at the school in the fall of 2014. Participants who passed the hearing screening were eligible to move to the next eligibility assessment. If the hearing screening results were not verified through school records for a potential participant, then the researcher, a nationally certified speech-language pathologist, administered a hearing screening.

Vision Screening

A vision screening was used to measure visual acuity. The school wide vision testing (Snellen Test) had been completed for all children who were in attendance at the school in the fall of 2014. Participants who passed the vision screening were eligible to move to the next eligibility assessment. If the vision screening results were not verified through school records for a potential participant, then the researcher contacted the potential participants' parents for documentation that their child's vision had been cleared by a vision specialist.

Kaufman Brief Intelligence Test (KBIT-2), Second Edition

The KBIT-2 (Kaufman & Kaufman, 1994) was used to screen potential participant's nonverbal cognitive skills. The KBIT-2 is a brief intelligence test for individuals from 4 to 90 years of age. According to the manual, it can be used as a measure of cognitive ability for research purposes. For this study, the Matrices subtest of the Nonverbal Subscale was administered to each potential participant.

The KBIT-2 Nonverbal Subscale provides a quick, reliable and valid, estimate of an individual's nonverbal intelligence, and, therefore is an ideal eligibility measure for this study. Per the manual, the internal consistency reliability for the nonverbal subtest is .78 at age 5 and .87 for 6-year-old children with test-retest reliability at .76 for the 4-year-old to 12-year-old age group (Kaufman & Kaufman, 2004).

The content validity of the KBIT-2 was established through the standard use of confirmatory and exploratory factor analyses. Concurrent validity evidence includes data on the relationship between the KBIT-2 and the Kaufman Brief Intelligence Test (KBIT) (Kaufman & Kaufman, 1990). The nonverbal subtest portion of the KBIT-2 exhibits a concurrent validity coefficient of .47 from the KBIT to the KBIT-2 for ages 4 to 7 years.

For this study, the Matrices subtest of the Nonverbal Subscale on the KBIT-2 was administered to obtain a measure of each potential participant's nonverbal intelligence. The matrices subtest consists of 46 multiple-choice items that require them to understand the relationship among the stimuli. The items involve pictures of meaningful stimuli (e.g., objects and people) and abstract stimuli (e.g., symbols and designs). Examinees responded to each stimulus item either by saying the letter of a foil or pointing to a picture. The obtained standard

scores are based on a mean of 100 and a standard deviation of 15, with the average range identified as scores falling between 85 and 115. Any potential participant scoring below 85 or above 115 was deemed not eligible for inclusion in the study.

Instrumentation Used to Address Research Questions

The Assessment of Literacy and Language (ALL) (Lombardino, Lieberman, & Brown, 2005), The Token Test for Children-2 (TTFC-2) (McGhee, Ehrler, & DiSimoni, 2007), and a researcher created Expository Text Protocol were used to address the research questions. The ALL was used to evaluate participants' receptive language, expressive language, alphabet knowledge, phonological awareness and listening comprehension. Participants' general listening comprehension as well as the participants' ability to follow directions was assessed using the TTFC-2. The Expository Text Protocol was used to obtain information on participants' prior knowledge on the topic of frogs, and participants comprehension of descriptive and sequential expository text structures as measured by factual and inference comprehension questions and a text retelling task.

Assessment of Literacy and Language (ALL)

The Assessment of Literacy and Language (ALL) is an assessment tool designed to measure the literacy and language skills of preschool through first grade children. The ALL is a standardized, individually administered assessment that takes approximately 60 minutes to administer. The purpose of this assessment is to (a) screen spoken emergent literacy and language skills of children in preschool to first grade; (b) diagnose children with language disorders; and (c) identify children at-risk for reading difficulties (Lombardino et al., 2005). It is

a valid and reliable assessment tool that measures both literacy and language, making it an ideal measure for the purpose of answering the research questions.

The ALL reports four Index Scores (i.e., Language Index Score, Emergent Literacy Index Score, Phonological Index Score, Phonological-Orthographic Index Score), which provide information about a child's strengths and weaknesses across literacy and language. For the purpose of answering the research questions, the subtests that make up the four index scores for kindergarten children were administered to all the participants included in the study.

The Language Index is an overall measure of receptive and expressive language ability. The Language Index Score includes the following subtests: Basic Concepts, Receptive Vocabulary, Parallel Sentence Production, Word Relationship and Listening Comprehension. Children are asked to point to a picture that best represents the target concept (e.g., size, number, location, shape, position, and comparison) on the Basic Concepts subtest. The Receptive Vocabulary subtest requires children to point to a picture that best represents the referential meaning of increasingly difficult nouns and verbs. On the Parallel Sentence Production subtest, children complete a phrase or sentence that contains specific grammatical morphemes and syntactic structures. Children describe the relationship between two stimulus words on the Word Relationship subtest. On the final Listening Comprehension subtest, children answer four questions about each story read to them and retell stories of increasing length and complexity.

The Emergent Literacy Index is an overall measure of emergent literacy skills specific to the grade level of the child (i.e., prekindergarten, kindergarten, first grade). The Emergent Literacy Index score includes the following subtests: Letter Knowledge, Rhyme Knowledge, Elision, Phonics Knowledge, Sound Categorization and Sight Word Recognition. The first

subtest, Letter Knowledge, consists of three tasks. On the first task, children point to letters as the examiner names them. Then, children name letters that the examiner points to on the Letter-Naming task. On the final task, Letter Production, children write letters that the examiner says. Children complete four tasks on the Rhyme Knowledge subtest. On task one, children tell whether or not pairs of words rhyme. On the second task, children identify the non-rhyming word out of a set of three or four words. Then, children produce a rhyming word given a stimulus word by the examiner on the third task. Lastly, children produce a rhyming word, given a stimulus word included in a story format read by the examiner (e.g., Jane had a dream. When she walked through the *door*, she saw a “yoor”) (Lombardino et al., 2005). The Elision subtest includes two tasks. The first task requires children to delete syllables or sounds in stimulus words to create new-targeted words using stimulus pictures (e.g., the child would say a two-syllable word (e.g., cupcake) and then, say it again without the first or second syllable) (Lombardino et al., 2005). The second Elision task is administered like the first task; however, the stimulus pictures are not used. The fourth subtest, Phonics Knowledge, includes three subtests. Task one requires children to produce the sounds of letters. Then, children must produce the sounds of letter combinations in the second task. The last task requires children to read nonsense words. The Sound Categorization subtest and the Sight Word Recognition subtest both include one task. Children must identify which word does not start with the same sound as the others when given a set of words on the Sound Categorization task. The final subtest, Sight Word Recognition, requires children to read a list of words.

The Phonological Index is an overall measure of phonological skills specific to the grade level of the child (i.e., kindergarten, first grade). The Phonological Index score includes the

following subtests: Basic Concepts, Elision, and Sound Categorization. The Phonological-Orthographic Index is an overall measure of a child's alphabet knowledge and word identification specific to the grade level of the child (i.e., kindergarten spring semester, first grade) (Lombardino et al., 2005). The Phonological-Orthographic Index score includes the following subtest: Letter Knowledge, Phonics Knowledge and Sight Word Recognition. These subtests were previously explained within the Language Index and the Emergent Literacy Index subtest descriptions.

The ALL was standardized on a total of 600 preschool, kindergarten, and first-grade children. Children from three grade levels, various race-ethnic backgrounds, geographical regions and parent education levels were tested in fall (300) and spring (300). The ALL manual documents the reliability and validity of the test. The ALL manual indicated concurrent validity with the Clinical Evaluation of Language Fundamentals Preschool - Second Edition (CELF-P2) (Wiig, Secord, Semel (2009), the Pre-Reading Inventory of Phonological Awareness (PIPA) (Dodd, Crosbie, McIntosh, Teitsel, & Ozane, 2003), and the Early Reading Diagnostic Assessment (ERDA-2) (Harcourt Assessment, 2003). On the Language Index, the manual reported concurrent validity coefficients that ranged from .74 to .79 with the CELF-P2, from .09 to .60 with the PIPA and from -.08 to .60 with the ERDA-2 (Lombardino et al., 2005). On the Emergent Literacy Index, concurrent validity coefficients ranged from .57 to .63 with the CELF-P2, from .36 to .76 with the PIPA and .44 to .86 with the ERDA-2 (Lombardino et al., 2005).

The test-retest reliability of the ALL was evaluated in a study with 104 children. Test-retest reliability represents the correlation between the scores from two separate administrations of the same test over a short period of time. Specifically related to kindergarten, the test-retest

reliability of .94 was reported for the Emergent Literacy Index and .91 for the Language Index (Lombardino, et al., 2005).

Internal consistency, as a measure of reliability, ensures that the items in various subtests measure the intended construct (Lombardino et al., 2005). There are two ways to calculate internal consistency, coefficient alpha and split-half reliability estimate. A coefficient alpha of .94 for the Emergent Literacy Index and a .95 for the Language Index were reported for the kindergarten age group (Lombardino et al., 2005). Per the manual, split half reliability specific to kindergarten was reported to be .95 for the Emergent Literacy Index and .96 for the Language Index (Lombardino et al., 2005).

Token Test for Children (TTFC) - Second Edition

The TTFC-2 (McGhee, Ehrler & DiSimoni, 2007) is a norm-referenced assessment tool designed to measure receptive skills (listening comprehension ability) of children 3 years, 0 months to 12 years, 11 months of age. It is administered to children individually and takes approximately 10 minutes. The assessment consists of 46 items that become increasingly harder, with the child having to retain up to six pieces of information to complete one of the tasks correctly. The examiner verbally instructs the child to perform tasks with tokens that differ in shape (i.e., square and round), color (i.e., blue, green, white, yellow, red), and size (i.e., big and small). Each task correctly performed receives one point. Since this assessment is a quick, reliable, and valid measure of receptive language (listening comprehension ability), it was an ideal measure for this research study.

The 2004-2005 standardization sample for the TTFC-2 included 1,310 children from 22 states, which reportedly matched the 2001 US Census data (for gender, race, geographic region, and various exceptionalities). Internal consistency estimates had a median of .90 (.80 to .95 across age groups). Test-retest data yielded respectable estimates of .93 to .97. Inter-scorer reliability was high (correlation of .99). Concurrent validity evidence includes data on the relationship with three other listening comprehension measures. The manual reported that the following measures were correlated with the TTFC-2: the Test of Early Language Development-3 (Hresko, Reid, & Hammill, 1999), the Receptive One - Word Picture Vocabulary Test (Brownell, 2000) and the Expressive One - Word Picture Vocabulary Test (Brownell & Gardner, 2000).

Expository Text Protocol

Creation of the Expository Text Protocol

The researcher created the Expository Text Protocol to assess kindergarteners' comprehension of both descriptive and sequential expository text. First, the researcher reviewed the district kindergarten curricula which included the Journeys Reading curriculum (Houghton Mifflin Harcourt, 2014) and the Science Fusion curriculum (Houghton Mifflin Harcourt, 2012) to determine the most common expository text structures included in the curricula based on the five most common types of expository text structures (i.e., description, sequence, compare and contrast, cause and effect, and problem and solution) identified by Meyer (1975; 1985) and Meyer & Freedle (1984). The most frequently occurring expository text structures found throughout the kindergarten reading and science curricula were the following: description,

sequential, and compare and contrast. In addition, the researcher informally consulted with four kindergarten teachers prior to the start of the study, who had taught kindergarten for at least four consecutive years, to inquire about the most common expository text structures found throughout the kindergarten curriculum. The most common expository structures reported by the kindergarten teachers also were description, sequential, and compare and contrast. This is no surprise since researchers (Hall et al., 2005; McGee & Richgels, 1985; Stead, 2002) suggest that descriptive and sequential text passages are easier to find in material for young children versus other text structures (e.g., compare and contrast, cause and effect, and problem and solution). In one study, a primary grade classroom teacher reported that of the 3,000 books in her classroom library, approximately 20% were expository texts and the majority of those texts were descriptive books about animals (Stead, 2002). Based on the informal consultations with the four experienced kindergarten teachers and information from Hall et al. (2005), McGee et al., (1985) and Stead (2002) the researcher determined that the descriptive and sequential expository text structures would be the most appropriate to incorporate into this study.

Secondly, the types of informal comprehension measures identified in the literature to assess comprehension of expository text were reviewed to determine the most relevant comprehension measures to use with children (Buck, 2001; CCSS, 2010; Duke et al., 1998; Moss, 1997; Pappas, 1990, 1991, 1993; Rathvon, 2004). Two comprehension measures that appeared to be most appropriate for kindergarteners were retelling of a text (Moss, 1997; Moss 2004) and answering comprehension questions (Buck, 2001; CCSS, 2010) related to what was read. These two measures are commonly included on summative and formative assessments to monitor teaching effectiveness and the children's learning of the CCSS (Buck, 2001; CCSS,

2010; Moss, 1997; Moss 2004). The researcher also developed and included a set of comprehension questions for each of the descriptive and sequential expository texts used in the study.

In addition, to the comprehension measures (e.g., retelling of a text and comprehension questions) the researcher also developed and included the following measures: prior knowledge, interest, and signal word use. A prior knowledge measure was included since research has shown that prior knowledge has an effect on comprehension (Anderson & Pearson, 1984; Best et al., 2008; Duke et al., 2003a; Hall et al., 2007; Pearson et al., 1991). Therefore, it was important to gain some understanding of a child's knowledge based on the topic of frogs before he/she listened to expository texts being read aloud. An interest measure was developed to gauge the participant's interest in the topic of frogs. This measure was included since previous research suggests that both boys and girls demonstrate an interest in reading expository texts (Caswell et al., 1998; Kraemer et al., 2012; Mohr, 2006; Yopp et al., 2006). A signal word measure was included to determine if kindergarten children would include targeted signal words in their retelling of descriptive and sequential texts. Signal words are used to organize expository text structures and provide a "clue" to the child as to the text structure that is being read aloud to them to aid in comprehension (Hall et al., 2005; Williams et al., 2005; Ray et al., 2011). The use of signal words has not been investigated in kindergarten children's retelling of expository texts

Components of the Expository Text Protocol

The Expository Text Protocol that was administered to all participants included the following measures: (a) *prior knowledge*; (b) *retelling of descriptive expository text*; (c) *retelling of sequential expository text*; (d) *use of signal words* in both types of expository texts; (e)

descriptive expository text comprehension questions; (f) sequential expository text comprehension questions; and (g) interest rating.

Prior Knowledge Measure

The first measure, *prior knowledge*, was used to measure the participants' knowledge about the topic of frogs. Before the first expository text was read aloud, participants were asked to think about what they already knew about frogs and then, they were asked to tell the researcher everything they could about frogs (i.e., "Tell me everything you know about frogs"). The participant responses were categorized into three categories: Examples, non-examples and repeated information. The first category (i.e., examples) included responses from the participants that were *true* facts about the topic of frogs (e.g., frogs swim; jump in the pond; and have green legs). The non-example category included *misinformation* or *false* information about the topic of frogs (e.g., frogs are bigger than toads; they like to eat apples). The final category included responses that were *repetitions* of a previous response. For the purposes of this study, only the example category data was included in the analyses.

Retelling Measure

The second and third comprehension measures, *retelling of text*, were used to measure the participant's ability to accurately retell the descriptive expository text read aloud about frogs and the sequential expository text read aloud focusing on the life cycle of a frog. The number of possible text-based details that participants could recall differed depending on the expository text type. For the descriptive expository text, participants could retell a possible total of 40-targeted text-based details regarding descriptive details about frogs (e.g., Frogs are amphibians with huge

eyes. In fact, their big eyes see in all directions.). For the sequential expository text, the participants could retell a possible total of 38-targeted text-based details regarding details about the life cycle of a frog (e.g., At first, tadpoles breathe underwater with gills. Then, they grow lungs to help them breath.). The text-based details that the participant's included in their retelling were counted and totaled for both the descriptive and sequential expository texts.

Signal Word Measure

The fourth measure, *use of signal words*, was developed to measure the participant's use of signal words when retelling the descriptive and sequential expository texts. The targeted signal words incorporated into the descriptive expository text were the following: in fact, most importantly, for example (Hess & Biggam, 2006). The targeted signal words first, then, and finally were embedded in the sequential expository text (Hess et al., 2006). The targeted signal words that the participant included in their descriptive and sequential retells were counted and totaled for each of the expository texts. The total score was converted to a percent of signal words used by the participant for each of the texts types. This was calculated by dividing the total number of signal words used by the participant by the total number of possible signal words.

Comprehension Question Measure

The fifth and sixth measures, *descriptive and sequential expository text comprehension questions*, were created to measure the participant's ability to correctly answer factual and inference listening comprehension questions about frogs (descriptive expository text) and the life cycle of a frog (sequential expository text). The items on these measures assessed the

participant's ability to recall basic information and to make inferences based on the given information in the expository texts. The comprehension questions for these two measures were created to be similar to comprehension questions found on teacher made tests and standardized tests. For the descriptive expository text, participants were asked a total of 10 factual text-based questions regarding descriptive details about frogs (e.g., Where do frogs live?; How do frogs catch their food?) and 2 inference questions (e.g., Why do you think frogs have such big eyes?). Similarly, for the sequential expository text, the participants were asked a total of 10 factual text-based questions regarding details about the life cycle of a frog (e.g., In what season do mother frogs lay their eggs?; What part of the tadpole grows next to help it breath?) and 2 inference questions (e.g., Why do you think frogs have lungs?). A complete list of the text-based factual and inferential questions for each of the expository texts can be found in Appendix C. The participant's correct responses to the factual and inference questions were counted and totaled for each of the expository texts.

Interest Rating Measure

The last measure, *interest rating*, was used to measure the participant's interest in each of the expository texts read aloud. After the expository texts were read aloud and comprehension measures were administered, the participants were asked to indicate verbally or by pointing to 1 of 3 pictures (Appendix K) to indicate their interest in the topic of frogs (i.e., I like it, I do not know, I do not like it).

Expository Text Protocol Script

The researcher developed a script, which was included as part of the researcher created Expository Text Protocol for use when administering the Expository Text Protocol. For the administration of each measure on the researcher created Expository Text Protocol, directions for the measures were read verbatim to each participant to ensure that each participant was provided with the exact same information. The participant's responses were audiotaped for later transcription and coding. Results were recorded and scored on the researcher created Expository Text Protocol data form (Appendix L).

Materials

The researcher analyzed various descriptive and sequential expository trade books on the topic of frogs and the life cycle of frogs to create two illustrated expository texts that were to be read aloud to the participants in the study. The researcher reviewed four books focusing on frogs (i.e., Bishop, 2008; Carny, 2009; Spilsbury, 2005; Sweeney, 2010), and six books focusing on the life cycle of frogs (i.e., Heerweck Rice, 2011; Kalman, 2002; Lawrence, 2002; Royston, 2001; Trumbauer, 2003; Zoehfeld, 2011) that were appropriate for kindergarten age children. Since the books reviewed included a mix of descriptive and sequential expository text structures within their content, the researcher created two illustrated expository books. One book presented descriptive details about frogs using a descriptive expository text structure. The other book incorporated a sequential text structure focusing on details about the life cycle of a frog. The content information for the researcher created books primarily came from *Frogs* (2010) by Alyse Sweeney and *The Life Cycle of Frogs* (2003) by Lisa Trumbauer. An important difference

between the written text in the trade books and the written text in the research created books was the inclusion of signal words. The researcher embedded three different targeted signal words into each of the texts (i.e., descriptive - in fact, most importantly, for example; and sequential - first, then, finally). Additionally, the sequential text included five signaling phrases (i.e., "...four stages", "Stage one", "In the second stage", "In stage three", "...in stage four") so that the text closely resembled the organization of a sequential expository text structure (Appendix M). All written content was original for both books.

After writing the text, the researcher selected four trade books for their rich pictures: (1) *Frogs* by Alyse Sweeney (2010); (2) *The Life Cycle of Frogs* (2003) by Lisa Trumbauer; (3) *Frog* (2005) by Louise Spilsbury; and (4) *A Frog's Life* (2011) by Dona Heerweck Rice. Pictures were then strategically chosen from these books that aligned with the written text created for the descriptive expository book and the sequential expository book. For example: when the following was read aloud from the sequential expository text: "In stage three, the tadpole grows back legs to help it swim fast." the picture shown to the participant was of a tadpole underwater with two tiny back legs. Since the pictures selected from the trade books varied in size, the researcher cut nine descriptive pictures to the same size for the descriptive expository picture book and nine sequential pictures to the same size for the sequential expository picture book. Due to the nature of the original pictures, the descriptive book pictures were twice as large as the sequential book pictures. The researcher laminated the pictures, put the pictures in order to align with the written text and bound the two new illustrated books on *Frogs* and the *Life Cycle of Frogs*. Both books were written and constructed so that they would be equivalent with regard to the number of words, pictures and pages (Appendix M).

Procedures

Potential participants were scheduled for an initial 60-minute testing session during school hours or after school hours, depending on the preference of the parent indicated on the Consent Form. During the initial assessment, all potential participants were first read aloud the child assent (Appendix N) and then were administered the KBIT-2 to determine eligibility for inclusion in the study. Immediately following administration of the KBIT-2, the researcher provided participants with a 5-minute break to use the restroom or get a drink of water. During this time, the KBIT-2 was scored to determine if the potential participant was eligible for the study. If the potential participant did not meet the eligibility criteria, no further assessments were administered. The potential participant was taken back to their classroom if the assessment session occurred during school hours. If the assessment session occurred after school, the researcher either took the potential participant back to the afterschool program or remained with the potential participant and played a game until a parent picked up their child. If the eligibility criteria was met, eligible participants were administered the remaining assessments in the following order:

1. Token Test for Children-2 (TTFC-2) (15 minutes);
2. Assessment of Literacy and Language (ALL) subtests required to calculate the Phonological-Orthographic Index (10 minutes);
3. Expository Text Protocol: prior knowledge question (5 minutes);
4. Expository Text Protocol (counterbalanced): descriptive expository text or sequential expository text (10 minutes)

During the second session, all participants were administered the assessments in the following order:

1. Assessment of Literacy and Language (ALL) subtests required to calculate the Language Index, Emergent Literacy Index, Phonological Index (45 minutes);
2. The Expository Text Protocol (counterbalanced): descriptive expository text or sequential expository text (10 minutes)

The researcher, a nationally certified and licensed speech-language pathologist, administered the standardized assessments (i.e., KBIT-2, TTFC-2, and ALL) and the Expository Text Protocol to the participants. The presentation of stimuli and directions for administration were carried out according to the procedures delineated in the standardized assessment manuals as well as in the script developed for the researcher created Expository Text Protocol.

Administration of the Expository Text Protocol

The administration of the Expository Text Protocol occurred in the following order: (a) the researcher asked the examinee the prior knowledge question; (b) the examinee answered the prior knowledge question; (c) the researcher read the expository text aloud to the examinee; (d) the researcher asked the examinee to retell the expository text aloud; (e) the examinee retold the expository text aloud without the use of the picture book; (f) the researcher asked the examinee the comprehension questions aloud; (g) the examinee answered the comprehension questions aloud without the use of the picture book; (h) the researcher asked the examinee to rate their interest in the topic; and (i) the examinee rated their interest in listening to the topic either verbally or by pointing to a picture.

It is important to note that the descriptive expository text and the sequential expository text were counterbalanced, so that the order in which the books were read to the participants minimized any order effect. For example, participant one was read the descriptive expository text on the first day of testing and the sequential text on the second day of testing, whereas participant two was read the sequential text on the first day of testing and the descriptive text on the second day of testing. In addition, the researcher counterbalanced the order in which the comprehension measures (i.e., comprehension questions and retell of texts) were administered to the participants. For example, participant one answered the comprehension questions first and then retold the text, whereas participant two retold the text first and then answered the comprehension questions. A tangible reinforcement was awarded to each participant at the completion of each testing session (e.g., pencil, sticker, or eraser).

Audio Recording

The recording software, eXtra Voice Recorder, and an Olympus Digital Voice Recorder (WS-500M) were used to digitally audio record the participant's responses on several of the assessment measures. The following measures were recorded: (a) ALL - Listening Comprehension subtest, (b) Expository Text Protocol - prior knowledge question; (c) Expository Text Protocol - descriptive expository text retelling and signal words; (d) Expository Text Protocol - sequential expository text retelling and signal words; (e) Expository Text Protocol - descriptive expository text comprehension questions; and (f) Expository Text Protocol - sequential expository text comprehension questions.

Letters to Parents

At the culmination of the study, result letters were sent home to all parents that signed a Consent Form. One letter was sent home to parents of children that met inclusion criteria and also met kindergarten end of the year expectations in the following four language and literacy areas: letter knowledge, vocabulary knowledge, sight word recognition, and listening comprehension (Appendix O). A different letter was sent home to parents of children that did not meet inclusions criteria (Appendix P). The researcher included a useful handout with each letter, whether or not the child participated in the study, that provided examples of questions parents could ask their child after reading with their child either narrative or expository texts (Appendix Q).

A total of 3 participants included in the study did not meet kindergarten end of the year expectations in the following four areas: letter knowledge, vocabulary knowledge, sight word recognition and listening comprehension. These parents were contacted by the researcher by phone and encouraged to consider pursuing further testing in the areas of language and literacy by contacting the local elementary school's exceptional student education (ESE) staffing specialist.

Data Collection Techniques

Prior to implementation of this study, approval to conduct Human Subject Research was obtained from the University of Central Florida Institutional Review Board (Appendix R). Participant confidentiality was maintained over the course of the study. Only the researcher had access to the identities of the participants and any information that would be associated with the

participants' identities. The researcher stored all information (e.g., digital audio recordings, protocols, Parent Questionnaires, and Consent Forms) in a locked file cabinet in the researcher's office at the elementary school where the study took place. All identifying information was destroyed following completion of the study.

Upon enrollment in the study, each participant was assigned a unique four-digit identification number. The first two numbers indicated the order in which the participant met the inclusion criteria to participate in the study. While the last two numbers indicated the order in which the expository books were read aloud to the participant. For example, if the child was the fifth participant that met the inclusion criteria and the descriptive passage was read first, then the participant's assigned identification number was 0501. The identification number was used to ensure confidentiality, organize data, and identify participants on forms, assessment protocols, and in an electronic spreadsheet developed for data analysis.

All electronic data was stored on the researcher's password protected computer. Any electronic data was saved using the participant's identification number along with the type of data. For example: 0501_expository transcriptions or 0501_reliability transcriptions. The electronic data was backed up frequently on a password protected, encrypted external hard drive. When not in use, the external hard drive was stored either in the locked file cabinet in the researcher's office at the elementary school or in a locked file cabinet at the researcher's home. The researcher was the only individual who had access to the data in the file cabinet at the elementary school or the file cabinet at the researcher's home.

Three research assistants (one undergraduate student, one graduate student personally known by the researcher, and one retired certified teacher personally known by the researcher)

were trained to complete either the transcription of the digital audio recording, the inter-scorer reliability of the standardized assessments or the inter-scorer reliability of the researcher created Expository Text Protocol. The researcher trained each of the three research assistants. Each research assistant signed the Transcriber/Scorer Confidentiality Agreement before they were allowed to assist in the study (Appendix S).

The three research assistants did not have any access to the any of the participants identifying information and only used the four-digit participant code. The research assistant that completed the transcription reliability and the research assistant that completed the Expository Text Protocol reliability followed the same procedures by using a password-protected personal computer and saving all information using the format previously mentioned (e.g., 0501_expository transcriptions). The research assistants met with the researcher after transcription or scoring had been completed to transfer the reliability results to the researcher's password protected computer and external hard drive. Once it was confirmed that the researcher saved the files on the researcher's computer and external hard drive, the researcher observed as the research assistants deleted and trashed any files related to the study on their password-protected computers.

Transcription

The researcher transcribed verbatim the participant's responses to the following: (a) ALL - Listening Comprehension subtest; (b) Expository Text Protocol - prior knowledge question; (c) Expository Text Protocol - descriptive expository text retelling and signal words; (d) Expository Text Protocol - sequential expository text retelling and signal words; (e) Expository Text

Protocol - descriptive expository text comprehension questions; and (f) Expository Text Protocol - sequential expository text comprehension questions. Off task comments, questions directed to the researcher, and interjections (e.g., um, oh) also were transcribed; however, these components were not analyzed for the current study. The transcription was completed on the researcher's password-protected computer.

Reliability

Reliability Procedures

Inter-rater reliability was measured for the accuracy of the transcription coding of the digital audio recordings and for the accuracy in scoring of responses for the following: (a) standardized assessments (i.e., KBIT-2, TTFC-2, and ALL); (b) Expository Text Protocol - prior knowledge question; (c) Expository Text Protocol - descriptive expository text retelling and signal words; (d) Expository Text Protocol - sequential expository text retelling and signal words; (e) Expository Text Protocol - descriptive expository text comprehension questions; and (f) Expository Text Protocol - sequential expository text comprehension questions.

Reliability Results

The researcher randomly selected nine (approximately 20%) of the transcribed digital audio recordings to determine transcription reliability. Then, nine (approximately 20%) of the scored standardized assessments, nine (approximately 20%) of the scored prior knowledge responses, and nine (approximately 20%) of each of the scored comprehension measures on the Expository Text Protocols (i.e., nine of the descriptive expository text retellings, nine of the

descriptive expository text comprehension questions, nine of the sequential expository text retelling, and nine of the sequential expository text comprehension questions) were randomly selected to determine inter-scorer reliability. If there were any disagreements about the transcription of the digital audio recordings, the scoring of the assessments, or the scoring of the Expository Text Protocol, the researcher and research assistants discussed any discrepancies and came to consensus until 100% agreement was achieved.

The first research assistant was trained how to transcribe the digital audio recordings using a sample tape from a kindergarten child not participating in the study. Prior to transcription of the digital audio recordings for the study, the research assistant met criteria (95%) by transcribing the kindergarten child's descriptive and sequential expository text retelling. After initial criterion was met, the first research assistant transcribed a random sample of four descriptive and four sequential digital audio recording samples from participants in the study with a total of 95% transcription accuracy. These samples were not included in the reliability results explained above.

The second research assistant was trained to complete the inter-scorer reliability for the three standardized assessments (i.e., KBIT-2, TTFC-2, ALL). Prior to completing the standardized assessment inter-scorer reliability, the research assistant met criteria (95% accuracy) by scoring a random sample of the standardized assessments (i.e., KBIT-2, TTFC-2, ALL) administered to two children who participated in the study. After initial criterion was met, the second research assistant completed the inter-scorer reliability on a random sample of nine of each of the standardized assessments (i.e., KBIT-2, TTFC-2, ALL) with 100% accuracy.

The researcher created a codebook (Appendix T) for the third research assistant (undergraduate student) who was trained to complete the inter-scorer reliability for the Expository Text Protocol (i.e., prior knowledge, comprehension questions related to the descriptive and sequential expository texts, retelling of the descriptive and sequential expository texts and use of targeted signaling words). The research assistant met criteria (95% accuracy) by scoring a random sample of each of the components on the Expository Text Protocol for three children who participated in the study. The research assistant then used the researcher created codebook in order to complete inter-scorer reliability on a random sample of nine of each of the measures on the Expository Text Protocol: (a) prior knowledge; (b) descriptive expository text retelling of the text; (c) descriptive expository text comprehension questions; (d) sequential expository text retelling of the text; and (e) sequential expository text comprehension questions. The inter-rater reliability percentage scores were calculated as the number of agreements divided by the number of agreements plus disagreements and then multiplied by 100 for each measure. The Expository Text Protocol inter-rater reliability results are presented in Table 5.

Table 5: Inter-rater Reliability Results- Expository Text Protocol

| Components | % |
|---------------------------------|------|
| Prior Knowledge | 97% |
| Des. Exp. Text Retelling Scores | 93% |
| Seq. Exp. Text Retelling Scores | 91% |
| Des. Exp. Text CQ Scores | 100% |
| Seq. Exp. Text CQ Scores | 100% |

Note. Des. Exp. = Descriptive Expository; Seq. Exp.= Sequential Expository;
CQ = Comprehension Questions

Research Design

The research design for this study was a nonexperimental, cross sectional, correlational design. The researcher has defined the measures that were used to mitigate bias in making judgments regarding data analysis.

Sample Size

A power analysis was conducted to determine an appropriate sample size for this study (Cohen, 1988). The results of the analysis indicated that for a moderate effect size ($f^2 = .15$), with an alpha level of 0.05, a power of 0.80, and four independent variables, the required sample size for a multiple linear regression fixed model was 85. Due to the smaller obtained sample size ($N=45$), a post hoc analysis was conducted to determine if there was sufficient statistical power given the observed effect size and sample size. Results of the post hoc analysis are reported in chapter 4.

Sampling Procedure

A convenience sample was used for this study. Participants were recruited from a local public elementary school in central Florida.

Data Analysis

The data were analyzed using the statistical software SPSS Version 22.0. The specific data analysis techniques for each research question are explained below.

Research Questions

Research Question 1:

Is there a relationship between prior knowledge of a topic and the comprehension of two types of expository text (i.e., descriptive, sequential)?

Four simple regression models were conducted to answer this question. The independent variable used was prior knowledge. The dependent variables included the following: (1) the percentage of details included in the retelling of the descriptive expository text; (2) the percentage of correct responses to comprehension questions for the descriptive expository text; (3) the percentage of details included in the retelling of the sequential expository text; and (4) the percentage of correct responses to comprehension questions for the sequential expository text.

Research Question 2:

To what extent can listening comprehension ability (as measured by the Token Test for Children-2 (TTFC-2)) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression model was conducted to answer this question. The independent variables included the following: (1) the percentage of details included in the retelling of the descriptive expository text; (2) the percentage of correct responses to comprehension questions for the descriptive expository text; (3) the percentage of details included in the retelling of the sequential expository text; and (4) the percentage of correct responses to comprehension questions for the sequential expository text. The continuous dependent variable used included all of the standard scores on the TTFC-2.

Research Question 3:

To what extent can language (i.e., receptive and expressive) ability (as measured by the Assessment of Literacy and Language (ALL) Language Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression model was conducted to answer this question. The independent variables included the following: (1) the percentage of details included in the retelling of the descriptive expository text; (2) the percentage of correct responses to comprehension questions for the descriptive expository text; (3) the percentage of details included in the retelling of the sequential expository text; and (4) the percentage of correct responses to comprehension questions for the sequential expository text. The continuous dependent variable used included all of the standard scores on the ALL Language Index.

Research Question 4:

To what extent can emergent literacy ability (as measured by the Assessment of Literacy and Language (ALL) Emergent Literacy Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression model was conducted to answer this question. The independent variables included the following: (1) the percentage of details included in the retelling of the descriptive expository text; (2) the percentage of correct responses to comprehension questions for the descriptive expository text; (3) the percentage of details included in the retelling of the sequential expository text; and (4) the percentage of correct responses to comprehension questions for the sequential expository text. The continuous dependent variable used included all of the standard scores on the ALL Emergent Literacy Index.

Research Question 5:

To what extent can phonological awareness ability (as measured by the Assessment of Literacy and Language (ALL) Phonological Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression model was conducted to answer this question. The independent variables included the following: (1) the percentage of details included in the retelling of the descriptive expository text; (2) the percentage of correct responses to comprehension questions for the descriptive expository text; (3) the percentage of details included in the retelling of the sequential expository text; and (4) the percentage of correct responses to comprehension questions for the sequential expository text. The continuous dependent variable used included all of the standard scores on the ALL Phonological Index.

Research Question 6:

To what extent can sound/letter association ability (as measured by the Assessment of Literacy and Language (ALL) Phonological-Orthographic Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression model was conducted to answer this question. The independent variables included the following: (1) the percentage of details included in the retelling of the descriptive expository text; (2) the percentage of correct responses to comprehension questions for the descriptive expository text; (3) the percentage of details included in the retelling of the sequential expository text; and (4) the percentage of correct responses to comprehension questions for the sequential expository text. The continuous

dependent variable used included all of the standard scores on the ALL Phonological-Orthographic Index.

Research Question 7:

Is there a relationship between the retelling of the descriptive expository text and the retelling of the sequential expository text (as measured by the researcher created Expository Text Protocol) after controlling for text order and measure order?

A partial correlation was conducted to answer this question. The variables included the following: (1) the percentage of details included in the retelling of the descriptive expository text; and (2) the percentage of details included in the retelling of the sequential expository text. The covariates included text order and measure order. The first covariate was text order, which is defined as the order in which the expository texts were administered to the participants. The following are the possible text order combinations: (1) day 1 - descriptive text; then, day 2 - sequential text or (2) day 1 - sequential text; then, day 2 - descriptive text. The second covariate was measure order, which is defined as the order in which the comprehension measures were administered to the participants. The following are the possible measure order combinations: (1) comprehension questions then retelling of the text or (2) retelling of the text then comprehension questions.

Research Question 8:

Is there a relationship between the comprehension questions for the descriptive expository text and the comprehension questions for the sequential expository text (as measured

by the researcher created Expository Text Protocol) after controlling for text order and measure order?

A partial correlation was conducted to answer this question. The variables included the following: (1) the percentage of comprehension questions for the descriptive expository text; and (2) the percentage of comprehension questions for the sequential expository text. The covariates included text order and measure order. The first covariate was text order, which is defined as the order in which the expository texts were administered to the participants. The following are the possible text order combinations: (1) day 1 - descriptive text; then, day 2 - sequential text or (2) day 1 - sequential text; then, day 2 - descriptive text. The second covariate was measure order, which is defined as the order in which the comprehension measures were administered to the participants. The following are the possible measure order combinations: (1) comprehension questions then retelling of the text or (2) retelling of the text then comprehension questions.

Summary

This chapter presented a description of the participants, school district demographics, school demographics, setting, instrumentation, materials, procedures, data collection techniques, research design, and data analysis procedures. The next chapter includes the results of the statistical analyses conducted to answer the eight research questions.

CHAPTER FOUR: RESULTS

The primary purpose of this study was to determine if there is a relationship between the comprehension of descriptive and sequential expository text and reader characteristics (i.e., prior knowledge, listening comprehension ability, language ability, and literacy ability) in typically developing kindergarten children. The aims of this study were: (1) to investigate if there is a relationship between prior knowledge and the comprehension of descriptive or sequential expository text; (2) to determine if the comprehension of descriptive and sequential expository text are important predictors of performance on the Token Test for Children-2 (TTFC-2) and the Assessment of Literacy and Language (ALL); and (3) to determine if there is a correlation between the descriptive and sequential expository text comprehension measures (i.e., retelling of expository text and answering comprehension questions) on the researcher created Expository Text Protocol.

This chapter describes the results of the analyses used to answer the eight research questions. This chapter begins with a presentation of descriptive information relative to the participant's performance on the formal and informal assessments followed by results of the statistical analyses for each research question.

Descriptive Analyses

Formal Assessments

The participants in this study were administered the following formal assessments: Kaufman Brief Intelligence Test-2 (KBIT-2), Token Test for Children-2 (TTFC-2), and Assessment of Literacy and Language (ALL). Table 6 presents the means, standard deviations,

standard errors, range, minimum score, and maximum score for each of the formal assessments that were administered to the participants.

Table 6: *Descriptive Statistics- Formal Assessments*

| Components | <i>M</i> | <i>SD</i> | <i>SE</i> | <i>Range</i> | <i>Minimum Score</i> | <i>Maximum Score</i> |
|------------|----------|-----------|-----------|--------------|----------------------|----------------------|
| KBIT-2 | 101.00 | 8.96 | 1.34 | 30.00 | 85.00 | 115.00 |
| TTFC-2 | 99.31 | 12.65 | 1.89 | 57.00 | 74.00 | 131.00 |
| ALL-LI | 97.87 | 12.42 | 1.85 | 55.00 | 64.00 | 119.00 |
| ALL-ELI | 106.40 | 12.58 | 1.88 | 56.00 | 75.00 | 131.00 |
| ALL-PI | 97.09 | 15.41 | 2.30 | 66.00 | 61.00 | 127.00 |
| ALL-POI | 114.80 | 10.97 | 1.64 | 47.00 | 88.00 | 135.00 |

Note. KBIT-2 = Kaufman Brief Intelligence Test-2; TTFC-2 = Token Test for Children-2; ALL-LI = Assessment of Literacy and Language, Language Index; All-ELI = Assessment of Literacy and Language, Emergent Literacy Index; ALL-PI = Assessment of Literacy and Language, Phonological Index; ALL-POI = Assessment of Literacy and Language, Phonological-Orthographic Index

Expository Text Protocol

The participants in this study were administered the following Expository Text Protocol measures: prior knowledge, descriptive expository text retell, sequential expository text retell, descriptive expository text comprehension questions, and sequential expository text comprehension questions. Table 7 presents the means, standard deviations, standard errors, range, minimum score, and maximum score for each of the measures on the Expository Text Protocol that were administered to the participants. The descriptive analyses revealed the following three main findings: (1) on average, participants were able to tell 4 facts about frogs on the prior knowledge measure; (2) on average, participants scored slightly higher on the descriptive expository text retelling measure than the sequential expository text retelling measure; and (3) on average, the participants scored slightly higher on the sequential expository

text comprehension question measure than the descriptive expository text comprehension measure.

Table 7: *Descriptive Statistics- Expository Text Protocol*

| Components | <i>M</i> | <i>SD</i> | <i>SE</i> | <i>Range</i> | <i>Minimum Score</i> | <i>Maximum Score</i> |
|---------------------------------|----------|-----------|-----------|--------------|----------------------|----------------------|
| Prior Knowledge | 4.31 | 1.89 | 0.28 | 8.00 | 1.00 | 9.00 |
| Des. Exp. Text Retelling Scores | 17.78 | 9.83 | 1.47 | 40.00 | 0.00 | 40.00 |
| Seq. Exp. Text Retelling Scores | 14.72 | 8.51 | 1.27 | 37.83 | 0.00 | 37.83 |
| Des. Exp. Text CQ Scores | 38.89 | 16.57 | 2.47 | 66.67 | 8.33 | 75.00 |
| Seq. Exp. Text CQ Scores | 46.28 | 23.52 | 3.51 | 100.00 | 0.00 | 100.00 |

Note. Des. Exp. = Descriptive Expository; Seq. Exp. = Sequential Expository; CQ = Comprehension Questions

The researcher counterbalanced the order in which the illustrated expository books (i.e., descriptive and sequential) were read to the participants (text order) and the order in which the comprehension measures (i.e., comprehension questions and retell of texts) were administered to the participants (measure order). Table 8 presents with the means, standard deviations, standard errors, range, minimum score, and maximum score for each of the comprehension measures on the Expository Text Protocol that were administered to the participants based on text order and measure order. Table 8 indicates that the participant's scores on each of the comprehension measures on the Expository Text Protocol varied depending on text order and measure order.

Table 8: *Descriptive Statistics- Expository Text Protocol based on Text Order and Measure Order*

| Components | <i>M</i> | <i>SD</i> | <i>SE</i> | <i>Range</i> | <i>Minimum Score</i> | <i>Maximum Score</i> |
|---------------------------------|----------|-----------|-----------|--------------|----------------------|----------------------|
| Des. Exp. Text Retelling Scores | | | | | | |
| Text Order ₁ | 17.16 | 9.74 | 2.08 | 40.00 | 0.00 | 40.00 |
| Text Order ₂ | 18.37 | 10.10 | 2.11 | 37.50 | 0.00 | 37.50 |
| Measure Order ₁ | 15.00 | 7.83 | 1.63 | 32.50 | 0.00 | 32.50 |
| Measure Order ₂ | 20.68 | 10.99 | 2.34 | 40.00 | 0.00 | 40.00 |
| Seq. Exp. Text Retelling Scores | | | | | | |
| Text Order ₁ | 14.61 | 6.86 | 1.46 | 29.72 | 0.00 | 29.72 |
| Text Order ₂ | 14.81 | 9.99 | 2.08 | 37.83 | 0.00 | 37.83 |
| Measure Order ₁ | 12.22 | 8.42 | 1.76 | 29.72 | 0.00 | 29.72 |
| Measure Order ₂ | 17.32 | 7.96 | 1.70 | 32.43 | 5.40 | 37.83 |
| Des. Exp. Text CQ Scores | | | | | | |
| Text Order ₁ | 36.74 | 16.80 | 3.58 | 66.67 | 8.33 | 75.00 |
| Text Order ₂ | 40.94 | 16.46 | 3.43 | 58.34 | 8.33 | 66.67 |
| Measure Order ₁ | 40.94 | 15.47 | 3.23 | 58.33 | 16.67 | 75.00 |
| Measure Order ₂ | 36.74 | 17.76 | 3.79 | 58.34 | 8.33 | 66.67 |
| Seq. Exp. Text CQ Scores | | | | | | |
| Text Order ₁ | 49.21 | 25.66 | 5.47 | 100.00 | 0.00 | 100.00 |
| Text Order ₂ | 43.48 | 21.46 | 4.46 | 75.00 | 0.00 | 75.00 |
| Measure Order ₁ | 51.06 | 25.25 | 5.27 | 100.00 | 0.00 | 100.00 |
| Measure Order ₂ | 41.29 | 20.97 | 4.47 | 75.00 | 0.00 | 75.00 |

Note. Des. Exp. = Descriptive Expository; Seq. Exp. = Sequential Expository; CQ = Comprehension Questions; Text Order₁= Descriptive-Sequential; Text Order₂= Sequential-Descriptive; Measure Order₁= Questions-Retell; Measure Order₂= Retell-Questions

Formal and Informal Assessment Correlations

Bivariate correlations were conducted to investigate the relationships among the outcome variables of interest. To examine these relationships, the data for each of the formal (i.e., TTFC-2 and ALL) and informal (i.e., prior knowledge, comprehension question measures, retelling measures) assessments were analyzed. Table 9 presents the data for the bivariate correlations based on the performance of the participants included in this study. Correlations found to be statistically significant are indicated at the .05 and .01 p -value levels.

The results revealed that the TTFC-2 scores significantly correlated with three of the ALL Index scores (i.e., Language Index; Emergent Literacy Index; Phonological Index) and the informal comprehension question (i.e., descriptive and sequential) measures on the Expository Text Protocol. In addition, the results revealed that the ALL - Language Index scores were found to be significantly correlated not only with each of the ALL Index scores (i.e., Emergent Literacy Index; Phonological Index, Phonological-Orthographic Index), but also with all of the informal Expository Text Protocol measures (i.e., prior knowledge, descriptive retell, sequential retell, descriptive comprehension questions and sequential comprehension questions). The ALL - Emergent Literacy Index scores and the ALL - Phonological Index scores were found to be significantly correlated with each of the informal Expository Text Protocol measures *except* for the prior knowledge measure. The ALL - Phonological-Orthographic Index scores were found to be significantly correlate with both of the comprehension question (i.e., descriptive and sequential) measures and the prior knowledge measure on the Expository Text Protocol. Finally, the results revealed that the only informal measures on the Expository Text Protocol that

significantly correlated with one another were the following: (a) the descriptive and sequential retelling measures and (b) the descriptive and sequential comprehension questions measures. All of the significant correlations are consistent with medium (.30) to large (.50) effect sizes (Cohen, 1988).

Table 9: *Bivariate Correlation Matrix based on Assessments Administered to the Participants*

| | TTFC-2 ^a | ALL-LI ^b | ALL-ELI ^c | ALL-PI ^d | ALL-POI ^e | PK ^f | DesRetell ^g | SeqRetell ^h | DesCQ ⁱ | SeqCQ ^j |
|------------------------|---------------------|---------------------|----------------------|---------------------|----------------------|-----------------|------------------------|------------------------|--------------------|--------------------|
| TTFC-2 ^a | -- | .53** | .32* | .37* | .22 | .09 | .29 | .28 | .31* | .35* |
| ALL-LI ^b | | -- | .69** | .76** | .46** | .39** | .47** | .66** | .43** | .53** |
| ALL-ELI ^c | | | -- | .93** | .83** | .29 | .35* | .49** | .44** | .40** |
| ALL-PI ^d | | | | -- | .64** | .29 | .41** | .51** | .42** | .33** |
| ALL-POI ^e | | | | | -- | .31* | .21 | .28 | .45** | .45** |
| PK ^f | | | | | | -- | .13 | .22 | .26 | .14 |
| DesRetell ^g | | | | | | | -- | .53** | .18 | -.01 |
| SeqRetell ^h | | | | | | | | -- | .24 | .22 |
| DesCQ ⁱ | | | | | | | | | -- | .51** |
| SeqCQ ^j | | | | | | | | | | -- |

Note. $N = 45$; $p < .05^*$; $p < .01^{**}$.

^a = Token Test for Children-2; ^b = Assessment of Literacy and Language, Language Index; ^c = Assessment of Literacy and Language, Emergent Literacy Index; ^d = Assessment of Literacy and Language, Phonological Index; ^e = Assessment of Literacy and Language, Phonological Orthographic Index; ^f = Prior Knowledge; ^g = Descriptive Retell Measure; ^h = Sequential Retell Measure; ⁱ = Descriptive Comprehension Question Measure; ^j = Sequential Comprehension Question Measure

Research Question 1

Is there a relationship between prior knowledge of a topic and the comprehension of two types of expository text (i.e., descriptive, sequential)?

Four separate simple linear regression analyses were conducted to answer the first research question. A description of each of the following four assumptions are presented for each of the simple linear regressions: (a) linearity, (b) normality, (c) independence, and (d) homogeneity of variance.

Research Question 1a

Is there a relationship between prior knowledge of a topic and the descriptive expository text retelling scores?

A simple linear regression was used to determine whether the descriptive expository text retelling scores could be predicted based on prior knowledge of a topic. The null hypothesis tested that the regression coefficient (i.e., the slope) was equal to 0. The data were inspected for missing values and violations of assumptions prior to analysis. There were no missing data.

The scatterplot of the independent variable (prior knowledge scores) and the dependent variable (descriptive expository text retelling scores) indicated that the assumption of linearity was reasonable: as prior knowledge scores increased, descriptive expository text retelling scores increased as well. With a random display of points falling within an absolute value of 3, a scatterplot of unstandardized residuals provided further evidence of linearity.

The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk test for normality ($SW = 0.97$, $df = 45$, $p = .30$), skewness (0.44) and

kurtosis (-0.30) statistics suggested that normality was a reasonable assumption. Inspection of the boxplot suggested a relatively normal distribution shape (with no outliers) of the residuals. The Q-Q plot and histogram suggested normality was reasonable.

A relatively random display of points on the scatterplot of studentized residuals against values of the independent variables provided evidence of independence. The Durbin-Watson statistic was computed to evaluate independence of errors and was 2.16, which is considered acceptable. This suggests the assumption of independent errors was met. Examination of these plots also indicated evidence of homogeneity of variance.

The results of the simple linear regression suggested that the children's prior knowledge of frogs was not a good predictor of their ability to retell a descriptive expository text about frogs, $F(1, 43) = 0.77, p = .39$. The intercept (or the average descriptive expository text retelling score when prior knowledge score is 0) was 14.81, $p = < .001$. The multiple R^2 value indicated that approximately 2% of the variance in descriptive expository text retelling scores was predicted by prior knowledge scores. This suggests the effect is trivial (Cohen, 1988). A post hoc power analysis revealed an achieved power of 0.14, indicating a high probability of a Type II error.

Research Question 1b

Is there a relationship between prior knowledge of a topic and the descriptive expository text comprehension question scores?

A simple linear regression was used to determine whether descriptive expository text comprehension question scores could be predicted based on prior knowledge of a topic. The null

hypothesis tested that the regression coefficient (i.e., the slope) was equal to 0. The data were inspected for missing values and violations of assumptions prior to analysis. There were no missing data.

The scatterplot of the independent variable (prior knowledge scores) and the dependent variable (descriptive expository text comprehension question scores) indicated that the assumption of linearity was reasonable: as prior knowledge scores increased, descriptive expository text comprehension question scores increased as well. With a random display of points falling within an absolute value of 3, a scatterplot of unstandardized residuals provided further evidence of linearity.

The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk test for normality ($SW = 0.98$, $df = 45$, $p = .51$), skewness (-0.25), and kurtosis (-0.60) statistics suggested that normality was a reasonable assumption. Inspection of the boxplot suggested a relatively normal distribution shape (with no outliers) of the residuals. The Q-Q plot and histogram suggested normality was reasonable.

A relatively random display of points on the scatterplot of studentized residuals against values of the independent variables provided evidence of independence. The Durbin-Watson statistic was computed to evaluate independence of errors and was 2.09, which is considered acceptable. This suggests the assumption of independent errors was met. Examination of these plots also indicated evidence of homogeneity of variance.

The results of the simple linear regression suggested that the children's prior knowledge of frogs was not a good predictor of their ability to answer descriptive expository text comprehension questions about frogs $F(1, 43) = 3.21$, $p = .08$. The intercept (or the average

descriptive expository text comprehension question score when prior knowledge score is 0) was 28.94, $p = < .001$. The multiple R^2 value indicated that approximately 7% of the variance in descriptive expository text comprehension question scores was predicted by prior knowledge scores. This suggests the effect is trivial (Cohen, 1988). A post hoc power analysis revealed an achieved power of 0.43, indicating a high probability of a Type II error.

Research Question 1c

Is there a relationship between prior knowledge of a topic and the sequential expository text retelling scores?

The third simple linear regression was used to determine whether sequential expository text retelling scores could be predicted based on prior knowledge of a topic. The null hypothesis tested was that the regression coefficient (i.e., the slope) was equal to 0. The data were inspected for missing values and violations of assumptions prior to analysis. There were no missing data.

The scatterplot of the independent variable (prior knowledge scores) and the dependent variable (sequential expository text retelling scores) indicated that the assumption of linearity was reasonable: as prior knowledge scores increased, sequential expository text retelling scores increased as well. With a random display of points falling within an absolute value of 3, a scatterplot of unstandardized residuals provided further evidence of linearity.

The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk test for normality ($SW = 0.96$, $df = 45$, $p = .15$), skewness (0.59), and kurtosis (1.13) statistics suggested that normality was a reasonable assumption. Inspection of the boxplot suggested a relatively normal distribution shape (with two outliers) of the

residuals. Excluding the outliers did not alter the findings. The assumptions were still met, and the model was still non-significant. Therefore, the remaining statistical procedures were conducted as planned with the two outliers. The Q-Q plot and histogram suggested normality was reasonable.

A relatively random display of points on the scatterplot of studentized residuals against values of the independent variables provided evidence of independence. The Durbin-Watson statistic was computed to evaluate independence of errors and was 1.32, which is considered acceptable. This suggests the assumption of independent errors was met. Examination of these plots also indicated evidence of homogeneity of variance.

The results of the simple linear regression suggested that the children's prior knowledge of frogs was not a good predictor of their ability to retell a sequential expository text about frogs, $F(1, 43) = 2.28, p = .14$. The intercept (or the average sequential expository text retelling score when prior knowledge score is 0) was 10.36, $p = .002$. The multiple R^2 value indicated that approximately 5% of the variance in sequential expository text retelling scores was predicted by prior knowledge scores. This suggests the effect is trivial (Cohen, 1988). A post hoc power analysis revealed an achieved power of 0.33, indicating a high probability of a Type II error.

Research Question 1d

Is there a relationship between prior knowledge of a topic and the sequential expository text comprehension question scores?

A simple linear regression was used to determine whether sequential expository text comprehension question scores could be predicted based on prior knowledge of a topic. The null

hypothesis tested that the regression coefficient (i.e., the slope) was equal to 0. The data were inspected for missing values and violations of assumptions prior to analysis. There were no missing data.

The scatterplot of the independent variable (prior knowledge scores) and the dependent variable (sequential expository text comprehension question scores) indicated that the assumption of linearity is reasonable: as prior knowledge scores increased, sequential expository text comprehension question scores increased as well. With a random display of points falling within an absolute value of 3, a scatterplot of unstandardized residuals provided further evidence of linearity.

The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk test for normality ($SW = 0.99$, $df = 45$, $p = .95$), skewness (-0.07), and kurtosis (-0.46) statistics suggested that normality was a reasonable assumption. Inspection of the boxplot suggested a relatively normal distribution shape (with no outliers) of the residuals. The Q-Q plot and histogram suggested normality was reasonable.

A relatively random display of points on the scatterplot of studentized residuals against values of the independent variables provided evidence of independence. The Durbin-Watson statistic was computed to evaluate independence of errors and was 2.34, which is considered acceptable. This suggests the assumption of independent errors was met. Examination of these plots also indicated evidence of homogeneity of variance.

The results of the simple linear regression suggested that the children's prior knowledge of frogs was not a good predictor of their ability to answer sequential expository text comprehension questions about frogs, $F(1, 43) = 0.83$, $p = .37$. The intercept (or the average

sequential expository text comprehension question score when prior knowledge score is 0) was 38.92, $p = < .001$. The multiple R^2 value indicated that approximately 2% of the variance in sequential expository text comprehension question scores was predicted by prior knowledge scores. This suggests the effect is trivial (Cohen, 1988). A post hoc power analysis revealed an achieved power of 0.15, indicating a high probability of a Type II error.

Research Question 2

To what extent can listening comprehension ability (as measured by the Token Test for Children-2 (TTFC-2)) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression analysis was conducted to determine if listening comprehension ability measured by performance on the Token Test for Children-2 (TTFC-2) could be predicted from the following comprehension measures: descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores. The null hypotheses tested that the multiple R^2 was equal to 0 and that the regression coefficients (i.e., the slopes) were equal to 0. The data were inspected for missing values and violation of assumptions prior to analysis. There were no missing data. A description of each of the following five assumptions are presented for the multiple linear regression: (a) linearity, (b) normality, (c) independence, (d) homogeneity of variance, and (e) multicollinearity.

Review of the partial scatterplot of independent variables (descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository

text retelling scores, and sequential expository text comprehension question scores) and the dependent variable (TTFC-2 scores) indicated linearity is a reasonable assumption.

Additionally, with a random display of points falling within an absolute value of 2.5, a scatterplot of unstandardized residuals to predicted values provided further evidence of linearity.

The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk test for normality ($SW = 0.98$, $df = 45$, $p = .57.$), skewness (0.38), and kurtosis (0.16) statistics suggested that normality was a reasonable assumption. The boxplot suggested a relatively normal distributional shape (with one outlier) of the residuals. Excluding the outlier did not alter the findings. The assumptions were still met, and the model was still statistically significant. Additionally, all the independent variables were still non-significant when the outlier was excluded. Therefore, the remaining statistical procedures were conducted as planned with the one outlier included in the analysis. The Q-Q plot and histogram suggested normality was reasonable. The casewise diagnostic did not reveal any extreme cases with extreme values on the standardized residuals.

A relatively random display of points in the scatterplots of studentized residuals against values of the independent variables and studentized residuals against predicted values provided evidence of independence. The Durbin-Watson statistic was computed to evaluate independence of errors and was 2.31, which is acceptable. This suggests that the assumption of independent errors was met. Examination of these plots also indicated evidence of homogeneity of variance.

Diagnostics were reviewed to address potential collinearity issues. Tolerance was greater than .10 (.69, .70, .67, .70), and the variance inflation factor was less than 10 (1.45, 1.42, 1.49, 1.43), suggesting that multicollinearity was not an issue. The collinearity diagnostics were

reviewed. Additionally, the eigenvalues (.26, .13, .08, .07) and condition indices (4.12) suggested that multicollinearity was not an issue.

The results of the multiple linear regression model suggested that a significant proportion of the total variation in listening comprehension ability, as measured by the TTFC-2, was predicted by the linear combination of descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores, $F(4, 40) = 2.83, p = .04, R^2 = .22, R^2_{adjusted} = .14$. The multiple R^2 value indicated that approximately 22% of the variation in the TTFC-2 scores was explained by descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores. This suggests a moderate effect (Cohen, 1988). Estimated power to predict multiple R^2 was 0.77, indicating the slight possibility of a Type II error.

Although statistically significant in combination, none of the four independent variables were statistically significant predictors on their own: (a) descriptive expository text retelling scores, $B = 0.31, t(40) = 1.41, p = .17, 95\% \text{ CI } [-0.13, 0.74]$; (b) descriptive expository text comprehension question scores, $B = 0.08, t(40) = 0.63, p = .54, 95\% \text{ CI } [-0.18, 0.34]$; (c) sequential expository text retelling scores, $B = 0.11, t(40) = 0.41, p = .68, 95\% \text{ CI } [-0.41, 0.62]$; and (d) sequential expository text comprehension question scores, $B = 0.15, t(40) = 1.70, p = .10, 95\% \text{ CI } [-0.03, 0.33]$. The intercept (or average TTFC-2 score when descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores is 0) was

82.19, statistically significantly different from 0 ($t = 14.91$, $df = 40$, $p = < .001$, 95% CI [71.05, 99.33]). Table 10 summarizes the regression coefficients and standard errors.

Table 10: *Results of Multiple Linear Regression Analysis with comprehension measure scores predicting TTFC-2 scores (N=45)*

| Variable | B | SE_B | β | p |
|---------------------------------|-------|--------|---------|-----|
| Constant | 82.19 | 5.51 | | |
| Des. Exp. Text Retelling Scores | 0.31 | 0.22 | 0.24 | .17 |
| Des. Exp. Text CQ Scores | 0.08 | 0.13 | 0.10 | .54 |
| Seq. Exp. Text Retelling Scores | 0.11 | 0.25 | 0.07 | .68 |
| Seq. Exp. Text CQ Scores | 0.15 | 0.09 | 0.28 | .10 |

Note. B = unstandardized regression coefficient, SE_B = Standard error of the coefficient, β = standard coefficient; Des. Exp. = Descriptive Expository; Seq. Exp.= Sequential Expository; CQ = Comprehension Questions

The model also was tested with the inclusion of text order and measure order. The results of the models were similar. The assumptions were still met and the overall model was still statistically significant. Neither text order nor measure order was statistically significant, indicating results were similar regardless of the text or measure order.

Research Question 3

To what extent can language (i.e., receptive and expressive) ability (as measured by the Assessment of Literacy and Language (ALL) Language Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression analysis was conducted to determine if language ability measured by performance on the Assessment of Literacy and Language (ALL) Language Index

could be predicted from the following comprehension measures: descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores. The null hypotheses tested that the multiple R^2 was equal to 0 and that the regression coefficients (i.e., the slopes) were equal to 0. The data were inspected for missing values and violation of assumptions prior to analysis. There were no missing data. A description of each of the following five assumptions are presented for the multiple linear regression: (a) linearity, (b) normality, (c) independence, (d) homogeneity of variance, and (e) multicollinearity.

Review of the partial scatterplot of independent variables (descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores) and the dependent variable (ALL Language Index scores) indicated linearity is a reasonable assumption. Additionally, with a random display of points falling within an absolute value of 2.5, a scatterplot of unstandardized residuals to predicted values provided further evidence of linearity.

The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk test for normality ($SW = 0.98$, $df = 45$, $p = .62.$), skewness (0.22), and kurtosis (0.07) statistics suggested that normality was a reasonable assumption. The boxplot suggested a relatively normal distributional shape (with no outliers) of the residuals. The Q-Q plot and histogram suggested normality was reasonable. The casewise diagnostic did not reveal any extreme cases with extreme values on the standardized residuals.

A relatively random display of points in the scatterplots of studentized residuals against values of the independent variables and studentized residuals against predicted values provided

evidence of independence. The Durbin-Watson statistic was computed to evaluate independence of errors and was 1.97, which is acceptable. This suggests that the assumption of independent errors was met. Examination of these plots also indicated evidence of homogeneity of variance.

Diagnostics were reviewed to address potential collinearity issues. Tolerance was greater than .10 (.69, .70, .67, .70), and the variance inflation factor was less than 10 (1.45, 1.42, 1.49, 1.43), suggesting that multicollinearity was not an issue. The collinearity diagnostics were reviewed. Additionally, the eigenvalues (.26, .13, .08, .07) and condition indices (4.12) suggested that multicollinearity was not an issue.

The results of the multiple linear regression model suggested that a significant proportion of the total variation in language (i.e., receptive and expressive) ability, as measured by the ALL Language Index, was predicted by the linear combination of descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores, $F(4, 40) = 18.03$, $p < .001$, $R^2 = .64$, $R^2_{adjusted} = .61$. The multiple R^2 values indicated that approximately 64% of the variation in the ALL Language Index scores was explained by descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores. This suggests a large effect (Cohen, 1988). Estimated power to predict multiple R^2 is at the maximum, 1.00.

Although statistically significant in combination, only two of the four independent variables were statistically significant predictors on their own. Sequential expository text retelling scores significantly predicted the ALL Language Index scores, $B = 0.64$, $t(40) = 3.78$, $p = .001$, 95% CI [0.30, 0.98]; with every one-point increase in the ALL Language Index scores,

the sequential expository text retelling scores increase by approximately 0.64 when controlling for descriptive expository text retelling scores, descriptive expository text comprehension question scores, and sequential expository text comprehension question scores. Sequential expository text comprehension question scores significantly predicted the ALL Language Index scores, $B = 0.21$, $t(40) = 3.53$, $p = .001$, 95% CI [0.09, 0.33]; with every one-point increase in the ALL Language Index scores, the sequential expository text comprehension question scores increase by approximately 0.21 when controlling for descriptive expository text retelling scores, descriptive expository text comprehension question scores, and sequential expository text retelling scores. The following two independent variables were not statistically significant predictors on their own: (a) descriptive expository text retelling scores, $B = 0.29$, $t(40) = 2.00$, $p = .053$, 95% CI [-0.01, 0.58]; and (b) descriptive expository text comprehension question scores, $B = 0.06$, $t(40) = 0.75$, $p = .46$, 95% CI [-0.11, 0.23]. The intercept (or average ALL Language Index score when descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores is 0) was 71.23, statistically significantly different from 0 ($t = 19.46$, $df = 40$, $p = < .001$, 95% CI [63.83, 78.63]). Table 11 summarizes the regression coefficients and standard errors.

Table 11: *Results of Multiple Linear Regression Analysis with comprehension measure scores predicting ALL Language Index scores (N=45)*

| Variable | <i>B</i> | <i>SE_B</i> | β | <i>p</i> |
|---------------------------------|----------|-----------------------|---------|----------|
| Constant | 71.23 | 3.66 | | |
| Des. Exp. Text Retelling Scores | 0.29 | 0.14 | 0.23 | .053 |
| Des. Exp. Text CQ Scores | 0.06 | 0.08 | 0.09 | .46 |
| Seq. Exp. Text Retelling Scores | 0.64 | 0.17 | 0.44 | .001 |
| Seq. Exp. Text CQ Scores | 0.21 | 0.06 | 0.40 | .001 |

Note. *B* = unstandardized regression coefficient, *SE_B* = Standard error of the coefficient, β = standard coefficient; Des. Exp. = Descriptive Expository; Seq. Exp.= Sequential Expository, CQ = Comprehension Questions

The model also was tested with the inclusion of text order and measure order. The results of the models were similar. The assumptions were still met and the overall model was still statistically significant. Neither text order nor measure order was statistically significant, indicating results were similar regardless of the text or measure order.

Research Question 4

To what extent can emergent literacy ability (as measured by the Assessment of Literacy and Language (ALL) Emergent Literacy Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression analysis was conducted to determine if emergent literacy ability measured by performance on the Assessment of Literacy and Language (ALL) Emergent Literacy Index could be predicted from the following comprehension measures: descriptive expository text retelling scores, descriptive expository text comprehension question scores,

sequential expository text retelling scores, and sequential expository text comprehension question scores. The null hypotheses tested that the multiple R^2 was equal to 0 and that the regression coefficients (i.e., the slopes) were equal to 0. The data were inspected for missing values and violation of assumptions prior to analysis. There were no missing data. A description of each of the following five assumptions are presented for the multiple linear regression: (a) linearity, (b) normality, (c) independence, (d) homogeneity of variance, and (e) multicollinearity.

Review of the partial scatterplot of independent variables (descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores) and the dependent variable (ALL Emergent Literacy Index scores) indicated linearity is a reasonable assumption. Additionally, with a random display of points falling within an absolute value of 2.5, a scatterplot of unstandardized residuals to predicted values provided further evidence of linearity.

The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk test for normality ($SW = 0.99$, $df = 45$, $p = .84.$), skewness (-0.37), and kurtosis (.45) statistics suggested that normality was a reasonable assumption. The boxplot suggested a relatively normal distributional shape (with one outlier) of the residuals. Excluding the outlier did not alter the findings. The assumptions were still met, and the model was still statistically significant. Additionally, the independent variable sequential expository text retelling scores was still statistically significant and all other independent variables were still non-significant when the outlier was excluded. Therefore, the remaining statistical procedures were conducted as planned with the one outlier included in the analysis. The Q-Q plot and

histogram suggested normality was reasonable. The casewise diagnostic did not reveal any extreme cases with extreme values on the standardized residuals.

A relatively random display of points in the scatterplots of studentized residuals against values of the independent variables and studentized residuals against predicted values provided evidence of independence. The Durbin-Watson statistic was computed to evaluate independence of errors and was 2.31, which is acceptable. This suggests that the assumption of independent errors was met. Examination of these plots also indicated evidence of homogeneity of variance.

Diagnostics were reviewed to address potential collinearity issues. Tolerance was greater than .10 (.69, .70, .67, .70), and the variance inflation factor was less than 10 (1.45, 1.42, 1.49, 1.43), suggesting that multicollinearity was not an issue. The collinearity diagnostics were reviewed. Additionally, the eigenvalues (.26, .13, .08, .07) and condition indices (4.12) suggested that multicollinearity was not an issue.

The results of the multiple linear regression model suggested that a significant proportion of the total variation in emergent literacy ability, as measured by the ALL Emergent Literacy Index, was predicted by the linear combination of descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores, $F(4, 40) = 6.49, p < .001, R^2 = .39, R^2_{adjusted} = .33$. The multiple R^2 value indicated that approximately 39% of the variation in the ALL Emergent Literacy Index scores was explained by descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores.

This suggests a large effect (Cohen, 1988). Estimated power to predict multiple R^2 was .99, indicating a very small possibility of a Type II error.

Although statistically significant in combination, only one of the four independent variables was a statistically significant predictor on its own. Sequential expository text retelling scores significantly predicted the ALL Emergent Literacy Index scores, $B = 0.47$, $t(40) = 2.13$, $p = .04$, 95% CI [0.02, 0.92]; with every one-point increase in the ALL Emergent Literacy Index scores, the sequential expository text retelling scores increase by approximately 0.47 when controlling for descriptive expository text retelling scores, descriptive expository text comprehension question scores, and sequential expository text comprehension question scores. The following three independent variables were not statistically significant predictors on their own: (a) descriptive expository text retelling scores, $B = 0.18$, $t(40) = 0.94$, $p = .36$, 95% CI [-0.21, 0.56]; (b) descriptive expository text comprehension question scores, $B = 0.18$, $t(40) = 1.58$, $p = .12$, 95% CI [-0.05, 0.41]; and (c) sequential expository text comprehension question scores, $B = 0.11$, $t(40) = 1.44$, $p = .16$, 95% CI [-0.05, 0.27]. The intercept (or ALL Emergent Literacy Index score when descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores is 0) was 84.19, statistically significantly different from 0 ($t = 17.42$, $df = 40$, $p = < .001$, 95% CI [74.42, 93.96]). Table 12 summarizes the regression coefficients and standard errors.

Table 12: *Results of Multiple Linear Regression Analysis with comprehension measure scores predicting ALL Emergent Literacy Index scores (N=45)*

| Variable | <i>B</i> | <i>SE_B</i> | β | <i>p</i> |
|---------------------------------|----------|-----------------------|---------|----------|
| Constant | 84.19 | 4.83 | | |
| Des. Exp. Text Retelling Scores | 0.18 | 0.19 | 0.14 | .36 |
| Des. Exp. Text CQ Scores | 0.18 | 0.11 | 0.23 | .12 |
| Seq. Exp. Text Retelling Scores | 0.47 | 0.22 | 0.32 | .04 |
| Seq. Exp. Text CQ Scores | 0.21 | 0.06 | 0.40 | .16 |

Note. *B* = unstandardized regression coefficient, *SE_B* = Standard error of the coefficient, β = standard coefficient; Des. Exp. = Descriptive Expository; Seq. Exp.= Sequential Expository; CQ = Comprehension Questions

The model also was tested with the inclusion of text order and measure order. The results of the models were similar. The assumptions were still met and the overall model was still statistically significant. Neither text order nor measure order was statistically significant, indicating results were similar regardless of the text or measure order.

Research Question 5

To what extent can phonological awareness ability (as measured by the Assessment of Literacy and Language (ALL) Phonological Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression analysis was conducted to determine if phonological awareness ability measured by performance on the Assessment of Literacy and Language (ALL) Phonological Index could be predicted from the following comprehension measures: descriptive expository text retelling scores, descriptive expository text comprehension question scores,

sequential expository text retelling scores, and sequential expository text comprehension question scores. The null hypotheses tested that the multiple R^2 was equal to 0 and that the regression coefficients (i.e., the slopes) were equal to 0. The data were inspected for missing values and violation of assumptions prior to analysis. There were no missing data. A description of each of the following five assumptions are presented for the multiple linear regression: (a) linearity, (b) normality, (c) independence, (d) homogeneity of variance, and (e) multicollinearity.

Review of the partial scatterplot of independent variables (descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores) and the dependent variable (ALL Phonological Index scores) indicated linearity is a reasonable assumption. Additionally, with a random display of points falling within an absolute value of 2.5, a scatterplot of unstandardized residuals to predicted values provided further evidence of linearity.

The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk test for normality ($SW = 0.96$, $df = 45$, $p = .42.$), skewness (-0.12), and kurtosis (-0.82) statistics suggested that normality was a reasonable assumption. The boxplot suggested a relatively normal distributional shape (with no outliers) of the residuals. The Q-Q plot and histogram suggested normality was reasonable. The casewise diagnostic did not reveal any extreme cases with extreme values on the standardized residuals.

A relatively random display of points in the scatterplots of studentized residuals against values of the independent variables and studentized residuals against predicted values provided evidence of independence. The Durbin-Watson statistic was computed to evaluate independence

of errors and was 1.99, which is acceptable. This suggests that the assumption of independent errors was met. Examination of these plots also indicated evidence of homogeneity of variance.

Diagnostics were reviewed to address potential collinearity issues. Tolerance was greater than .10 (.69, .70, .67, .70), and the variance inflation factor was less than 10 (1.45, 1.42, 1.49, 1.43), suggesting that multicollinearity was not an issue. The collinearity diagnostics were reviewed. Additionally, the eigenvalues (.26, .13, .08, .07) and condition indices (4.12) suggested that multicollinearity was not an issue.

The results of the multiple linear regression model suggested that a significant proportion of the total variation in phonological awareness ability, as measured by the ALL Phonological Index, was predicted by the linear combination of descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores, $F(4, 40) = 6.44, p < .001, R^2 = .39, R^2_{adjusted} = .33$. The multiple R^2 value indicated that approximately 39% of the variation in the ALL Phonological Index scores was explained by descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores. This suggests a large effect (Cohen, 1988). Estimated power to predict multiple R^2 was .99, indicating a very small possibility of a Type II error.

Although statistically significant in combination, only one of the four independent variables was a statistically significant predictor on its own. Sequential expository text retelling scores significantly predicted the ALL Phonological Index scores, $B = 0.57, t(40) = 2.10, p = .04, 95\% \text{ CI } [0.02, 1.12]$; with every one-point increase in the ALL Phonological Index scores,

sequential expository text retelling scores increase by approximately 0.57 when controlling for descriptive expository text retelling scores, descriptive expository text comprehension question scores, and sequential expository text comprehension question scores. The following three independent variables were not statistically significant predictors on their own: (a) descriptive expository text retelling scores, $B = 0.32$, $t(40) = 1.39$, $p = .17$, 95% CI [-0.15, 0.79]; (b) descriptive expository text comprehension question scores, $B = 0.22$, $t(40) = 1.60$, $p = .12$, 95% CI [-0.06, 0.50]; and (c) sequential expository text comprehension question scores, $B = 0.09$, $t(40) = 0.95$, $p = .35$, 95% CI [-0.10, 0.29]. The intercept (or ALL Phonological Index score when descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores is 0) was 70.17, statistically significantly different from 0 ($t = 11.83$, $df = 40$, $p = < .001$, 95% CI [58.18, 82.15]). Table 13 summarizes the regression coefficients and standard errors.

Table 13: *Results of Multiple Linear Regression Analysis with comprehension measure scores predicting ALL Phonological Index scores (N=45)*

| Variable | B | SE_B | β | p |
|---------------------------------|------|--------|---------|-----|
| Constant | 70 | 5.93 | | |
| Des. Exp. Text Retelling Scores | 0.32 | 0.23 | 0.21 | .17 |
| Des. Exp. Text CQ Scores | 0.22 | 0.14 | 0.24 | .12 |
| Seq. Exp. Text Retelling Scores | 0.57 | 0.27 | 0.32 | .04 |
| Seq. Exp. Text CQ Scores | 0.09 | 0.10 | 0.14 | .35 |

Note. B = unstandardized regression coefficient, SE_B = Standard error of the coefficient, β = standard coefficient; Des. Exp. = Descriptive Expository; Seq. Exp.= Sequential Expository; CQ = Comprehension Questions

The model also was tested with the inclusion of text order and measure order. The results of the models were similar. The assumptions were still met and the overall model was still statistically significant. Neither text order nor measure order was statistically significant, indicating results were similar regardless of the text or measure order.

Research Question 6

To what extent can sound/letter association ability (as measured by the Assessment of Literacy and Language (ALL) Phonological-Orthographic Index) be predicted by the comprehension of two types of expository text (i.e., descriptive, sequential)?

A multiple linear regression analysis was conducted to determine if sound/letter association ability measured by performance on the Assessment of Literacy and Language (ALL) Phonological-Orthographic Index could be predicted from the following comprehension measures: descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores. The null hypotheses tested were that the multiple R^2 was equal to 0 and that the regression coefficients (i.e., the slopes) were equal to 0. The data were inspected for missing values and violation of assumptions prior to analysis. There were no missing data. A description of each of the following five assumptions are presented for the multiple linear regression: (a) linearity, (b) normality, (c) independence, (d) homogeneity of variance, and (e) multicollinearity.

Review of the partial scatterplot of independent variables (descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository

text retelling scores, and sequential expository text comprehension question scores) and the dependent variable (ALL Phonological-Orthographic Index scores) indicated linearity is a reasonable assumption. Additionally, with a random display of points falling within an absolute value of 2.5, a scatterplot of unstandardized residuals to predicted values provided further evidence of linearity.

The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk test for normality ($SW = 0.99$, $df = 45$, $p = .89$), skewness (-0.01), and kurtosis (-0.20) statistics suggested that normality was a reasonable assumption. The boxplot suggested a relatively normal distributional shape (with two outliers) of the residuals. Excluding the outliers did not alter the findings. The assumptions were still met, and the model was still statistically significant. Additionally, all the independent variables were still non-significant when the outliers were excluded. Therefore, the remaining statistical procedures were conducted as planned with the two outliers included in the analysis. The Q-Q plot and histogram suggested normality was reasonable. The casewise diagnostic did not reveal any extreme cases with extreme values on the standardized residuals.

A relatively random display of points in the scatterplots of studentized residuals against values of the independent variables and studentized residuals against predicted values provided evidence of independence. The Durbin-Watson statistic was computed to evaluate independence of errors and was 2.51, which is acceptable. This suggests that the assumption of independent errors was met. Examination of these plots also indicated evidence of homogeneity of variance.

Diagnostics were reviewed to address potential collinearity issues. Tolerance was greater than .10 (.69, .70, .67, .70), and the variance inflation factor was less than 10 (1.45, 1.42, 1.49,

1.43), suggesting that multicollinearity was not an issue. The collinearity diagnostics were reviewed. Additionally, the eigenvalues (.26, .13, .08, .07) and condition indices (4.12) suggested that multicollinearity was not an issue.

The results of the multiple linear regression model suggested that a significant proportion of the total variation in sound/letter association ability, as measured by the ALL Phonological-Orthographic Index, was predicted by the linear combination of descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores, $F(4, 40) = 4.29, p = .006, R^2 = .30, R^2_{adjusted} = .23$. The multiple R^2 value indicated that approximately 30% of the variation in the ALL Phonological-Orthographic Index scores was explained by descriptive expository text retelling scores, descriptive expository text comprehension question scores, sequential expository text retelling scores, and sequential expository text comprehension question scores. This suggests a large effect (Cohen, 1988). Estimated power to predict multiple R^2 was .93, indicating a small possibility of a Type II error.

Although statistically significant in combination, none of the four independent variables were statistically significantly predictors on their own: (a) descriptive expository text retelling scores, $B = 0.14, t(40) = 0.76, p = .45, 95\% \text{ CI } [-0.23, 0.49]$; (b) descriptive expository text comprehension question scores, $B = 0.16, t(40) = 1.55, p = .13, 95\% \text{ CI } [-0.05, 0.37]$; (c) sequential expository text retelling scores, $B = 0.12, t(40) = 0.59, p = .56, 95\% \text{ CI } [-0.30, 0.54]$; and (d) sequential expository text comprehension question scores, $B = 0.14, t(40) = 1.94, p = .06, 95\% \text{ CI } [-0.01, 0.29]$. The intercept (or ALL Phonological-Orthographic Index score when descriptive expository text retelling scores, descriptive expository text comprehension question

scores, sequential expository text retelling scores, and sequential expository text comprehension question scores is 0) was 97.69, statistically significantly different from 0 ($t = 21.56$, $df = 40$, $p = < .001$, 95% CI [88.53, 106.84]). Table 14 summarizes the regression coefficients and standard errors.

Table 14: *Results of Multiple Linear Regression Analysis with comprehension measure scores predicting ALL Phonological-Orthographic Index scores (N=45)*

| Variable | B | SE_B | β | p |
|---------------------------------|-------|--------|---------|-----|
| Constant | 97.69 | 4.53 | | |
| Des. Exp. Text Retelling Scores | 0.14 | 0.18 | 0.12 | .45 |
| Des. Exp. Text CQ Scores | 0.16 | 0.10 | 0.24 | .13 |
| Seq. Exp. Text Retelling Scores | 0.12 | 0.21 | 0.10 | .56 |
| Seq. Exp. Text CQ Scores | 0.14 | 0.07 | 0.31 | .06 |

Note. B = unstandardized regression coefficient, SE_B = Standard error of the coefficient, β = standard coefficient; Des. Exp. = Descriptive Expository; Seq. Exp.= Sequential Expository, CQ = Comprehension Questions

The model also was tested with the inclusion of text order and measure order. The results of the models were similar. The assumptions were still met and the overall model was still statistically significant. Neither text order nor measure order was statistically significant, indicating results were similar regardless of the text or measure order.

Research Question 7

Is there a relationship between the retelling of the descriptive expository text and the retelling of the sequential expository text (as measured by the researcher created Expository Text Protocol) after controlling for text order and measure order?

To examine the research question, a partial correlation was conducted to assess if a relationship exists between the retelling of the descriptive expository text and the retelling of the sequential expository text on the researcher created Expository Text Protocol, after controlling for text order and measure order. The data were inspected for missing values and violations of assumptions prior to analysis. There were no missing data. A description of each of the following two assumptions are presented for the partial correlation: (a) linearity, and (b) normality.

The scatterplots of the two variables (retelling of the descriptive expository text and retelling of the sequential expository text) indicated that the assumption of linearity was reasonable. Review of Shapiro-Wilk test for normality ($SW_{\text{descriptive text}} = 0.97, df = 45, p = .21$; $SW_{\text{sequential text}} = 0.96, df = 45, p = .18$), skewness (descriptive text = 0.41; sequential text = 0.54), and kurtosis (descriptive expository text = -0.27; sequential expository text = 0.59) suggested that normality was a reasonable assumption. Inspection of both boxplots suggested a relatively normal distribution shape (descriptive expository text - no outliers; sequential expository text - two outliers). The remaining statistical procedures were conducted with the removal of the two sequential text outliers since; they were found to alter the findings.

There was a statistically significant moderate, positive, partial correlation $r(39) = .38, p = .014$ between the retelling of the descriptive expository text ($M = 16.98, SD = 9.23$) and retelling of the sequential expository text ($M = 13.69, SD = 7.21$), controlling for text order and measure order. Results of the zero-order correlation yielded a statistically significant moderately strong, positive correlation between the retelling of the descriptive expository text and the retelling of the sequential expository text, $r(41) = .41, p = .006$, indicating that controlling for

text order and measure order had very little effect on the strength of the relationship between the retelling of the descriptive expository text and the retelling of the sequential expository text.

Research Question 8

Is there a relationship between the comprehension questions for the descriptive expository text and the comprehension questions for the sequential expository text (as measured by the researcher created Expository Text Protocol) after controlling for text order and measure order?

To examine the research question, a partial correlation was conducted to assess if a relationship exists between the comprehension questions for the descriptive expository text and the comprehension questions for the sequential expository text on the researcher created Expository Text Protocol, after controlling for text order and measure order. The data were inspected for missing values and violations of assumptions prior to analysis. There were no missing data. A description of each of the following two assumptions are presented for the partial correlation: (a) linearity, and (b) normality.

The scatterplots of the two variables (comprehension questions for the descriptive expository text and comprehension questions for the sequential expository text) indicated that the assumption of linearity was reasonable. Review of Shapiro-Wilk test for normality ($SW_{\text{descriptive text}} = 0.97$, $df = 45$, $p = .21$; $SW_{\text{sequential text}} = 0.96$, $df = 45$, $p = .18$), skewness (descriptive expository text = 0.41; sequential expository text = 0.54), and kurtosis (descriptive expository text = -0.27; sequential expository text = 0.59) suggested that normality was a reasonable

assumption. Inspection of both boxplots suggested a relatively normal distribution shape (descriptive expository text - no outliers; sequential expository text - no outliers).

There was a statistically significant large, positive, partial correlation $r(41) = .52, p < .001$ between the comprehension questions for the descriptive expository text ($M = 38.89, SD = 16.57$) and the comprehension questions for the sequential expository text ($M = 46.28, SD = 23.52$), controlling for text order and measure order. Results of the zero-order correlation yielded a statistically significant large strong, positive correlation between the comprehension questions for the descriptive expository text and the comprehension questions for the sequential expository text, $r(41) = .51, p < .001$, indicating that controlling for text order and measure order had very little effect on the strength of the relationship between the comprehension questions for the descriptive expository text and the comprehension questions for the sequential expository text.

Summary

In this chapter the results of the data analyses for the eight research questions were presented. This was the first study to investigate the relationship between comprehension of descriptive and sequential expository texts and reader characteristics (i.e., prior knowledge, listening comprehension ability, language ability, and literacy ability) in typically developing kindergarten children. In addition, this study determined if there was a relationship between typically developing kindergarten children's comprehension of descriptive expository text structure and sequential expository text structure as measured by two comprehension measures (i.e., retelling of expository text and answering comprehension questions). The following are the key results:

1. There was not a statistically significant relationship found between prior knowledge of a topic and participants' performance on the four comprehension measures (i.e., descriptive retelling, sequential retelling, descriptive comprehension questions, and sequential comprehension questions).
2. Overall, there was a statistically significant predictive relationship between performance on the four comprehension measures and listening comprehension ability.
3. Overall, there was a statistically significant predictive relationship between performance on the four comprehension measures and language ability.
4. Overall, there was a statistically significant predictive relationship between performance on the four comprehension measures and emergent literacy ability.
5. Overall, there was a statistically significant predictive relationship between performance on the four comprehension measures and phonological awareness ability.
6. Overall, there was a statistically significant predictive relationship between performance on the four comprehension measures and letter/sound (orthographic-phonological) ability.
7. A statistically significant relationship was found between the descriptive expository text retelling and the sequential expository text retelling on the researcher created Expository Text Protocol. The order effects (text order and measure order) had very little effect on the relationship.
8. A statistically significant relationship was found between the descriptive expository text comprehension question measure and the sequential expository text comprehension

question measure on the researcher created Expository Text Protocol. The order effects (text order and measure order) had very little effect on the relationship.

The next chapter will include a discussion of the results, limitations of the study, implications for practice, recommendations for future research, and the conclusion.

CHAPTER FIVE: DISCUSSION

Introduction

The primary purpose of this study was to determine if there is a relationship between the comprehension of descriptive and sequential expository text and reader characteristics (i.e., prior knowledge, listening comprehension ability, language ability, and literacy ability) in typically developing kindergarten children. The aims of this study were: (1) to investigate if there is a relationship between prior knowledge and the comprehension of descriptive or sequential expository text; (2) to determine if the comprehension of descriptive and sequential expository text are important predictors of performance on the Token Test for Children-2 (TTFC-2) and the Assessment of Literacy and Language (ALL); and (3) to determine if there is a correlation between the descriptive and sequential expository text comprehension measures (i.e., retelling of expository text and answering comprehension questions) on the researcher created Expository Text Protocol.

Study results will be discussed in light of prior research for each of the three primary aims of the study. The chapter concludes with study limitations, practical implications and suggestions for future research.

Relationship of Prior Knowledge and Comprehension of Expository Text

This was the first study, to this researcher's knowledge, investigating the relationship between prior knowledge and the comprehension of descriptive and sequential expository text with kindergarten children. In this study, kindergarten children's prior knowledge was assessed by asking them to tell what they know about frogs prior to listening to two expository texts, one

with a descriptive expository text structure and one with a sequential expository text structure. On average, the participants were able to tell four facts about frogs before exposure to the expository texts used in the study. The most common responses included: “Frogs are green”, “They jump/hop”, “They swim in water”, and “Frogs go on lily pads”. However, prior knowledge about frogs varied considerably among participants. The number of facts mentioned by individual participants ranged from one to nine facts. A number of children ($n=7$) were only able to tell one to two facts about frogs, possibly indicating *limited* prior knowledge of frogs. However, some children ($n=3$) demonstrated greater prior knowledge by telling eight to nine facts about frogs. The majority of the participants were able to tell between three to seven facts about frogs.

In this study, however, a significant relationship was not found between participant’s prior knowledge of frogs and their ability to comprehend expository texts (i.e., descriptive and sequential). This finding was unexpected since previous research conducted with older children (i.e., third grade) has indicated that prior knowledge plays an important role in the ability to comprehend expository text (Best et al., 2008; McNamara et al., 2004). A study by Best et al. (2008) found that approximately 14% - 19% of the variance in an expository comprehension measure given to third grade children was accounted for by world knowledge as measured by the Academic Knowledge subtest that is part of the Woodcock-Johnson III Tests of Achievement (WJ-III ACH). In the current study only 2% - 7% of the variance in the expository text measures (i.e., retelling and comprehension questions) was accounted for by the participant’s prior knowledge of frogs, indicating the effect is trivial.

There were a number of important differences between the current study and the one conducted by Best et al. (2008) that may have contributed to the inconsistency between the findings. Three of the most obvious discrepancies are the following: (1) age of the participants, (2) the type of content measured, and (3) the types of measures used to assess prior knowledge. The participant's in the Best et al. (2008) study were older than the participants in this study. The older children might have had more life experiences, greater world knowledge and/or additional exposure to expository texts. In this study, the content assessed focused on the narrow topic of frogs; whereas in the Best et al. (2008) study, the content assessed included various subjects (e.g., biology, history, government, and art) and was referred to as world knowledge. In addition, the types of measures used to assess prior knowledge were completely different. The current study utilized a researcher created prior knowledge prompt (Tell me everything you know about frogs?) to elicit kindergarten children's prior knowledge. In their study, Best et al., (2008) used a valid and reliable standardized measure (i.e., WJ-III ACH Academic Knowledge subtest) to assess broad prior knowledge of academic content. These major differences between the studies make it difficult to draw conclusions based on prior research.

Although results of the current study were not significant with regard to prior knowledge and the comprehension of expository texts, a comparison of the individual children's responses on the prior knowledge prompt and their responses on the retelling comprehension measure, revealed that the retelling responses included more facts about frogs than their responses to the prior knowledge question. In addition, specific elements of the descriptive and sequential expository text structures also were included in their retellings. Two examples are provided to illustrate these points. The first example is related to prior knowledge and the comprehension of

descriptive expository text. In response to the prior knowledge prompt (Tell me everything you know about frogs?), one participant stated: “They jump. Frogs are green and um frogs eat bugs.” After hearing the descriptive expository text read aloud the participant retold content specific to the descriptive text that was not included in their response to the prior knowledge question: “Frogs have um big eyes so they can see and frogs eat insects and worms. Frogs have sticky tongues.” This child clearly incorporated more descriptive elements into his retell demonstrating acquisition of new knowledge gleaned from the descriptive expository text as well as an increased understanding of the descriptive expository text structure. Indeed, the majority of all the participants’ responses to the prior knowledge question were comprised of descriptive information (e.g., “Frogs can jump...they can hide in trees...um they can catch insects with their long sticky tongues”).

The second example is related to prior knowledge and the comprehension of sequential expository text. Interestingly, only four participants, in response to the prior knowledge prompt, included information related to the life cycle of a frog. One of the participants demonstrated some awareness about the life cycle of frogs by stating, “they lay eggs”; whereas, three other participants demonstrated more knowledge about the life cycle of frogs (e.g., After they crack out of their eggs, they are tadpoles and then they turn into frogs), even though, the details were not always entirely accurate (e.g., they have first is um the their tails, and after a couple of years they grow um two feet...). After hearing the sequential text read aloud, these four participants expanded their knowledge about the life cycle of a frog, just as they had extended their prior knowledge about frogs after the descriptive text was read aloud. To illustrate, the participant that demonstrated some awareness of the life cycle of the frog (“they lay eggs”) retold the sequential

expository text in the following way, “A frog’s life cycle is four things. First comes a mom frog. In the spring she lays her eggs and then the babies turn into tadpoles... then they turn into a frog and it happens all over again”. Also, the three other participants appeared to use linguistic structures representing the sequential text structure in their retelling (e.g., she lays the eggs, then they hatch, they turn into tadpoles and then they grow a tail, now it's called a froglet and then it's called a frog.). Furthermore, after the sequential expository text was read aloud, the majority of participant responses were comprised of sequential information (e.g., “The mother frog lays her eggs. The eggs hatch...they grow a tail...and then their tail disappears...and they turn into a frog.”).

Although a statistically significant relationship between prior knowledge and comprehension of expository text was not found in this study of kindergarten children, it was apparent that the majority of the participants did build upon and expand, to some degree, their knowledge of frogs as well as begin to include more descriptive and sequential expository text elements in their retelling of the texts. Caswell et al. (1998) made a strong case that the incorporation of expository text into children’s education can help to build upon children’s prior knowledge, which appeared to be the case in this study.

Relationship of Listening Comprehension Ability, Language Ability, and Literacy Ability to the Comprehension of Expository Text

This was the first study, to this researcher’s knowledge, investigating the relationship between the comprehension of descriptive and sequential expository text and reader characteristics (i.e., listening comprehension ability, language ability, and literacy ability) in typically developing kindergarten children. In this study, kindergarten children’s comprehension

of descriptive and sequential expository text was assessed using a retelling measure and a comprehension question measure. The results of the study revealed a significant relationship between each of the reader characteristics: (i.e., listening comprehension ability, language ability, and literacy ability) and the comprehension of both descriptive and sequential expository text. Although previous studies have not been conducted to explore these relationships with kindergarten children, the results of this study were expected considering the relationship between the components of language and literacy (listening, speaking, reading, and writing), which has been established in research (Catts & Kamhi, 2005; Cohen & Cowen, 2008; Englert et al., 1987; Hiebert, 1980, Snow, 1983; Teale & Sulzby, 1986). The findings of this study and the relationships between the variables are discussed further.

A statistically significant relationship was found between the children's comprehension of the descriptive and sequential expository text and their listening comprehension ability as measured on the TTFC-2. In the current study, children with stronger listening comprehension (e.g., receptive language, following directions) performed statistically significantly better on the descriptive and sequential expository text measures. It is apparent that, listening comprehension ability aids the comprehension of descriptive and sequential expository text.

Another statistically significant relationship was found between the children's comprehension of descriptive and sequential expository texts and their performance on the ALL, which explored children's language and literacy ability. This study found statistically significant relationships between all four of the ALL Index scores (Language Index, Emergent Literacy Index, Phonological Index, and Phonological-Orthographic Index) and the comprehension of descriptive and sequential expository text.

The first relationship explored children's language ability as measured by the Language Index on the ALL. A statistically significant relationship was found between the comprehension of descriptive and sequential expository text and language ability. The children completed a variety of tasks on the ALL that assessed their expressive and receptive language (i.e., understand concepts related to size, number, location, shape, position, and comparison; understand the meaning of more difficult nouns and verbs; identify and express similarities between two words; produce a variety of grammatical morphemes and syntactic structures; and understand stories increasing in length and complexity). In this study, children with stronger language abilities (i.e., receptive and expressive) performed statistically significantly better on the descriptive and sequential expository text measures than children with weaker language abilities. This finding revealed that children's overall language ability is a critical factor in being able to comprehend descriptive and sequential expository text.

The second relationship explored children's emergent literacy ability as measured by the Emergent Literacy Index on the ALL. A statistically significant relationship was found between the comprehension of descriptive and sequential expository text and emergent literacy ability. The children completed a variety of tasks on the ALL that assessed their emergent literacy skills. The Emergent Literacy Index score includes the subtest scores from both the Phonological Awareness Index and the Phonological-Orthographic Index. Children with stronger emergent literacy skills performed statistically significantly better on the descriptive and sequential expository text measures than the children with weaker emergent literacy skills. The finding suggests that children's overall emergent literacy ability also appears to be crucial for comprehending descriptive and sequential expository text.

The third relationship explored children's phonological awareness ability as measured by the Phonological Index on the ALL. A statistically significant relationship was found between the comprehension of descriptive and sequential expository text and phonological awareness ability. The children completed a variety of tasks on the ALL that assessed their phonological awareness ability (i.e., indicate if two words rhyme, identify words that do not rhyme, produce their own rhyming words, manipulate sounds in words, and recognize the first sound in a word). In this study, children with stronger phonological awareness skills performed statistically significantly better on the descriptive and sequential expository text measures than children with weaker phonological awareness skills. Based on this finding, children's phonological awareness skills are important for comprehending descriptive and sequential expository text.

The last relationship explored children's letter/sound association ability as measured by the Phonological-Orthographic Index on the ALL. A statistically significant relationship was found between the comprehension of descriptive and sequential expository text and letter/sound association ability. The children completed a variety of tasks on the ALL that assessed alphabet knowledge and word identification (i.e., identify letters, name letters and write letters; tell what sound letters make, tell what sound each group of letters make, and sound out nonsense words; and read a list of sight words increasing in difficulty). In this study, children with stronger alphabet knowledge and word identification skills performed statistically significantly better on the descriptive and sequential expository text measures than children with weaker alphabet knowledge and word identification skills. Based on these findings, children's alphabet knowledge and word identification skills are important for comprehending descriptive and sequential expository text.

Further inspection of the regression models, revealed that (when controlling for the variance contributed by each of the comprehension measures (i.e., retelling and comprehension questions) for the descriptive and sequential expository texts), certain individual expository text comprehension measures were found to be significant predictors, of the achievement levels on the TTFC-2 and the ALL assessments. These findings are discussed below.

Two of the four expository text comprehension measures (i.e., sequential expository text retelling and sequential expository text comprehension questions) were found to be powerful predictors of the children's language ability as measured by the Language Index on the ALL. And, one of the four expository text comprehension measures (i.e., sequential expository text retelling) was found to be a powerful predictor of the children's literacy abilities as measured by the Emergent Literacy Index and the Phonological Awareness Index on the ALL.

However, none of the expository text comprehension measures (i.e., descriptive expository text retelling, descriptive expository text comprehension questions, sequential expository text retelling, and sequential expository text comprehension questions) were found to be significant on their own in predicting the children's listening comprehension as measured by the TTFC-2 or for predicting children's letter/sound association ability as measured by the Phonological-Orthographic Index on the ALL.

The current study suggests that the children's performance on the sequential retelling measure was significantly predictive of their language and literacy achievement as measured by the Language Index, Emergent Literacy Index and the Phonological Awareness Index on the ALL. That is, children with higher comprehension retelling scores tended to perform higher on all three of the ALL Index scores (Language Index, Emergent Literacy Index, and Phonological

Awareness Index) than, children with lower comprehension retelling scores. However, more research is needed to fully explain the basis of these significant findings.

Comprehension of Descriptive and Sequential Expository Text Structures

This study was the first to focus specifically on the comprehension of descriptive and sequential expository text of kindergarten children. While several studies have been conducted to investigate primary grade children's comprehension of expository text, none of the previous studies, which included kindergarten children, clearly identified the type of expository text used in the study.

For the current study, the researcher created two books, one with a descriptive expository text structure and one with a sequential expository text structure. The descriptive text structure provided descriptive details about frogs, whereas the sequential text structure focused on the sequential stages in the life cycle of frogs. An Expository Text Protocol was developed to assess participant's comprehension of expository text and included the following comprehension measures: descriptive expository text retelling, descriptive expository text comprehension questions, sequential expository text retelling, and sequential expository text comprehension questions. Overall, the participants performed similarly on the expository text retelling and comprehension question measures. The participants were able to retell on average 7 out of a possible 40 (17.5%) details about the descriptive expository text and 5 out of a possible 37 (13.5%) details about the sequential expository text. Also, participants were able to answer on average 4 out of a possible 12 (33%) descriptive comprehension questions and 5 out of a possible 12 (42%) sequential comprehension questions.

The findings from this study revealed that kindergarten children were able to comprehend, at least to some degree, both descriptive and sequential expository texts is consistent with other researcher's findings regarding the comprehension of expository text of primary grade children (Duke et al., 1998; Moss, 1997; Pappas 1990, 1991, 1993). Specifically, two previous studies (Duke et al., 1998; Pappas 1990, 1991, 1993) focused on kindergarten children and their ability to comprehend both narrative and expository texts. While the results of these two studies found that kindergarten children were able to comprehend expository text, neither study specified the type of expository text structures used in their studies, making it difficult to make more specific comparisons regarding comprehension of expository text types. Additionally, the types of measures and data analyses utilized in the Duke et al. (1998) and Pappas (1990, 1991, 1993) studies varied compared to this study. The current study included both descriptive and correlational analyses that examined if relationships exist between the variables of interest. The Duke et al. (1998) and Pappas (1990, 1991, 1993) studies included qualitative descriptive information focusing on similarities and/or differences between narrative and expository text. In addition, the Duke et al. (1998) study provided descriptive statistics (e.g., frequency counts and means) regarding the participant's use of nine informational book features (e.g., timeless verbs constructions, technical vocabulary) in their September and December pretend readings. Although there were methodological differences between studies, the results of this study were consistent with previous studies. That is, children as young as kindergarten can be successful in both understanding expository text and incorporating text-based language features in their retelling of expository text.

It could not be determined from the results of this study which of the two expository text structures was easier or more difficult for kindergarten children to comprehend. Determining whether or not there is a sequential developmental progression with regard to the comprehension of various expository text types would be helpful for curriculum planning. Of course it is also possible that comprehension of expository text structures may develop differently for each child based on exposure to expository text in the home, the instructional practices in the school setting and the language and literacy abilities of the child and family members. Therefore, kindergarten children may have greater or lesser knowledge of certain expository text structures based on exposure and experiences. Further research is needed to unravel the complexities underlying the comprehension of expository texts.

Limitations

Several limitations are important to note, before addressing the implications of this study's findings. The first limitation is the small sample size ($N=45$). The sample was of convenience; therefore, the results may only apply to the participants in this study. A larger sample size could increase study power; therefore, providing greater confidence in the outcomes (e.g., detecting true correlations) and in the interpretation of study results (e.g., minimizing erroneous conclusions).

Second, many of study participants appear to have been from more advantaged socioeconomic backgrounds based on parental educational levels, location of the school within the community, and demographic data (free and reduced- priced lunch information). Socioeconomic status plays a vital role in young children's acquisition of language and literacy

skills, and is a strong predictor of their future success in school (Hart and Risley, 1995). Children from low socioeconomic backgrounds are less likely to have rich experiences that foster the development of the fundamental language and literacy skills (Buckingham, Beaman, & Wheldall, 2014; Hart et al., 1995). As a result, many of these children enter school with poorly developed oral language, vocabulary knowledge, and phonological awareness ability (Buckingham et al., 2014). Although we cannot be certain, the participants in this study may have been exposed to more enriched language and literacy environments. The inclusion of families from more varied socioeconomic groups may provide a broader perspective for understanding the comprehension of descriptive and sequential expository text types in primary grade children.

Finally, the researcher created Expository Text Protocol was only piloted with one typically developing kindergarten child. The Expository Text Protocol needs further validation as a reliable, credible measure for use in examining the comprehension of expository text. Possible modifications may need to be made with regard to the texts themselves that were read aloud to the participants as well as to the types of questions that were asked on the comprehension measure.

Implications for Practice

Primary grade children are being increasingly exposed to a variety of expository text types in the classroom. They are expected to be able to comprehend and discuss information from these texts as well as to begin to write in an expository text style. Presently, educators are feeling the push for children in all grade levels, kindergarten through twelve, to be reading and

comprehending a significant amount of expository texts based on recommendations made in the literature (Caswell et al., 1998; Duke, 2000; Duke et al., 2000, Pappas, 1990, 1991, 1993; Shanahan et al. 2010) and the CCSS (2010). Results of this study have revealed some implications for researchers and educators in considering assessment and instructional practices using expository text with typically developing kindergarten children.

This study revealed that kindergarten children were able to comprehend descriptive and sequential expository text structures as well as use expository language that reflects both descriptive and sequential expository text structures. The inclusion of expository books in the classroom, including those with descriptive and sequential text structures, appears to be worthwhile as an aid to increase children's use of expository language and to build subject knowledge.

This study also has provided preliminary evidence of a relationship between the comprehension of descriptive and sequential expository texts and the language and literacy abilities of kindergarten children. The incorporation of expository text early on in a child's educational journey conceivably could facilitate the development of not only their expository language, but also their overall language and literacy growth. Furthermore, it may be beneficial for educators to include expository texts in classroom instructional and assessment practices. Comprehension measures that include comprehension questions as well as the retelling of expository texts have the potential to provide insight into typically developing kindergarten children's language and literacy abilities.

Recommendations for Further Research

The importance of promoting exposure to and instruction in expository text early on in children's academic career is a current emphasis for both researchers and educators. The outcomes of this study provide a starting point for understanding the relationship between the comprehension of expository text and reader characteristics. Further research is needed in order to understand the impact that exposure to and instruction in expository text in the primary grades could have on academic success.

This study employed a correlational research design in order to investigate and measure the statistical relationship between the comprehension of descriptive and sequential expository text and reader characteristics (i.e., prior knowledge, listening comprehension ability, language ability, and literacy ability) in typically developing kindergarten children. Results revealed that a statistically significant relationship does exist between comprehension of descriptive and sequential expository text and all of the reader characteristics, except for prior knowledge. This study is a starting point in closing the existing gap in the literature that focuses primarily on older children.

Future research should include intervention studies (i.e., randomized control trials) with kindergarten children. There are no known intervention studies focusing on comprehension of expository text with kindergarten children. Studies that examine instructional practices would provide a needed evidence-base for best practice. Additionally, one must highlight the fact that there is a need for longitudinal research, which could provide insight into the developmental progression of expository text structures, the comprehension of expository text structures overtime, and ultimately inform classroom instruction.

Also, there is a need for reliable and valid protocols for measuring comprehension of expository text. Future research priorities could include refining and modifying the researcher created Expository Text Protocol used in this study or developing and testing new measures. A valid and reliable measure of expository text comprehension that could be effectively and efficiently administered in the classroom could provide classroom educators with information about children's strengths and weaknesses. Thus, allowing for progress monitoring of children's individual growth as well as identifying children that may be at-risk for language and literacy difficulties and in need of referral for further assessment.

For the purpose of this study, two books were created to represent a descriptive expository text structure and a sequential expository text structure. Further research investigating the comprehension of other types of expository text structures found within the primary grades (e.g., compare and contrast, cause and effect, and problem and solution) would provide additional support for curriculum development and classroom instruction. Currently, there is limited empirical evidence focusing on the comprehension of expository text types found in kindergarten and the primary grade classrooms.

Further aspects to consider when conducting future research are variables that could potentially influence the design of research-based expository text assessments and instructional materials such as participant's interest in the topic(s) (e.g., frogs, turtles, or butterflies) and their genre preference(s) (e.g., poems, narrative, or expository). These variables (i.e., interest and preference) tap into children's motivation, which could affect their overall performance. Future researchers could include these variables to explore if there are differences in children's comprehension of various expository texts structures based on participant's interest levels (e.g.,

low versus high) of the topic(s) and/or genre preference(s). In addition, future studies should explore gender (boys and girls) differences, since there is some research that suggests that boys tend to show a stronger preference and interest for expository text than girls (Correia, 2011; Mohr, 2006; Yopp et al., 2006).

Also, it would be worthwhile for future researchers focusing on expository text to include: children of varying ages (preschool through second grade) at-risk for language, literacy, and academic difficulties as well as, children with varying language and learning disabilities to see whether the results vary based on age and/or grade level. Finally, future investigations with language and/or learning disabilities populations would expand the results of the current study and provide further information regarding comprehension of expository text structures and reader characteristics (i.e. prior knowledge, listening comprehension ability, language ability, and literacy ability) for a more diverse set of kindergarten learners. As we know, these populations continue to fall further and further behind as they progress through school due to increasing language and literacy demands in the classroom and beyond.

Conclusion

This study was the first to investigate if there was a relationship between the comprehension of descriptive and the sequential expository text structures and reader characteristics (i.e. prior knowledge, listening comprehension ability, language ability, and literacy ability) for typically developing kindergarteners. Both of these expository text structures are commonly found in the kindergarten curricula. The study revealed that typically developing kindergarten children were able to comprehend descriptive and sequential expository text

structures. Statistically significant relationships were found between all of the reader characteristics, except for prior knowledge, and the comprehension of descriptive and sequential expository text. Study results indicated that the incorporation of descriptive and sequential expository text structures into the kindergarten curricula is appropriate and may be beneficial in expanding children's use of expository language found in these types of texts. In turn, exposure to expository texts may facilitate language and literacy growth and build upon kindergarten children's existing prior knowledge. Exposure to and interactions with descriptive and sequential expository text structures appears to be valuable in contributing to children's language and literacy growth, and potentially their future academic success.

APPENDIX A: PARENT QUESTIONNAIRE

Parent Questionnaire

Child's Name: _____ Child's Date of Birth: _____
 Parent(s)'s/Guardian(s)'s Name(s): _____
 Phone Number: _____

1. What is the language most frequently spoken/primary language of the home?
 _____ English
2. Which language did the child first speak?
 _____ English
3. Which language does the child speak most frequently with you?
 _____ English
4. Which language does the child speak with siblings/friends?
 _____ English
5. Has your child ever been identified as having a disability? Yes No
 If so, by whom, what age, & what disability?

6. Has your child ever participated in therapy services from a private entity? (i.e.,
 speech, occupational, physical, vision, etc.)? Yes No
 If so, by whom (professional/agency) and when:

Child Care: Please indicate primary care before entering kindergarten.

| | | How long? |
|----------------------------|--|-----------|
| Care from a parent | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Care from a relative | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Care from a non-relative | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Head Start | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Daycare center (Nursery) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Daycare center (Preschool) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |

Parents Educational History: Please indicate highest level completed.

| | Mother | Father |
|----------------------------------|--------|--------|
| Less than high school (K-11) | | |
| High school or GED | | |
| Some college or technical school | | |
| Bachelor's degree | | |
| Graduate degree | | |

**** Please complete and return the Parent Questionnaire and the Parent/Guardian Consent Form to your child's teacher by April 8th, 2015 in the envelop provided.****
 Thank You! Ms. Cheran Zadroga (Ms. Z)

APPENDIX B: CONSENT FORM



The Relationship Between Knowledge of Descriptive and Sequential Expository Texts and Reader Characteristics in Typically Developing Kindergarten Children

Informed Consent from a Parent for a Child in a Non-Exempt Research Study

Principal Investigator: Cheran Zadroga, M.A., CCC-SLP
Faculty Advisor: Jamie Schwartz, PhD., CCC-SLP

Investigational Site(s): "Local Public School District"
"Local Elementary School"

How to Return this Consent Form: You are provided with two copies of this consent form. If you give consent for your child to participate in the research, please sign one copy and return it to your child's teacher and keep the other copy for your records.

Introduction: Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You are being asked to allow your child to take part in a research study, which will include about 98 students at "Local Elementary School". Your child is being invited to take part in this research study, because he or she is a kindergarten student at "Local Elementary School".

The person conducting this research is Cheran Zadroga, M.A. CCC-SLP (Ms. Z) of UCF's Communication Sciences and Disorders Department and speech-language pathologist at "Local Elementary School". Because the researcher is a doctoral student, she is being guided by Dr. Jamie Schwartz, a UCF faculty supervisor and Associate Professor in the Communication Sciences and Disorders Department.

What you should know about a research study:

- Someone will explain this research study to you.
- A research study is something you volunteer for.
- Whether or not you take part is up to you.
- You should allow your child to take part in this study only because you want to.
- You can choose not to take part in the research study.
- You can agree to take part now and later change your mind.
- Whatever you decide it will not be held against you or your child.
- Feel free to ask all the questions you want before you decide.

Purpose of the research study: The purpose of this study will be to determine if there is a significant relationship between knowledge of descriptive and sequential expository (informational) texts and reader characteristics (i.e., language ability, emergent literacy ability, prior knowledge, and general listening ability) in kindergarten children. Expository (informational) text is nonfiction text that includes facts so

Permission to Take Part in a Human Research Study

new information can be learned about a specific topic. Results of this study will provide educators, administrators, and researchers with information about kindergarten student's knowledge of and ability to retell descriptive and sequential expository (informational) texts. Currently, more developmental research is needed to support the use of descriptive and sequential expository (informational) text in kindergarten classrooms. Learning about the relationship between knowledge of expository (informational) texts and reader characteristics could add to the literature base and inform decision making about the kindergarten curriculum. Ultimately, kindergarten students will benefit from the implementation of developmentally appropriate teaching practices that enhance language and literacy skills and future academic growth.

What your child will be asked to do in the study:

First, your child will have to meet the eligibility criteria of the study by completing the following:

- Bilateral hearing screening if the researcher cannot verify normal hearing through school records;
- K-BIT-2 Matrices Subtest to measure nonverbal performance;

If your child meets eligibility criteria, then your child will participate in the following assessments:

- Token Test For Children-2nd Edition (McGhee, Ehrler, & DiSimoni, 2007) to measure listening ability;
- Assessment of Literacy and Language (ALL) (Lombardino, Lieberman & Brown, 2005) to measure oral language and emergent literacy skills;
- Researcher developed Descriptive and Sequential Expository Text Protocol;

All testing will be completed in a quiet classroom or resource room on the school campus during school hours and/or after school hours depending on your preference. The researcher, a certified and licensed speech- language pathologist (SLP), will administer the standardized assessments and the researcher created Expository Text Protocol to your child. Your child does not have to answer every question or complete every task. You or your child will not lose any benefits if your child skips questions or tasks.

Location: The research study will be conducted at "Local Elementary School" during school hours and after school hours.

Time required: We expect that your child will be in this research study for 2 sessions lasting approximately 50-60 minutes each session.

Audio taping: Your child will be audio taped during this study so that the researcher can verify your child's responses after completion of each testing session. If you do not want your child to be audio taped, your child will not be able to participate in the study. Discuss this with the researcher if you have questions. If your child is audio taped, the tape will be kept in a locked, safe place. The audiotape will be erased or destroyed when the researcher completes the study.

Risks: There are no reasonably foreseeable risks or discomforts involved in taking part in this study. Your participation and your child's participation in this study is completely voluntary. You both may stop participating in the study at any time without penalty.

Benefits: There are no expected benefits to your child for taking part in this study besides learning more about how research is conducted. The information we gather from this study, however, may be used to help further the research base about kindergarten children's knowledge of expository texts and the UCF IRB Version Date: 01/2010

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relationship to reader characteristics such as language ability, emergent literacy ability, prior knowledge, and general listening ability

Compensation or payment: There is no compensation or other payment to you or your child for your child's participation in this study. Your child will receive a pencil, sticker or eraser at the end of each assessment session.

Confidentiality: We will limit your personal data collected in this study. Efforts will be made to limit your child's personal information to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the Institutional Review Board (IRB) and other representatives of the University of Central Florida.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints, or think the research has harmed your child you may talk to: Cheran Zadroga, Doctoral Student, Communication Sciences and Disorders Track, College of Education, (407) 249-4747 ext. 4202301 or contact her by email at czadroga@knights.ucf.edu or Dr. Jamie Schwartz, Associate Professor, Department of Communication Sciences and Disorders at (407) 823-4798 or by email at jamie.schwartz@ucf.edu.

IRB contact about you and your child's rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

Withdrawing from the study: You may decide not to have your child continue in the research study at any time without it being held against you or your child. If you decide to have your child leave the study, please contact the investigator so that the investigator can recruit a new participant.

Permission to Take Part in a Human Research Study

Please check off the box that indicates when you would prefer your child to participate in the study.

- During school hours
- After school hours
- Anytime (during and/or after school hours)

Your signature below indicates your permission for the child named below to take part in this research.

DO NOT SIGN THIS FORM AFTER THE IRB EXPIRATION DATE BELOW

Name of participant

Signature of parent or guardian

Printed name of parent or guardian

Date

- Parent
- Guardian (see note below)

Note on permission by guardians: An individual may provide permission for a child only if that individual can provide a written document indicating that he or she is legally authorized to consent to the child's general medical care. Attach the documentation to the signed document.

IRB Expiration Date: 3/1/2016

UCF IRB Version Date: 01/2010

APPENDIX C: EXPOSITORY TEXT PROTOCOL

Expository Text Protocol

Prior Knowledge Script:

- 1) Use the following dialogue when inquiring about the participant's prior knowledge: **"Tell me everything you know about frogs"**.
 - a) The following three prompts are to be used only when necessary.
 - i) If the child has difficulty expressing anything, suggest beginning with **"Frogs..."**
 - ii) If the child stops responding, encourage continuation by asking,
 - (1) **"Can you tell me anything more about frogs?"**
 - (2) **"Is there anything else you would like to tell me about frogs?"**
 - (3) **"Are you finished?"**
 - iii) When the child finishes telling what he/she knows about frogs or if the child doesn't respond to the prompts, then end prior knowledge testing.

Descriptive Expository Text: Retelling Script - (check order story is read to the participant)

- 1) Before Reading the Descriptive book:
 - a) Before reading the book use the following instructions: **"I am going to read a book to you about Frogs. I want you to listen carefully, because when I am finished reading, you are going to tell me the same story I tell you."**
 - b) Start reading the book to the participant.
 - i) Frogs are amphibians with huge eyes. In fact, their big eyes see in all directions. Frogs live in places such as on land, in water and in trees. Frogs can grow to be different sizes. For example: The biggest frogs grow up to 12 inches long and the smallest are half an inch long. Some frogs have long back legs to swim and leap. Other frogs have short, thick back legs to dig into the mud. Green and brown frogs hide from their enemies. In fact, they blend in with plants, mud and water. Few animals eat red, yellow or blue frogs. In fact, bright skin colors are warnings that a frog tastes bad. Frogs eat insects like flies, and worms. Frogs catch their food with long, sticky tongues. Most importantly, frogs are interesting animals to learn about.

- 2) After reading the Descriptive book:
- a) Ask the child to retell the story using the following instructions: **"I just read you a book about frogs. Tell me the story, I just told you. Tell it to me as if you were telling it to a friend who has never heard it before."**
- i) The following three prompts are to be used only when necessary.
- (1) If the child has difficulty starting to retell the book suggest beginning with:
- (a) **"The story was about..."**
- (2) If the child does not understand the directions or the process of retelling, then say:
- (a) **"Remember the story I told you? I need you to try to tell me that story."**
- (b) **"Think about the story I told you."**
- (3) If the child goes off topic, then say:
- (a) **"When you are finished telling me the story I told you, we can talk about other things."**
- (4) If the child stops retelling, encourage continuation by asking,
- (a) **"Tell me what else you remember about frogs?"**
- (b) **"Can you tell me more about frogs?"**
- (5) If a child stops retelling and cannot continue with the prompts offered above, then end this section of testing.

Descriptive Expository Text: Comprehension Questions Script - (check order comprehension questions are given to the participant)

- 1) Use the following instructions when asking the comprehension questions: **"I am going to ask you some questions about what I just read. Listen carefully as I ask you the questions. If you need me to say any of the questions again, tell me."**
- a) The following two prompts are to be used only when necessary.
- i) If the child has difficulty starting to answer questions, suggest beginning with
- (1) **"The answer is...?"**
- ii) If the child stops answering the questions, ask,
- (1) **"Can you tell me more?"** or

- (2) If it has an **(*)** then say the specific prompt noted under the question.
- iii) If a child stops answering the questions and cannot continue with the prompts offered above, then end this section of testing.

2) Factual Text-based Comprehension Questions – Descriptive Expository Text

- a) What do frogs eat?
- i) (1) *Prompt: What else do frogs eat?
- b) What kind of animals are frogs?
- c) What sizes are frogs?
- d) What body parts do frogs have?
- e) What do frogs do with their legs?
- (1) *Prompt: Can they do anything else with their legs?
- f) What colors are frogs?
- g) Where do frogs live?
- (1) *Prompt: Can they live anywhere else?
- h) Why do animals not eat red, yellow or blue frogs?
- i) How do frogs catch their food?
- j) How does a frog protect itself?

3) Inference Comprehension Questions – Descriptive Expository Text

- a) Why do you think frogs have such big eyes?
- b) What do you think is the big idea of the story?

4) Interest:

- a) **“How did you like listening to the story and learning about frogs?”**
- i) Say and point to each face on the laminated card: **“I don’t like it; I don’t know; I like it”**
- ii) Repeat the question again if child does not point to a face or respond to the question.

Sequential Expository Text - Retelling Script - (check order story is read to the participant)

1) Before Reading the Sequential book:

a) Before reading the book use the following instructions: **“I am going to read a book to you about a frog’s life cycle. I want you to listen carefully, because when I am finished reading, you are going to tell me the same story I tell you.”**

b) Start reading the book to the participant.

i) The life cycle of a frog includes four stages: egg, tadpole, froglet and frog. Stage one begins in the spring. The mother frog lays lots of jelly-covered eggs in the water. In the second stage, tadpoles hatch from the mother’s eggs. Then each tadpole grows a tail to help it swim. At first, tadpoles breathe underwater with gills. Then they grow lungs to help them breath. In stage three, the tadpole grows back legs to help it swim fast. Now, it’s called a froglet. It’s tail shrinks and disappears. It looks more like a little frog. Finally, in stage four, the froglet becomes a frog. The frog has four webbed feet. Then uses its feet to climb out of the pond. The frog is grown and can lay new eggs. It can begin the life cycle all over again.

2) After reading the Sequential book:

a) Ask the child to retell the story using the following instructions: **“I just read you a book about the frog life cycle. Tell me the story, I just told you. Tell it to me as if you were telling it to a friend who has never heard it before.”**

i) The following three prompts are to be used only when necessary.

(1) If the child has difficulty starting to retell the book, suggest beginning with:

(a) **“The story was about...”**

(2) If the child does not understand the directions or the process of retelling, then say:

(a) **“Remember the story I told you? I need you to try to tell me that story.”**

(b) **“Think about the story I told you.”**

(3) If the child goes off topic, then say:

(a) **“When you are finished telling me the story I told you, we can talk about other things.”**

(4) If the child stops retelling, encourage continuation by asking,

- (a) **“Tell me what else you remember about the frog life cycle?”**
 - (b) **“Can you tell me more about the frog’s life cycle?”**
- (5) If a child stops retelling and cannot continue with the prompts offered above, then end this section of testing.

Sequential Expository Text - Comprehension Questions Script: (check order comprehension questions are given to the participant)

- 1) Use the following instructions when asking the comprehension questions: **“I am going to ask you some questions about what I just read. Listen carefully as I ask you the questions. If you need me to say any of the questions again, let me know.”**
 - a) The following two prompts are to be used only when necessary.
 - i) If the child has difficulty starting to answer questions, suggest beginning with
(1) “The answer is...?”
 - ii) If the child stops answering the questions, encourage continuation by asking,
(1) “Can you tell me more?”
 - iii) If a child stops answering the questions and cannot continue with the prompts offered above, then end this section of testing.
- 2) **Factual Text-based Comprehension Questions – Sequential Expository Text**
 - a) What are the four stages of a frog’s life?
 - b) In what season do mother frogs lay their eggs?
 - c) What is the first thing the mother frog does?
 - d) What hatches from the eggs the mother lays?
 - e) What part of the tadpole grows first to help it swim?
 - f) What part of the tadpole grows next to help it breath?
 - g) After the tadpole turns into a froglet, what part of its body grows to help it swim fast?
 - h) Finally, what part of the froglet’s body disappears all together?
 - i) When the froglet becomes a frog what part of its body helps it climb out of the pond?
 - j) What does a frog begin its life as?
- 3) **Inference Comprehension Questions – Sequential Expository Text**

- a) Why do you think frogs have lungs?
- b) What do you think is the big idea of the story?

4) Interest:

- a) **“How did you like listening to the story and learning about the life cycle of frogs?”**
 - i) Say and point to each face on the laminated card: **“I don’t like it; I don’t know; I like it”**
 - ii) Repeat the question again if child does not point to a face or respond to the question.

APPENDIX D: OVERVIEW OF STUDY

March 31, 2015

Dear Parent(s)/Guardian(s),

My name is Cheran Zadroga (Ms. Z), the Speech-Language Pathologist at "Local Elementary School". I have been working at "Local Elementary School" for the past seven years. During this time, I have also been pursuing a Doctorate in Education with a focus in Language and Literacy at the University of Central Florida.

I am asking for your support to conduct a research project at "Local Elementary School". "Principal's name", principal of "Local Elementary School" and the "Local Public School District", has approved my research study. It is your right to decide if you want your son or daughter to participate in the study.

It is very important for children to learn how to comprehend expository (informational) texts so that they can be successful readers and writers. The purpose of this study is to investigate what kindergarten students know about expository (informational) books.

As part of the study, I will work with your child for two 60-minute sessions, which can be scheduled as per your preference. The sessions can take place during school, after school, or either time. Your child will be given a variety of language and literacy assessments. To ensure confidentiality, your child will not be identified by name when results are reported, instead they will be given a unique identification number.

After each session, I will give your child a small reward (e.g. pencil, sticker or eraser) for his or her participation. At the end of the data collection, I will also provide you with a brief summary (two page template) on how your child performed on the language and literacy assessments. This does not take the place of school district assessments, but it can give some information as to your child's language and literacy performance.

Please review the Parent/Guardian Consent Form. You are provided with two copies of the consent form. If you give consent for your child to participate in the research, please sign one copy and return it to your child's teacher by April 8th, 2015 and keep the other copy for your records. Also, complete and return the parent questionnaire to you child's teacher. I greatly appreciate your support in achieving one of my own goals as a researcher. Ultimately, this study will help administrators and educators support kindergarten students to read and understand expository (informational) books, which is key to their success in school.

Sincerely,

Cheran Zadroga M.A., CCC-SLP
Speech-Language Pathologist at "Local Elementary School"
Doctoral Candidate at the University of Central Florida
E-mail: czadroga@knights.ucf.edu or "local school district email"
Phone: "local school district phone number"

Please complete and return the Parent/Guardian Consent Form and Parent Questionnaire to you child's teacher by in the envelop provided.

This study has been approved by the University of Central Florida Human Research Ethics Committee SBE-15-11021 and "Local Public School District" #0004.

APPENDIX E: PARENT COPY OF CONSENT FORM



The Relationship Between Knowledge of Descriptive and Sequential Expository Texts and Reader Characteristics in Typically Developing Kindergarten Children

Informed Consent from a Parent for a Child in a Non-Exempt Research Study

Principal Investigator: Cheran Zadroga, M.A., CCC-SLP
Faculty Advisor: Jamie Schwartz, PhD., CCC-SLP

Investigational Site(s): "Local Public School District:
"Local Elementary School"

How to Return this Consent Form: You are provided with two copies of this consent form. If you give consent for your child to participate in the research, please sign one copy and return it to your child's teacher and keep the other copy for your records.

Introduction: Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You are being asked to allow your child to take part in a research study, which will include about 98 students at "Local Elementary School". Your child is being invited to take part in this research study, because he or she is a kindergarten student at "Local Elementary School".

The person conducting this research is Cheran Zadroga, M.A. CCC-SLP (Ms. Z) of UCF's Communication Sciences and Disorders Department and speech-language pathologist at "Local Elementary School". Because the researcher is a doctoral student, she is being guided by Dr. Jamie Schwartz, a UCF faculty supervisor and Associate Professor in the Communication Sciences and Disorders Department.

What you should know about a research study:

- Someone will explain this research study to you.
- A research study is something you volunteer for.
- Whether or not you take part is up to you.
- You should allow your child to take part in this study only because you want to.
- You can choose not to take part in the research study.
- You can agree to take part now and later change your mind.
- Whatever you decide it will not be held against you or your child.
- Feel free to ask all the questions you want before you decide.

Purpose of the research study: The purpose of this study will be to determine if there is a significant relationship between knowledge of descriptive and sequential expository (informational) texts and reader

Permission to Take Part in a Human Research Study

characteristics (i.e., language ability, emergent literacy ability, prior knowledge, and general listening ability) in kindergarten children. Expository (informational) text is nonfiction text that includes facts so new information can be learned about a specific topic. Results of this study will provide educators, administrators, and researchers with information about kindergarten student's knowledge of and ability to retell descriptive and sequential expository (informational) texts. Currently, more developmental research is needed to support the use of descriptive and sequential expository (informational) text in kindergarten classrooms. Learning about the relationship between knowledge of expository (informational) texts and reader characteristics could add to the literature base and inform decision making about the kindergarten curriculum. Ultimately, kindergarten students will benefit from the implementation of developmentally appropriate teaching practices that enhance language and literacy skills and future academic growth.

What your child will be asked to do in the study:

First, your child will have to meet the eligibility criteria of the study by completing the following:

- Bilateral hearing screening if the researcher cannot verify normal hearing through school records;
- K-BIT-2 Matrices Subtest to measure nonverbal performance;

If your child meets eligibility criteria, then your child will participate in the following assessments:

- Token Test For Children-2nd Edition (McGhee, Ehrler, & DiSimoni, 2007) to measure listening ability;
- Assessment of Literacy and Language (ALL) (Lombardino, Lieberman & Brown, 2005) to measure oral language and emergent literacy skills;
- Researcher developed Descriptive and Sequential Expository Text Protocol;

All testing will be completed in a quiet classroom or resource room on the school campus during school hours and/or after school hours depending on your preference. The researcher, a certified and licensed speech-language pathologist (SLP), will administer the standardized assessments and the researcher created Expository Text Protocol to your child. Your child does not have to answer every question or complete every task. You or your child will not lose any benefits if your child skips questions or tasks.

Location: The research study will be conducted at "Local Elementary School" during school hours and after school hours.

Time required: We expect that your child will be in this research study for 2 sessions lasting approximately 50-60 minutes each session.

Audio taping: Your child will be audio taped during this study so that the researcher can verify your child's responses after completion of each testing session. If you do not want your child to be audio taped, your child will not be able to participate in the study. Discuss this with the researcher if you have questions. If your child is audio taped, the tape will be kept in a locked, safe place. The audiotape will be erased or destroyed when the researcher completes the study.

Risks: There are no reasonably foreseeable risks or discomforts involved in taking part in this study. Your participation and your child's participation in this study is completely voluntary. You both may stop participating in the study at any time without penalty.

Permission to Take Part in a Human Research Study

Benefits: There are no expected benefits to your child for taking part in this study besides learning more about how research is conducted. The information we gather from this study, however, may be used to help further the research base about kindergarten children's knowledge of expository texts and the relationship to reader characteristics such as language ability, emergent literacy ability, prior knowledge, and general listening ability

Compensation or payment: There is no compensation or other payment to you or your child for your child's participation in this study. Your child will receive a pencil, sticker or eraser at the end of each assessment session.

Confidentiality: We will limit your personal data collected in this study. Efforts will be made to limit your child's personal information to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the Institutional Review Board (IRB) and other representatives of the University of Central Florida.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints, or think the research has harmed your child you may talk to: Cheran Zadroga, Doctoral Student, Communication Sciences and Disorders Track, College of Education, (407) 249-4747 ext. 4202301 or contact her by email at czadroga@knights.ucf.edu or Dr. Jamie Schwartz, Associate Professor, Department of Communication Sciences and Disorders at (407) 823-4798 or by email at jamie.schwartz@ucf.edu.

IRB contact about you and your child's rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

Withdrawing from the study: You may decide not to have your child continue in the research study at any time without it being held against you or your child. If you decide to have your child leave the study, please contact the investigator so that the investigator can recruit a new participant.

Permission to Take Part in a Human Research Study

Please check off the box that indicates when you would prefer your child to participate in the study.

- During school hours
- After school hours
- Anytime (during and/or after school hours)

Your signature below indicates your permission for the child named below to take part in this research.

DO NOT SIGN THIS FORM AFTER THE IRB EXPIRATION DATE BELOW

Name of participant

Signature of parent or guardian

Date

Printed name of parent or guardian

- Parent
- Guardian (see note below)

PARENT COPY

Note on permission by guardians: An individual may provide permission for a child only if that individual can provide a written document indicating that he or she is legally authorized to consent to the child's general medical care. Attach the documentation to the signed document.

IRB Expiration Date: 3/1/2016

UCF IRB Version Date: 01/2010

APPENDIX F: E-MAIL TO PARENTS

Hi parents!

Today, you will be receiving a green packet from Ms. Cheran Zadroga, our Speech-Language Pathologist at "Local Elementary School". She is currently conducting a research study for her Doctorate's Degree and is in need of your help! Please review the information given in the packet. If you would like for your child to participate in this research study, please sign and return the Parent/ Guardian Consent Form and Questionnaire. Your help will be greatly appreciated and will help support reading and understanding books with our Kindergarten students. If you have any questions, please feel free to contact us or Ms. Cheran Zadroga at "Local Elementary School e-mail". Thank you for your time and consideration.

APPENDIX G: REMINDER FLYER

Seeking Research Volunteers

Are you interested in learning about your child's Language and Literacy Performance?

My Name is Cheran Zadroga (Ms. Z), the Speech-Language Pathologist at "Local Elementary School" and a Doctoral candidate at the University of Central Florida. I am asking for your support in conducting a research project at "Local Elementary School". Last week a packet was sent home to every kindergarten student at "Local Elementary School", which included all the specific information regarding the study. If you would like your child to participate in the study, please complete the Consent Form and Parent Questionnaire. If you need another packet, please contact me and I will send it home in your child's binder.

Thank you to all the parents who have already signed up their child to participate in the study. I appreciate all your support in achieving one of my own personal goals as a researcher.

Cheran Zadroga (Ms. Z)

Speech-Language Pathologist at "Local Elementary School"

Doctoral Candidate at the University of Central Florida

E-mail: czadoga@knights.ucf.edu and "Local Elementary School e-mail"

Phone: "Local Elementary School phone number"

APPENDIX H: SCHOOL INFORMATION SHEET

Name: _____ Teacher: _____
Participant Identification Number: _____ Gender: Male Female DOB: _____ Age: _____
ESE Programs: _____ Date Dismissed: _____
History of Disability: _____ Type: _____
ELL Status: _____ Ethnicity: _____ Other languages spoken: _____
Free and Reduced Lunch: yes no not available History of Retention: yes no
Hearing Passed: yes no not available Date: _____
Vision Passed: yes no not available Date: _____

APPENDIX I: DISTRICT APPROVAL FOR RESEARCH LETTER

Notice of Approval

Approval Date: 3/11/15

Approval Number: 0004

The Relationship Between Knowledge of Descriptive and Sequential Expository Texts and Reader
Project Title: Characteristics in Typically Developing Kindergarten Children

Requester: Cheran Zadroga

Project Director/Advisor: Cheran Zadroga

Sponsor Agency/Institutional Affiliation: University of Central Florida

Thank you for your request to conduct research in Public Schools. We have reviewed and approved your application. This Notice of Approval expires one year after issue, 3/10/16 .

If your study requires communication with school-based personnel or students, you must call or email our office to discuss a communication strategy. You should have also submitted a Principal Notification Form with your application. That will be sent to principals shortly, and you should receive an email indicating which principals are supportive of your research. This notice does not obligate administrators, teachers, students, or families of students to participate in your study; participation is entirely voluntary.

You are responsible for submitting a Change Request Form to this office prior to implementing any changes to the currently approved protocol. If any problems or unexpected adverse reactions occur as a result of this study, you must notify this office immediately by emailing a completed Adverse Event Report Form. Both of these forms can be found on the website. You may email the completed forms

For as long as the study is active, an annual renewal request letter is required. This letter should include any changes to your protocol and an estimated completion date. If necessary, the first letter should be dated on or before 2/10/16

Should you have questions or need assistance, please contact Mary Ann White at (407) 317-3201

Best wishes for continued success,



Tavy Chen, Ed.D.

Director, Accountability and Research

Cc: Brandon McKelvey, Senior Director

Tavy Chen

APPENDIX J: LETTER OF SUPPORT

Dr. Eric W. Cantrell
Principal

Karl Fox
Assistant Principal

Sheri Sico
Assistant Principal

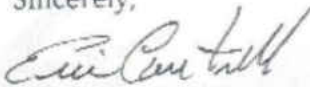
September 8, 2014

To Whom It May Concern:

_____ is willing to support Ms. Cheran Zadroga in completing her doctoral research project. If the project is approved, we will be willing to participate.

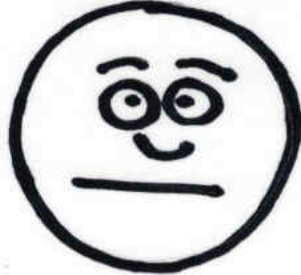
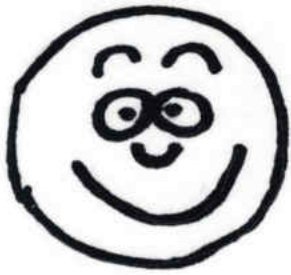
Feel free to contact me should you have any questions or comments.

Sincerely,



Eric Cantrell, Ed.D.
Principal

APPENDIX K: INTEREST PICTURES



APPENDIX L: EXPOSITORY TEXT PROTOCOL DATA FORM

Participant # _____

Researcher Developed Expository Text Protocol

Day 1: See Script

1. Prior Knowledge:
 - a. _____ number of accurate and/or true ideas expressed about the topic of frogs
 - b. _____ number of inaccurate and/or false ideas expressed about the topic of frogs
 - c. _____ number of repeated true or false ideas expressed about the topic of frogs
2. Retell: Descriptive or Sequential
 - a. _____ number of ideas recalled = _____ %
 - i. Descriptive: _____ number of ideas added from previously read passage
 - ii. Sequential: _____ number of ideas added from previously read passage
 - b. _____ number of targeted signal words used correctly = _____ %
 - i. Descriptive: in fact, for example, most importantly ___/3
 - ii. Sequential: first, then, finally ___/3
3. Comprehension questions: Descriptive or Sequential
 - a. _____ number of correct **factual** comprehension questions = _____ %
 - b. _____ number of correct **inference** comprehension questions = _____ %
 - c. _____ number of correct responses to **total** comprehension questions = _____ %
4. Interest:
 - a. _____ I don't like it. _____ I don't know. _____ I like it.

Day 2: See Script

1. Retell: Descriptive or Sequential
 - a. _____ number of ideas recalled = _____ %
 - i. _____ number of ideas added from previously read passage
 - b. _____ number of signal words used correctly = _____ %
 - i. Descriptive: in fact, for example, most importantly ___/3
 - ii. Sequential: first, then, finally ___/3
2. Comprehension questions: Descriptive or Sequential
 - a. _____ number of correct **factual** comprehension questions = _____ %
 - b. _____ number of correct **inference** comprehension questions = _____ %
 - c. _____ number of correct responses to **total** comprehension questions = _____ %
3. Interest:
 - a. _____ I don't like it. _____ I don't know. _____ I like it.

Order A: Retell -> Questions -> Descriptive or Sequence Sequence or Descriptive

Order B: Questions -> Retell -> Descriptive or Sequence Sequence or Descriptive

APPENDIX M: EXPOSITORY TEXT DETAILS

| | Descriptive Text: Frogs | Sequential Text: The Life Cycle of a Frog |
|--|------------------------------------|--|
| Number of words | 138 | 138 |
| Number of sentences | 14 | 15 |
| Number of targeted signal words or cue words | 3 | 3 |

| | Descriptive Text: Frogs | Sequential Text: The Life Cycle of a Frog |
|--|------------------------------------|--|
| Number of pages (including title page) | 9 | 9 |
| Number of pictures (including title page) | 9 | 9 |

APPENDIX N: CHILD ASSENT

Child Assent

“Hi, my name is Cheran Zadroga. You can call me Ms. Z. I am a teacher here at “Local Elementary School”. I want to know how I can help children learn to be better readers. I would like you to help me. We will be doing some activities together, such as reading stories and answering questions about the stories. There are no right or wrong answers. If you get tired, you can let me know, and we can have a short break. If you really feel like stopping, you can let me know that too, and you can choose to do the activities again on another day, or not at all. Your [mom/dad] says it’s okay for you to work with me. But if you don’t want to work on the activities, you can choose not to work on the activities now or at any time. It will not make difference in your schoolwork. All of the work we do together will be kept private or secret. Do you have any questions? [*Respond to questions*] Let me know if you have any questions at any time during the activities. Would you like to be in the study?” [*Continue with research activities only after receiving verbal assent from child*].”

APPENDIX O: RESULT LETTER INCLUDED PARTICIPANT'S

June 1, 2015

Dear Parent(s)/Guardian(s),

Thank you for allowing your child to participate in my doctoral research study. Language is the foundation for the development of reading and writing. A variety of listening, speaking, reading and writing experiences are incorporated throughout your child's school day to develop their language and literacy skills. The following four language and literacy skills are important components for kindergarten age children.

1. Letter Knowledge - is one of the strongest predictors of later reading success. It includes identifying and naming upper and lower case letters and letter-sound knowledge (saying aloud the sound a letter makes).
2. Vocabulary Knowledge - is an important predictor of how well children will understand what they read in texts. Children's knowledge of many different vocabulary words can influence success in school.
3. Sight Word Recognition - is identifying words as a whole unit and reading the word "by sight" from memory (e.g. *the, by, yellow*). Children's ability to read sight words quickly and accurately is key in helping them understand what they read.
4. Listening Comprehension - is understanding and making sense of spoken language. Good listening skills are essential for following directions carefully and accurately. Children's ability to follow directions is a necessary skill for success in school.

These four areas were included in my study in a number of ways. Your child *met expectations* for an end of year kindergarten child in each of these areas.

You can continue to facilitate growth in your child's language and literacy skills by reading a variety of books with your child daily. When you read together, talk about what you have read. The enclosed handout provides examples of a variety of questions you can ask your child after reading. Thank you again for allowing your child to participate in the study. Your contribution to this important area of research is invaluable for helping children in the future. If you have any further questions or concerns, please contact me at your convenience.

Have a wonderful summer!

Sincerely,



Cheran Zadroga M.A., CCC-SLP
Speech-Language Pathologist
Doctoral Candidate at the University of Central Florida
E-mail: czadroga@knights.ucf.edu
Phone: _____ ext. _____

APPENDIX P: RESULT LETTER NOT INCLUDED PARTICIPANT'S

June 1, 2015

Dear Parent(s)/Guardian(s),

I appreciate you giving permission for your child to be a potential participant in my doctoral research study. Your child did not meet the required eligibility criteria for participation. Thank you very much for allowing your child to be considered.

You can continue to facilitate growth in your child's language and literacy skills by reading a variety of books with your child daily. When you read together, talk with your child about what you have read. The enclosed handout provides examples of a variety of questions you can ask your child after reading. If you have any further questions or concerns, please contact me at your convenience.

Have a wonderful summer!

Sincerely,



Cheran Zadroga M.A., CCC-SLP
Speech-Language Pathologist
Doctoral Candidate at the University of Central Florida
E-mail: czadroga@knights.ucf.edu
Phone: _____ ext. _____

APPENDIX Q: HANDOUT FOR PARENTS

**QUESTIONS TO ASK
YOUR CHILD WHEN
READING FICTION TEXT.**

- ❖ Who are the main characters in the story? Describe each character.
- ❖ Pick two characters in the story. How are they alike and how are they different?
- ❖ Where does the story take place? Describe the setting.
- ❖ When does the story take place?
- ❖ What was the problem in the story and how was it solved?
- ❖ How did the characters feel in the story?
- ❖ How did the characters feelings change throughout the story?
- ❖ What do you think the author meant by this quote " _____ "?
- ❖ Why do you think the author _____?
- ❖ What might of happened if _____?
- ❖ Is there any thing you would change about the story? If so, what would it be and why?
- ❖ What did you like best about the story and what did you not like about the story?
- ❖ What lesson/moral did you learn from reading the story?

**QUESTIONS TO ASK YOUR
CHILD WHEN READING
NONFICTION TEXT.**

- ❖ What new information did you learn from reading the text?
- ❖ What is the big idea of the text?
- ❖ Where in the text did you find that information?
- ❖ How are the _____ and _____ different?
- ❖ How are _____ and _____ the same?
- ❖ Where there any features (charts, pictures, diagrams) that helped you understand the text? Tell me about one of them.
- ❖ Why do you think the author wrote _____?
- ❖ What do you think the author meant by this quote " _____ "?
- ❖ Why do you think the author _____?
- ❖ What does this text remind you of and why?
- ❖ Is there any thing you would change about the text? If so, what would it be and why?
- ❖ What did you like best about the text and what did you not like about the text?
- ❖ What else would you like to know about the topic you read about?

APPENDIX R: IRB LETTER



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: **UCF Institutional Review Board #1
FWA00000351, IRB00001138**

To: **Cheran A. Zadroga**

Date: **March 02, 2015**

Dear Researcher:

On 3/2/2015, the IRB approved the following human participant research until 03/01/2016 inclusive:

Type of Review: UCF Initial Review Submission Form
Project Title: The Relationship Between Knowledge of Descriptive and
Sequential Expository Texts and Reader Characteristics in
Typically Developing Kindergarten Children
Investigator: Cheran A Zadroga
IRB Number: SBE-15-11021
Funding Agency:
Grant Title:
Research ID: n/a

The scientific merit of the research was considered during the IRB review. The Continuing Review Application must be submitted 30 days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

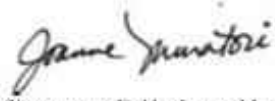
If continuing review approval is not granted before the expiration date of 03/01/2016, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in IRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

All data, including signed consent forms if applicable, must be retained and secured per protocol for a minimum of five years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained and secured per protocol. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewska, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

A handwritten signature in black ink, appearing to read "Joanne Muratori". The signature is written in a cursive style with a large initial "J".

Signature applied by Joanne Muratori on 03/02/2015 08:30:57 AM EST

IRB Manager

**APPENDIX S: TRANSCRIBER/SCORER CONFIDENTIALITY
AGREEMENT**

Confidential Agreement

I _____ agree to maintain full confidentiality in regard to any and all audiotapes and documentation received from Cheran Zadroga (Principal Investigator) related to her doctoral study on The Relationship Between Knowledge of Descriptive and Sequential Expository Texts and Reader Characteristics in Typically Developing Kindergarten Children.

I understand that I will be hearing audiotapes, transcribing audiotapes, and completing reliability forms. I understand I have the responsibility to keep all information confidential to comply with IRB and ethical standards.

I agree to the following:

1. To hold in strictest confidence the identification of any individual that may be inadvertently revealed during the assessment sessions, the transcription of audiotaped expository retells, or in any associated documents;
2. To not make copies of any audiotapes or computerized files of the transcribed expository retells, unless specifically requested to do so by Cheran Zadroga (Principal Investigator);
3. To store all study-related audiotapes, study-related materials, and study-related documents in a safe, secure location as long as they are in my possession;
4. To return all audiotapes, study-related materials, and study-related documents to Cheran Zadroga (Principal Investigator) in a timely manner.
5. To delete all electronic files containing study-related audiotapes, study-related materials, and study-related documents from my computer hard drive and any backup devices once consulting with Cheran Zadroga (Principal Investigator).

I am aware that I must not share any information about any party involved in this study, except for the researchers of this study. Any violation to this confidentiality agreement would constitute a serious breach of ethical standards, which could result in legal action and/or disciplinary action.

Transcriber/Scorer Name (printed): _____

Transcriber/Scorer Name (Signature): _____

Date signed: _____ Coder ID Number: _____

APPENDIX T: RELIABILITY CODEBOOK

Code Book for Reliability

Section 1: Prior Knowledge

Definition: Prior Knowledge is defined as a true idea and/or fact about frogs.

Scoring: The three categories are:

1. Example Column:
 - a. An accurate and true idea will be put in this column
 - b. Scoring- one point for each accurate and true idea- See table below
 - c. There is a possibility that a sentence can be counted as three (3) points if there are 3 accurate and true ideas about frogs.
2. Non-example Column:
 - a. An inaccurate and false idea will be put in this column
 - b. Scoring- one point for each inaccurate and false idea- See table below
3. Repeated Column:
 - a. Includes examples and/or non-examples
 - b. Scoring- one point for each repeated idea
 - c. sample: If a student says: they have eyes; they can see underwater and they see. You would code one utterance in the Example Column and the other two utterances in the Repeated column.

| Example | Non-Examples |
|---|---|
| Frogs are cold blooded. | They lean. |
| Some just don't have designs on them. | They get sick. |
| They can see in the water and peek their eyes out * | Frogs eat fish. |
| Frogs can see.* | Toad is like another for a frog |
| They have different shapes on them. | Get eggs |
| Can jump on water. | They can be called toads. |
| They have good eyes* | Take care of the babies. |
| Frogs like jumping on lily pads ** | Eye and that's all I know |
| They hop on lily pads** | Sometimes you can see them in your house. |
| They are tadpoles and after a year that they lose there tails and grow legs and the there a grownup frog. *** | |
| Frogs can hide from other creatures underwater and above water.**** | |
| They live on water and land.***** | |

*(Don't count "see" and "eyes"- only count as one)

** (count as two points because lily pad and jump or hop)

*** (count as 4 points because ideas – tadpoles, lose tail, grow legs and grownup frog.)

**** (count as 1 point because the idea is that they "hide".)

***** (count as two points-water and land-different places)

Section 2: Comprehension Questions

Scoring: See charts below:

1. sequential questions:
 - a. 0 (zero)=no response, not correct or added in misinformation
 - b. 1 (one)= all correct or participant self correct
2. descriptive questions:
 - a. 0 (zero)=no response, not correct or added in misinformation
 - b. 1 (one)= all correct or participant self correct

Definition of misinformation –

- any information the participant provides that is not included in the passage.
- Example 1: if a participant says “a frog is a toad”, the answer would be counted as misinformation and scored as a zero.
- Example 2: if a participant says “frogs eat bugs, worms and ladybugs”, since ladybug is not correct, then the answer would be counted as misinformation and scored as a zero.

| Sequence Question One | Scoring | Correct Answer | NOT correct answers=0 |
|--|---|---|---|
| 1. What are the four stages of a frog's life? | 4 correct answer=1 point | Egg, tadpole, froglet and frog (grown up frog/adult frog) | Lay eggs, Grow back feet, Lungs disappear |
| **Order does not matter** | | (froglet=little frog/young frog/baby frog) | |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Two | Scoring | Correct Answer | NOT correct answers=0 |
| 2. In what season do mother frogs lay their eggs? | 1 correct answer=1 point | spring | Summer, when it's hot |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Three | Scoring | Correct Answer | NOT correct answers=0 |
| 3. What is the first thing the mother frog does? | 1 correct answer=1 point | lays lots of eggs, lay jelly eggs, lay eggs | eggs 1 the summer and guard it, egg, have baby frog |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Four | Scoring | Correct Answer | NOT correct answers=0 |
| 4. What hatches from the eggs the mother lays? | 1 correct answer=1 point | a tadpole, tadpoles | Froglet, Frog, babies |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Five | Scoring | Correct Answer | NOT correct answers=0 |
| 5. What part of the tadpole grows first to help it swim? | 1 correct answer=1 point | the tail, a tail, tail | back legs, legs, feet, tail(s) |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Six | Scoring | Correct Answer | NOT correct answers=0 |
| 6. What part of the tadpole grows next to help it breath? | 1 correct answer=1 point | lungs, the lungs, the lung, a lung | gill (s), nose |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Seven | Scoring | Correct Answer | NOT correct answers=0 |
| 7. After the tadpole turns into a froglet, what part of its body grows to help it swim fast? | 1 correct answer=1 point | back legs, legs, a leg, leg | Feet, webbed feet |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Eight | Scoring | Correct Answer | NOT correct answers=0 |
| 8. Finally, what part of the froglet's body disappears all together? | 1 correct answer=1 point | tail, the tail, a tail, tails | back legs, Gills, nose |
| | No correct information or added in misinformation=0 | | |

| Sequence Question Nine | Scoring | Correct Answer | NOT correct answers=0 |
|---|---|--|--------------------------------|
| 9. When the froglet becomes a frog, what part of its body helps it climb out of the pond? | 1 correct answer=1 point | webbed feet, feet, feets | Leg, fingers/toes |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Ten | Scoring | Correct Answer | NOT correct answers=0 |
| 10. What does a frog begin its life as? | 1 correct answer=1 point | an egg, eggs, jelly eggs | Tadpole, froglet, lots of eggs |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Eleven | Scoring | Correct Answer | NOT correct answers=0 |
| 11. Why do you think frogs have lungs? | 1 correct answer=1 point | so they can breathe on land, To help it breathe, so they can breathe | so they can breathe underwater |
| | No correct information or added in misinformation=0 | | |
| Sequence Question Twelve | Scoring | Correct Answer | NOT correct answers=0 |
| 12. What do you think is the big idea of the story? | 1 correct answer=1 point | frogs life, the lifecycle, how frogs grow | baby frogs and froglet, frogs |
| | No correct information or added in misinformation=0 | | |

| Descriptive Question One | Scoring | Correct Answers | NOT correct answers=0 |
|--|---|--|---|
| 1. What do frogs eat? | Must have 2 or more correct =1 point No correct information or added in misinformation=0 | Insects (bugs) , flies, worms, | Bees, bug, poisonous |
| Descriptive Question Two | Scoring | Correct Answer | NOT correct answers=0 |
| 2. What kind of animals are frogs? | 1 correct answer=1 point No correct information or added in misinformation=0 | amphibians | Frogs, tadpole |
| Descriptive Question Three | Scoring | Correct Answers | NOT correct answers=0 |
| 3. What sizes are frogs? | Must have 2 or more correct =1 point No correct information or added in misinformation=0 | specific size- 12" or 1/2"; big, small, long, short, ***different sizes*** (if they say this then it counts as 1 point) | 23 inches |
| Descriptive Question Four | Scoring | Correct Answers | NOT correct answers=0 |
| 4. What body parts do frogs have? | Must have 2 or more correct =1 point No correct information or added in misinformation=0 | legs, tongue, Feet, eyes | fingers, bones, Nose, body, Neck, head |
| Descriptive Question Five | Scoring | Correct Answers | NOT correct answers=0 |
| 5. What do frogs do with their legs? | Must have 2 or more correct =1 point No correct information or added in misinformation=0 | swim, leap, jump (hop), dig, climb, | I mean stand, Walk, go in water |
| Descriptive Question Six | Scoring | Correct Answers | NOT correct answers=0 |
| 6. What colors are frogs? | Must have 2 or more correct =1 point No correct information or added in misinformation=0 | blue, yellow, red, brown, or green, bright color(s) | Purple, black, pink |
| Descriptive Question Seven | Scoring | Correct Answers | NOT correct answers=0 |
| 7. Where do frogs live? | Must have 2 or more correct =1 point No correct information or added in misinformation=0 | land, in trees, in mud, pond (lake), in water; they hide in places | Houses, Orlando |
| Descriptive Question Eight | Scoring | Correct Answer | NOT correct answers=0 |
| 8. Why do animals not eat red, yellow or blue frogs? | 1 correct answer=1 point No correct information or added in misinformation=0 | They taste bad, They are poisonous; It's a warning for the enemies (predator); Warnings that a frog tastes bad, warnings they don't taste good | they taste yucky, taste gross, taste nasty, |

| Descriptive Question Nine | Scoring | Correct Answer | NOT correct answers=0 |
|--|---|---|---|
| 9. How do frogs catch their food? | 1 correct answer= 1 point | use their long sticky tongue, use their tongue, stick their tongue out. | by eating other insects |
| | No correct information or added in misinformation=0 | | |
| Descriptive Question Ten | Scoring | Correct Answer | NOT correct answers=0 |
| 10. How does a frog protect itself? | 1 correct answer= 1 point | hide in plants, hide in mud, hide in water, or hide in trees, hide from enemies (camouflage) , blend in with in plants, mud, water, trees | from the log, about hiding, From disguising themselves, kill their prey |
| | No correct information or added in misinformation=0 | Hide, blend in | |
| Descriptive Question Eleven | Scoring | Correct Answer | NOT correct answers=0 |
| 11. Why do you think frogs have such big eyes? | 1 correct answer= 1 point | so they can see all around, b/c if they have small eyes they can't see everything. So they can see in any direction | so they can see, so they can see enemies (predators) |
| | No correct information or added in misinformation=0 | | |
| Descriptive Question Twelve | Scoring | Correct Answer | NOT correct answers=0 |
| 12. What do you think is the big idea of the story | 1 correct answer= 1 point | all about frogs, tells about frogs | Frogs, about frogs, how they live |
| | No correct information or added in misinformation=0 | to learn about frogs | |

Section 3: Retell

Scoring: See scoring charts below:

1. Descriptive retell-
 - a. ✓ off in scoring column if the participant said the detail. (order does not matter)
 - b. Signal word- tally the correctly used signal words
2. Sequential retell-
 - a. ✓ off in scoring column if the participant said the detail. (Order does not matter)
 - b. Signal word- tally the correctly used signal words

| Descriptive Possible ideas | Points | Other Acceptable Responses | Not correct |
|---|--------|--|-------------------------------|
| 1. Frogs are amphibians | | | |
| 2. with huge eyes or | * | | eye(s) |
| 3. In fact, their big eyes | * | | eye(s) |
| 4. see in all directions | | or they can see in any direction or see all around | |
| 5. Frogs live in places | | | |
| 6. such as on land | | | |
| 7. in water | | pond/lake | |
| 8. in trees | | | |
| 9. Frogs can grow to be different sizes | | | |
| 10. For example: The biggest | | big | |
| 11. frogs grow up to 12 inches long | | | |
| 12. the smallest | | small | |
| 13. are half an inch long | | | |
| 14. Some frogs have long back legs | | | Two leg (st), back legs |
| 15. to swim | | | |
| 16. leap | | | |
| 17. jump | | hop | |
| 18. Other frogs have short back legs | | | Back legs, leg(s), small legs |
| 19. thick | | | |
| 20. to dig | | | |
| 21. into the mud | | | |
| 22. Green frogs | | | |
| 23. brown frogs | | | |
| 24. hide from their | | They hide, | |
| 25. enemies | | predators | |
| 26. In fact, they blend in | | camouflage | |
| 27. with plants | | | |
| 28. mud | | | |
| 29. water | | | |
| 30. Few animals eat red, | | | |
| 31. yellow | | | |
| 32. blue frogs | | | |
| 33. In fact, bright skin colors are warnings | | Red, yellow or blue frogs are warnings | |
| 34. that a frog tastes bad | | Warnings they don't taste good, poisonous | Taste gross Or yucky |
| 35. Frogs eat insects | | bug(s) | Beet |
| 36. like flies, | | | grasshoppers |
| 37. worms | | | |
| 38. Frogs catch their food | | | |
| 39. with long tongues . | | | |
| 40. sticky | | | |
| 41. Most importantly, frogs are interesting animals to learn about. | | | |

/ 40 = % * reference to eyes/see only count one time*

| Signal words | Number of times used correctly |
|------------------|--------------------------------|
| In fact | |
| For example | |
| Most importantly | |

3 = %

| Sequential Possible ideas | Points | Acceptable Responses | Not Correct |
|--|--------|---|----------------------------|
| 1. The life cycle of a frog includes | | Have a lifecycle | |
| 2. Four stages: | | | |
| 3. egg, | | | |
| 4. tadpole, | | | |
| 5. froglet, | | little frog/young frog/baby frog | |
| 6. and frog | | adult frog/ grownup frog | |
| 7. Stage one begins in the spring , | | | |
| 8. The mother frog lays eggs | | Mom frog. | lays egg |
| 9. lots | | Lots of, lots of eggs, many, a bunch, | |
| 10. of jelly-covered eggs | | Jelly eggs | |
| 11. in the water. | | pond/lake | |
| 12. In the second stage, tadpoles hatch | | The eggs hatch | Frog eat |
| 13. from the mother's | | Mom, mommy | |
| 14. ...eggs. | | egg | |
| 15. Then each tadpole | | | |
| 16. grows a tail | | | |
| 17. to help it swim. | | | |
| 18. At first, tadpoles breathe underwater | | | |
| 19. with gills . | | | |
| 20. Then they grow lungs | | | Gills, nose |
| 21. to help them breathe | | | Breathes underwater |
| 22. In stage three, the tadpole grows back legs | | | Front legs, leg(s) |
| 23. to help it swim | | | Temp. long, short |
| 24. fast. | | | |
| 25. Now, it's called a froglet . | | little frog/young frog/baby frog | |
| 26. It's tail shrinks | | Shrinks, lost it's tail | |
| 27. and disappears. | | It disappears | |
| 28. It looks more like a little frog . | | Froglet/young frog/baby frog | |
| 29. Finally in stage four, the froglet becomes a frog . | | little frog/young frog/baby frog adult frog/grownup frog] it's now a frog, turns into a frog, then their a frog | |
| 30. The frog has four | | | Four legs |
| 31. webbed feet . | | | Feet, legs |
| 32. Then uses its feet to climb | | | climb, using, uses its leg |
| 33. out of the pond . | | water/lake | |
| 34. The frog is grown | | Grownup frog | |
| 35. and can lay eggs. | | | |
| 36. new | | | |
| 37. It can begin the lifecycle all over again. | | Lifecycle starts again | |

/37= _____ %

| Signal words | Number of times used correctly |
|------------------|--------------------------------|
| At first (first) | |
| Then | |
| Finally | |

_____ 0= _____ %

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