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## The Effects of Reading Purpose on Levels of Mental Representation and General Comprehension of Texts in Middle School Students

Katie M. Ganson



FLORIDA STATE UNIVERSITY  
COLLEGE OF EDUCATION

THE EFFECTS OF READING PURPOSE ON LEVELS OF MENTAL  
REPRESENTATION AND GENERAL COMPREHENSION OF TEXTS IN  
MIDDLE SCHOOL STUDENTS

By

KATIE M. GANSON

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The members of the Committee approve the Thesis of Katie Ganson defended on March 4, 2009.

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Alysia D. Roehrig  
Professor Directing Thesis

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Jeannine E. Turner  
Committee Member

---

Beth Phillips  
Committee Member

Approved:

---

Akihito Kamata  
Department Chair, Department of Educational Psychology and Learning System

The Graduate School has verified and approved the above named committee members.

This manuscript is dedicated to my loving grandparents, Sidney and Adele Prince.

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## **ABSTRACT**

The purpose of this study was to test the effects of various perceived reading purposes on seventh and eighth grade social-studies students' levels of Mental Representation of Text and General Comprehension of texts. One hundred and four participants were randomly assigned to one of three experimental groups: inference generating reading purpose, non-inference generating reading purpose, or no purpose given. After being assigned one of the reading purposes, students read one of two randomly assigned social-studies expository text segments at the eighth grade reading level. After reading the assigned text, students were administered two text-specific comprehension assessments. A Pearson's Chi-square analysis showed that no differences existed in the proportion of students reaching each level of Mental Representation of Text as influenced by the purpose alone. In addition, no differences were found in the students' General Comprehension score based on reading purpose alone. A post-hoc Multivariate Analysis of Variance (MANOVA) showed that stronger background knowledge for one of the two texts may have been a contributing factor in the way the students scored the assessments.

# CHAPTER 1

## INTRODUCTION

Being able to read, comprehend, and make judgments based on what was read is of paramount importance for students today. Personal and educational goals are being affected by mandated school curricula and standardized testing, with each party involved having his or her own objectives. Although most of these goals are related and intertwined, more still needs to be done in the current education system to improve student achievement. In a 2006 keynote address, the National Reading Conference's president, Victoria Purcell-Gates, commented on the direction in which she believes literacy research should move. She explained that

literacy research is ultimately about providing the information needed for schools and communities to develop and provide fully informed citizens who are capable of using literacy skills, including thinking skills, necessary to contribute to the well-being of the world. (p.1)

She posited four questions related to literacy instruction: "Where is this going? Why am I doing this? Why am I, as a classroom teacher, planning these lessons/asking my students to do these things? What's it all about?" (p.1). Given the multiple demands placed on the states, districts, schools, teachers, and students alike, several factors seem to enhance the need for changes in literacy instructional methodology, including the lack of direct strategy instruction in content area classrooms, poor standardized reading test scores, and the overall high-stakes testing environment of our schools today.

In today's classrooms, reading comprehension strategies are typically reserved for Language Arts classes only (Neufeld, 2005). In one year-long study, Pressley (2002) concluded that while content area classes may provide opportunities to practice these comprehension strategies, there was no direct evidence that the students were actually being taught a particular strategy or given an explanation as to the value of its application. By examining the National Assessment of Educational Progress' (US Department of Education) report in 2005, only 7% of fourth, eighth, and twelfth graders were able to comprehend, critically analyze, and apply information obtained by reading a text at a proficient level (Blanton, Wood, & Taylor, 2007). In addition, only 25% of Florida's eighth graders were reading at or above the proficient level in 2005, and only 28% at or above the same level in 2007 (US Department of Education, 2005; 2007).

While the definition of “proficiency” is quite ambiguous and no consensus as to its comprehensive definition has yet been made, the No Child Left Behind Act (NCLB) passed in 2001 granted each state the ability to determine its own standards for its students (Paige, 2002). In an effort to address this issue, the RAND Reading Study Group (2002) defined a proficient reader as one who can “read a variety of materials with ease and interest, can read for varying purposes, and can read with comprehension even when the material is neither easy to understand nor intrinsically interesting” (p. xiii). Content area classrooms provide a unique opportunity for students to relate readings to things happening in their lives, consequently, making associations across subject areas and texts more frequent.

With the passage of NCLB, Congress attempted to address the startling figures mentioned above by requiring schools to report Adequate Yearly Progress (AYP). AYP is a measure of progress by each state, which indicates that every student is achieving at or above their academic standards in the main content areas (e.g., math and reading) (Paige, 2002). To ensure compliance, each state is required to implement the use of standardized assessments for students in third through eighth grade. Based on the results of these assessments, critical decisions for students, such as class placement and college admissions, may be derived. In addition, teacher and school based decisions, such as teacher salary, school rating, school funding, and intervention programs may be affected. Because such crucial decisions are based on the outcome of the standardized tests, these tests are widely considered “high-stakes” and consume much of schools’ and teachers’ attention, effort, and time (Cawthon, 2007; Pennsylvania Department of Education, 2004). Taking each of these factors into account – the importance of informed citizenship, lack of literacy instruction in content area classrooms, demands by the national government, and students’ reading comprehension achievement – examining methods for improving comprehension in content area classes is timely.

Students read hundreds of texts throughout their educational careers, most often with a specific purpose for each. Reading purposes may vary from test preparation or worksheet completion, to group discussions, homework assignments, or pleasure. On some level, these purposes help answer Purcel-Gates’ (2006) third question, which asks, “Why am I, as a classroom teacher, planning these lessons/asking my students to do these things?” (p. 1). While we hope a deeper comprehension purpose lies beneath just asking a student to complete a worksheet, research has shown that differences in reading purpose may lead to variations in a

student's level of comprehension and retention (Braten & Samuelstuen, 2004). According to van den Broek, Lorch, Linderholm, and Gustafson (2001), students whose purpose for reading was preparing for exams made fewer associations and elaborative inferences with the text than did students reading for entertainment purposes. The ability to make these inferences enables students to unite different segments of a text so that they are able to see it as "a series of connected events, not isolated statements" (van den Broek et al., 2001, p. 1081). The importance of these inferences lies in how they are related to reading comprehension.

Keene and Zimmerman (1997) explained that a person truly comprehends new information by being able to "connect the new to the known" and determining the reading's importance. Kintsch (1998) further explained in his theory of comprehension that text comprehension is actually a psychological process, and the products of this process are mental representations of the text. Of these mental representations of text, the highest level, the *situation model* level, requires the reader to continuously make inferred relations. Singer (2006) furthers the discussion by suggesting that along with word identification, grammatical analysis, and other reading strategies, inference processing is key in language comprehension. Being that comprehension is widely considered the final goal of reading instruction, alternative literacy instructional strategies, such as directly assigning a reading purpose that elicits inference generation, should be explored in more detail.

The current research on reading purpose and reading comprehension solely focuses on the differences between academic and entertainment reading (Braten & Samuelstuen, 2004). A gap exists, however, between the different purposes within the academic setting alone, and in focusing on grade levels other than the elementary school years. In addition, most of the inference generation research has taken place in a lab setting with older adults or college students, limiting the generalizability of its findings. The modern movements towards high-stakes testing have exacerbated the need to focus on middle and high school students, in that schools are often prioritizing teaching test-taking skills over allotting time for reading and subject matter literacy instruction (Blanton et al., 2007). However, while Jerald (2006) explains that recent media outlets might have exaggerated the claim that the choice between high test scores and good instructional practices is dictated by the NCLB Act, he clarifies that aligning classroom instruction and curriculum standards might be a good practice. Popham (2001) explains that as long as test preparation instruction is geared at the actual curriculum

(curriculum-teaching), rather than the actual test items (item-teaching), students will still obtain the necessary information to be applied in settings other than standardized tests.

Middle school students are of particular interest because they are beginning to read higher level, expository, content area texts. Some research conducted in middle school content area classes where comprehension strategies were explicitly taught, have proven to be effective in terms of overall comprehension achievement (National Reading Panel, 2000). According to Blanton et al. (2007), even students who typically read well exhibit difficulties with these types of expository texts. In middle schools, students who do demonstrate trouble comprehending texts are typically incorporated into pull-out programs, where they take part in more remedial reading instructional activities. Unfortunately, this practice might prove counterproductive in that these students miss many opportunities with the subject matter texts, including the integration of comprehension, thinking, and analysis (Blanton et al., 2007).

Some researchers have suggested that the instructions given to students before they begin reading are responsible for the level of processing in which they engage (van den Broek et al., 2001). McKoon and Ratcliff (1992) propose that superficial approaches to reading minimize inference generation, or being able to explain, associate, or predict what was or will be read. Unfortunately, this is characteristic of many reading situations in today's schools. Because of this, the purposes that teachers give students before reading a text could potentially have negative consequences on comprehension. Quite often, students also construct their own purposes for reading. Without direct instruction, these individual purposes may or may not encourage the student to make connections to their own lives; again, possibly restricting their interpretation of the text (Narvaez, van den Broek, & Ruiz, 1999). By examining the roles different educational reading purposes play in enhancing comprehension in content area classrooms, teachers, administrators, and researchers may be able to derive more effective reading assignments. In turn, these effective reading purposes could then help students construct a deeper level of understanding of content area texts.

In Caccamise and Snyder's (2005) article on the reading comprehension crisis in middle schools in America, they explain that not only do students need to have a basic comprehension proficiency level to perform certain tasks, but they need to have reached an advanced proficient level to be active and educated citizens. Referring back to Purcel-Gates' (2006) call for "informed citizens who are capable of using literacy skills, including thinking skills, necessary to

contribute to the well-being of the world” (p. 1), it is clear that reading comprehension instruction methods that increase students’ understanding of texts should be explored. Providing students with purposes for reading may be one such method. Therefore, the goal of this study was to test the effects of various perceived reading purposes on seventh and eighth grade social-studies students’ levels of mental representation and general comprehension of texts.

Two research questions guided this experimental study: do different reading purposes affect seventh and eighth grade students’ level of mental representation of text? And, do different reading purposes affect seventh and eighth grade students’ general comprehension of text? It was hypothesized that reading purposes meant to encourage inference generation, those in which the literacy strategy of inference generation was inherently embedded, would lead to higher levels of mental representation and general comprehension of texts than would reading purposes that did not.

## CHAPTER 2

### LITERATURE REVIEW

In this review of relevant literature, several constructs will be examined and related to one another. Namely, these constructs are Reading Comprehension, Inference Generation, and Reading Purpose. Each will be discussed as it relates to content area classroom instruction and their impact on student achievement.

#### *Reading Comprehension*

Reading comprehension, by definition, has evolved over the past few decades. While researchers first placed greater influence on how print influences the reader, today, most agree that the reader plays an active role in constructing meaning from a text (Harris & Hodges, 1995; National Institute for Literacy, 2001; Perfetti, 1985; RRSF, 2002; Snow & Sweet, 2003). For the purposes of this study, Snow and Sweet's (2003) definition: "the process of extracting and constructing meaning through interaction and involvement with written language" (p.1) was used as it focused on both the extraction and construction of meaning while reading, thus helping create a foundation for which factors affecting comprehension of a text, such as inference generation, could be measured.

In a classroom context, comprehension, as stated before, is generally considered the final goal of reading. Basic foundational reading skills such as decoding, phonemic awareness, phonics, vocabulary, and fluency, are all necessary for students to become successful readers (NRP, 2000). Caccamise and Snyder (2005) underscore a growing problem with students entering middle and high school who have not mastered these basic skills. Without mastery of the foundational skills such as phonemic awareness, the complex skills involved in comprehension, such as being actively involved in the content of the text, proves quite difficult if not impossible.

Currently, Walter Kintsch's theory on comprehension (1998) is one of the most widely used and referenced theories of text comprehension to date, dominating the National Reading Panel's (2000) comments and suggestions regarding comprehension (van Dijk & Kintsch, 1983; Schmalhofer & Glavanov, 1986; Radvansky et al., 2001). Researchers agree that "students must be able to read with deep comprehension; that is, they must be able to go beyond simple recall



and proficiently apply more complex inferential and analytical skills” (Wexler, Edmonds, & Vaughn, 2008, p. 20). Kintsch’s (1998) model of comprehension is unique in that it incorporates the reader into actively constructing meaning during the reading process and connecting this new knowledge to his or her prior knowledge. Therefore, it was used as the foundation for comprehension assessment in this study.

### ***Theory of Comprehension***

As explained in the introduction, Kintsch’s (1998) theory is based on the philosophy that text comprehension is a psychological process, and the products of this process are mental representations of the text. According to Van Dijk and Kintsch (1983; Kintsch, Welsch, Schmalhofer, & Zimny, 1990) three levels of mental representation can be independently distinguished: the *surface* level, the *textbase* or *propositional information* level, and the *situation model* level.

The *surface level*, or most basic level of representation, refers to the actual words, phrases, and syntax that are used within a text. The next level of representation is the *propositional* or *textbase* level. This level refers to abstract representations of information presented in the text. Finally, the highest level of understanding or representation includes situational information and is called the *situation model*. Representations identified on this level refer to the knowledge that the reader has built upon while reading the text. Stated more simply, a *situation model* is what the text is about, instead of the text itself. The *situation model* includes inferred relations between the content of the text components and the reader’s prior knowledge. According to Radvansky et al. (2001), creating “an accurate situation model is the main goal of comprehension” (p. 145). In the context of the classroom, helping students reach an accurate *situation model* level of Mental Representation of Text should be of greatest importance.

To measure a reader’s comprehension by assessing the three different mental representation levels, Schmalhofer and Glavanov (1986) developed a study employing a signal detection task involving sentence type recognition. They used four different types of statements including: *verbatim* statements, *paraphrases*, *incorrect* statements, and *inferences*. *Verbatim* statements reflected the actual wording of the text. *Paraphrases* reflected exact meanings of a particular statement; however, synonyms were used as replacements for the original wording. *Incorrect Statements* were statements that resembled sentences from the text, yet contained

incorrect information. And finally, *inferences* were considered statements for which the reader could not directly extract the meaning from the text, but had to combine different pieces of information throughout the text with their own prior topic knowledge.

Participants in Schmalhofer and Glavanov’s (1986) study were asked whether or not they had seen a given sentence (one of the four types listed above) in the text they read. Their answers were either considered “hits” if they were correct or “false alarms” if they were incorrect. To measure a participant’s *surface level* of Mental Representation of Text, his or her hit rate of the *verbatim* statements was compared with his or her false alarm rate of *paraphrase* statements. If the participant obtained a high hit rate with the *verbatim* statements and a low false alarm rate with the *paraphrase* statements, it indicated that he or she had a very strong *surface level* representation of the text (see Figure 1).

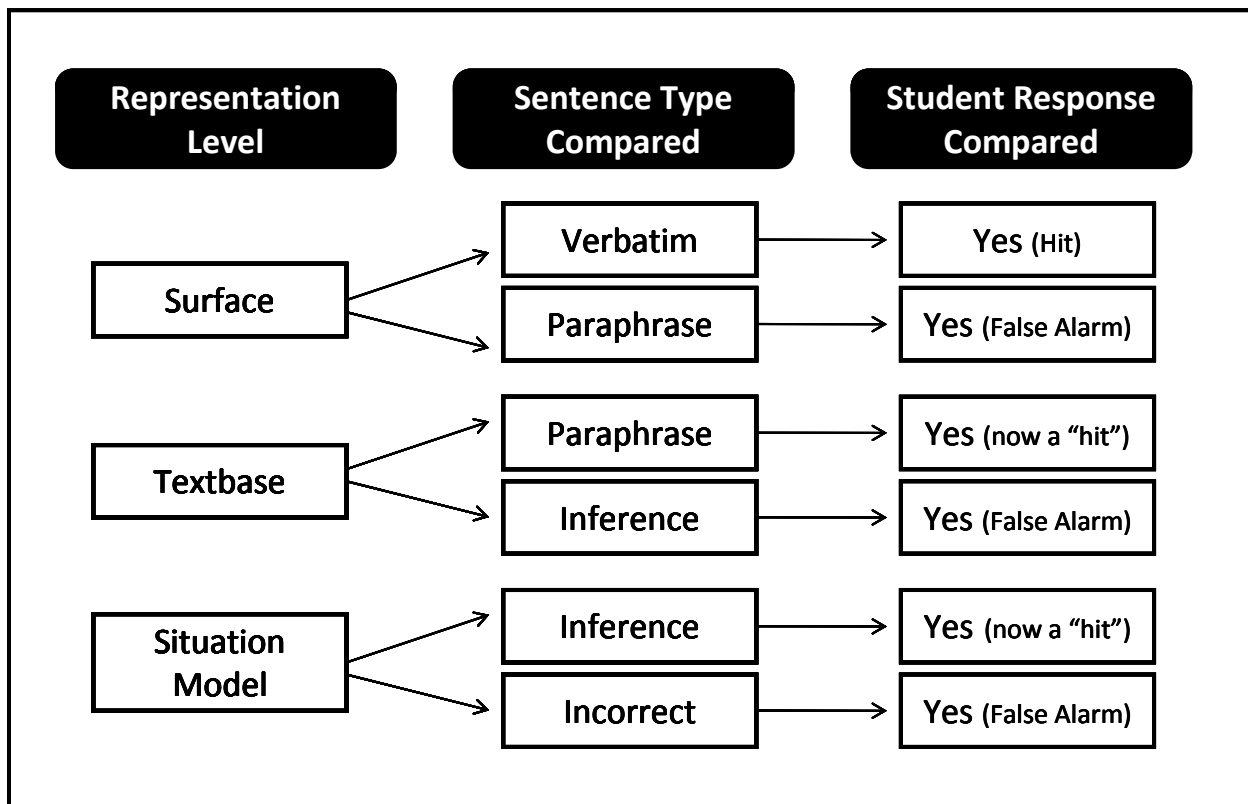


Figure 1. Sentence Comparisons for Levels of Mental Representation of Text.

To measure a participant’s *textbase* level of Mental Representation of Text, the number of “hits” on the *paraphrase* statements and the number of “false alarms” on the *inference*

statements were compared. Because the *textbase* level of representation again examines the extent to which a reader can identify abstract representations of information within a text, his or her ability to identify statements that could have been in the text are considered “hits”. Finally, all “hits” on the *inference* statements were compared to the “false alarms” on the *incorrect statements*. When the reader was able to distinguish between statements not located in the text, in addition to being able to identify statements located within the text versus the meaning they extracted themselves, it indicated that he or she had reached the highest level of comprehension or understanding, the *situation model* level of Mental Representation of Text.

Schmalhofer and Glavanov (1986) explained in more detail that readers given the proper instructions prior to reading can process the words as well as the meaning of a text and the situations it addresses. They suggested that under instructions (reading purpose) that require knowledge acquisition, students can process situational information. They conclude that this situational information is a key factor when trying to gain domain knowledge for any particular text. Similar procedures have been used in studies by Radvansky et al. (2001) and Daniels (2006).

It is imperative that students’ comprehension skills are cultivated throughout their educational career, as Radvansky et al. (2001) explained, reading comprehension is a learned skill. They go on to explain that through the several studies they have conducted, they found that older adults and those proficient in comprehension are quite selective in the information they process during reading. They have shown that proficient or expert readers are able to select the information that is important for understanding and disregard the information that is not. These results highlight the need for explicit comprehension instruction in classes other than just Language Arts.

As examined above, reading comprehension may be affected by several factors. One of these pivotal factors, explained by van den Broek et al. (2001), is a student’s ability to create logical inferences.

### ***Inference Generation***

Generating inferences is, for the most part, what helps unite different parts of a text so the reader is able to see it as a connected series of situations or facts (van den Broek et al., 2001).

Referring back to Kintsch's highest level of Mental Representation of Text, the *situation model*, readers must connect new knowledge to the knowledge they already have to create a situational representation of the information. Having this ongoing mental activity during text processing, according to Gilabert, Martinez, and Vidal-Abarca (2005), is one of the foundations of comprehension and learning from text. Active involvement with a text, as Gaskins (2003) explains, is also key to avoiding passivity while reading. She adds that if students just pass their eyes over the words they read without doing something with that information, they are passive readers, and thus, have less than desirable comprehension of the text. Reading is more than simply scanning a text, as active involvement is critical to inference generation. Graesser, Singer, and Trabasso (1994) further this point by explaining that reading encompasses a search for meaning that includes a significant series of local and global inferences.

The generation of these logical inferences is imperative, not only because it plays a major role in the level of reading comprehension (Narvaez et al. 1999; van den Broek, Lorch, Linderholm, & Gustafson, 2001) but because it is an essential tool in being prepared for higher education, workplace demands, and functioning as an informed member of society as explicated by Purcel-Gates' address in 2006. According to van den Broek et al. (2001), students have shown the ability to make these connections, or inferences, while reading for entertainment purposes and are actually more likely to relate this type of text to their own lives. It has been suggested by Narvaez et al. (1999) that the reason readers are more likely to generate inferences with those types of readings is because entertainment readings tend to be more narrative in nature and not expository like most study related texts. Readers make more connections automatically with the narrative type writing because their everyday lives read like a narrative story and they are used to this format (Narvaez et al., 1999).

Another integral factor affecting the overall comprehension and inference generation of a particular text is the motivation of the students to acquire this knowledge. Vansteenkiste, Simons, Lens, Sheldon, and Deci (2004) explained that framing learning in such a way that it elicits an intrinsic motivational goal within the students based on the activity's own inherent worth, will lead to significantly increased learning and performance. Along these same lines, Ryan and Deci (2000) explain that one way to facilitate this type of learning is to encourage a feeling of autonomy when it comes to the types and choices of activities. They go on to explain that if teachers support this type of learning method, students' level of intrinsic motivation,

curiosity, and general desire for challenges will increase, thus leading to increased learning and performance (Vansteenkiste et al., 2004).

Why then, does this skill diminish when students are presented with educational, expository text readings? Narvaez et al. (1999) suggests that the answer could lie in the fact that when students perceive their reason for reading to be for study purposes, they tend to see it as less interesting, slower, and more taxing. Therefore, they disengage themselves from the text, causing them to slow down their active processing and make fewer inferences. Other factors such as reading skill and background knowledge may affect a reader's ability to generate an accurate inference as well.

In Caccamise and Snyder's (2005) report on text comprehension practices, they explore the relationship between a student's background knowledge and his or her active text processing and ability to generate inferred relations. They explain that along with decoding and language skills, domain or background knowledge is one of the main skills good readers employ. Insufficient mastery of any of these basic skills, they describe, can be linked to poor readers in both middle and high school.

Background knowledge for a text can both positively and negatively affect a student's overall comprehension. Generally, readers with high levels of background knowledge are able to comprehend and remember more about a text than those with low levels (Caccamise & Snyder, 2005; Gilabert et al., 2005). However, in some cases, students with high levels of background knowledge overcompensate for other weaker reading skills, leading to decreased overall comprehension (Caccamise & Snyder, 2005).

One of the key components of reaching the *situation model* level of Mental Representation of Text is generating inferences. Gilabert et al (2005) explain that connecting ideas within a text not only helps avoid passivity while reading, but benefits the reader's deep and superficial levels of understanding. To generate an accurate *situation model*, students must construct meaning that goes beyond the facts of the text. Without sufficient background knowledge, readers at any level would be limited to creating a *textbase* level of Mental Representation of Text, which includes only the literal interpretations of the material (Caccamise & Snyder, 2005). *How* readers apply their knowledge and skills, however, could depend on the purpose for why they are reading (van den Broek et al., 2001).

### ***Reading Purpose***

The purposes for which a student is told or chooses to read a text, as explained above, can be so varied that trying to list them all would be impossible. However, certain characteristics within each purpose may prove very similar. As Radvansky et al. (2001) explained, creating accurate *situation models* should be the goal for reading and thus indicates comprehension. Again, *situation models* are representations of the overall meaning of what the text is about. In their study, Radvansky et al. (2001) demonstrated this point by explaining students' tendencies towards adapting to strictly memorizing text and "hanging on" to the *textbase* representations because this is what typically appeared on their examinations. Because the purpose for reading in their classes was usually to take a multiple choice question test, this strategy seemed effective; however, had the reading purpose changed and helped enable students to create a *situation model* of the material, focusing on the deeper meaning of the overall text, overall comprehension may be increased. An example of this type of reading purpose in a social-studies class might be asking the students to relate the information they read to other historical periods. Not only would the students have been able to recall the information for the test, but they would have hopefully been able to create a *situation* model of the information that could have been retained long after the actual test was taken.

In their study examining the effect readers' goals have on inference generation and memory for expository texts, van den Broek et al. (2001) investigated how a reader's on-line and off-line memory was affected within study and entertainment purposes. Their main hypothesis was that a reader's goal, or purpose, would greatly affect the frequency with which inferences were generated. With a sample of 71 participants ranging in age from 17-51 ( $M=22$ ), participants were randomly assigned to a study or entertainment purpose. They were given a hypothetical reading purpose (preparing for an essay exam or browsing through a magazine) and read a text aloud following think-aloud protocols. Throughout analysis, eight categories of responses were derived: explanatory inferences, predictive inferences, associations, monitoring, paraphrasing, repetition, evaluation, and affect. While both purposes elicited inference generation, the entertainment purpose produced significantly more associations and evaluations by the readers. These types of inferences encourage students to create a situational representation of the material as opposed to a strictly *textbase* or *surface* level of Mental Representation of text (van den Broek et al., 2001). In general, the results of their study indicated that inference generation during

reading is, in fact, influenced by reading purpose, and that it is strategic (van den Broek et al., 2001).

Narvaez et al. (1999) suggests that when assigning students to read for study purposes, the teachers and text should prompt students to answer questions that will encourage them to make inferences between different parts of the text, predictions about what direction the text is pointing them, and explanations of what the text has just stated. Radvansky et al. (2001) explained that expository texts, in particular, tend to elicit less thinking about the circumstances a text is referring to, and more about the actual content or words within it, limiting the overall comprehension of any given text. This is in contrast to narrative texts, which usually draw out more abstract interpretations from students. Again, this highlights the need to help students gain the skills necessary to be able to interpret expository study texts in such a way that inferences are drawn and single textbase interpretations are limited.

### ***Classroom Context***

The overarching goal of being able to comprehend what was just read, according to Gaskins (2003), is greatly influenced by the quality of classroom instruction. Naturally, teachers are the ones who facilitate the majority, if not all, of the instruction taking place in the classroom. Therefore, the “purpose” for the students’ reading is dictated by their teacher’s approach to classroom instruction. Gaskins continued by explaining that students are taught comprehension strategies in certain content area classes, such as Language Arts, but they are not taught how to transfer these strategies to other content area readings or situations outside the school setting, such as reading directions on a drivers license test or other type of exam. Students need to be able to infer meaning from what they have read and apply it to other situations they encounter. Content area classes are of particular interest for this study because of the integrated nature of the teacher’s influence on classroom reading purposes, and its effects on students’ reading comprehension.

### ***Current Study***

It is for all of the reasons above, including the lack of direct strategy instruction in content area classrooms, poor standardized reading test scores, and the overall high-stakes testing environment of our schools today, in addition to exploring effective teaching methodology in

content area classrooms, that the effects of perceived reading purposes on inference generation and reading comprehension were important to explore further. The two research questions that guided this study were as follows: do different reading purposes affect seventh and eighth grade students' level of mental representation of text? And, do different reading purposes affect seventh and eighth grade students' general comprehension of text? It was hypothesized, based on the literature reviewed, that reading purposes meant to encourage inference generation, those in which the literacy strategy of inference generation were inherently embedded, would lead to higher levels of Mental Representation of Text and General Comprehension. Kintsch's (1998) theory of comprehension was used as a basis to assess which level of Mental Representation of Text students were able to reach, hypothesizing that those who were able to create an accurate *situation model* generated more inferences and had an overall higher level of comprehension than those who did not.



## **CHAPTER 3**

### **RESEARCH METHODS**

#### **Research Questions**

- Q1: Does reading purpose affect seventh and eighth grade students' level of mental representation of text?
- Q2: Does reading purpose affect seventh and eighth grade students' general comprehension of text?

#### **Design**

To help answer the research questions above, a true experimental design was used for the study. A convenience sample of students was selected by inviting several social-studies classes within one middle school to participate. Individual students who gave their consent and who obtained parental consent were randomly assigned, within classes, to one of two treatment conditions or the control condition. Approval to conduct this study was granted from the Human Subjects Committee at Florida State University as well as the Leon County School Board prior to data collection (see Appendices A and B).

#### **Participants**

Participants in this study were recruited from eleven preexisting seventh and eighth grade social-studies classes within one north Florida public middle school. To ensure an adequate sample size, a power analysis was conducted based on previous research in the same field (van den Broek et al., 2001). It was determined that an appropriate sample size leading to a power of .7 with a medium effect size of .25 would require a total of 129 participants. After obtaining parental consent and student assent (see Appendices C and D), the total number of student participants was 104.

Participants' demographics varied somewhat across the sample. The majority of students were in the eighth grade (51%), female (62%) and ranged in age from 12 to 14 years ( $M=13.43$ ,  $SD=.604$ ). In addition, 80% of the students identified themselves as "White or Caucasian" with the next most prevalent group identifying themselves as "Black or African American" (10%).

To get a sense of the learning culture at the participating school, students were asked various questions in a demographic questionnaire related to their experiences with reading assignments. Half of the students (50%) reported that they typically receive “Mostly A’s and B’s” on their reading assignments, and 45% characterized their level of enjoyment while involved in reading situations in their school as either “somewhat enjoy” or “enjoy”.

In general, the students at the school could be considered higher than average in regards to their socio-economic status when compared to the rest of the state. The average number of students receiving free or reduced lunch at the participating school was 7%, far below average when compared to the county (35%) and state (46%) (Florida Department of Education, 2007).

### **Materials**

Two texts, which were comparable in word count, reading level and content type, were used. Both texts were expository social-studies texts and described an ancient group of people (see Appendix E) (Daniels, 2006). To assess the reading level of the texts, the Flesch-Kincaid Grade Level formula was used. This index compared the number of syllables in every word, the number of words in every sentence, and the total number of words and sentences in the passage. The resulting score indicated the number of years of education (or grade level) required to understand the text (Flesch, 1949). Text 1 (About the Eskimos) was 407 words and had a Flesch-Kincaid Reading Level of 8.2. Text 2 (About the Mayans) was 372 words with a Flesch-Kincaid Reading Level of 8.2. Because this assessment was administered at the very end of the school year, it was expected that most eighth graders would be reading at or above a 9.0 reading level, and most seventh graders close to an 8.0 reading level. Any student not reading at or above the reading level of the given text based on The Test of Silent Word Reading Fluency (Mather, Hammill, Allen, & Roberts, 2004) was excluded from analysis.

### **Instruments**

#### ***The Test of Silent Word Reading Fluency (TOSWRF)***

The TOSWRF (Mather et al., 2004) was designed to measure word identification, reading speed, and to assist in the identification of poor readers. This test was normed using a representative sample of 3,592 students ranging in age from 6 to 17 years. In an independent study examining the validity of the test for this field, it was found that the TOSWRF was

significantly and highly correlated with several subtests of two other widely used reading assessments: the Woodcock Johnson III (WJ-III) and the Comprehensive Test of Basic Skills (CTBS) (Bell, McCallum, Burton, Gray, Windingstad, & Moore, 2006). Some notable correlations between the TOSWRF and the subtests of the WJ-III include the following: Reading Fluency (.59,  $p < .05$ ), Passage Comprehension (.55,  $p < .05$ ), and Letter Word Identification (.58,  $p < .05$ ). Another significant correlation between the TOSWRF and a subtest of the CTBS was found in Spelling (.60,  $p < .05$ ).

Students were presented with rows of words ordered by reading difficulty with no spaces separating each word (see Appendix F). The students were given three minutes to draw lines in-between the borders of as many words as possible. After they were finished, raw scores, standard scores, percentile ranks, and age and grade equivalent scores were calculated following the test's prescribed protocol. If the student was found to not have reached a reading or grade equivalent level of at least 8.0, they were removed from analysis.

### ***Text Comprehension***

The comprehension assessment administered to students was comprised of two types of questions. The first eight questions were derived from a study by Daniels (2006) that examined the levels of Mental Representation of Text (*surface*, *textbase*, or *situation model* level) the reader attained. These questions were created based on the signal-detection task developed by Schmalhofer and Glavanov (1986) to assess the levels of Mental Representation of Text described by Kintsch (1998). The remaining 4 general comprehension questions were researcher-developed, based on and modeled after the guidelines set forth by the Florida Comprehensive Assessment Test (Florida Department of Education, 2005).

*Mental Representation of Text.* The first 8 signal-detection questions were geared toward examining the level of Mental Representation of Text the student was able to reach (see Appendix G). After reading the given text, students read four different sentence prompt types: *verbatim*, *paraphrase*, *inference*, or *incorrect*. *Verbatim* statements reflected the exact wording of the text. *Paraphrase* statements reflected the same meaning of the statement in text; however, there were changes in words used or the word order. *Inference* statements were not directly in the text but rather a combination of information within the text and the reader's own background knowledge. Finally, *incorrect* statements resembled sentences from the text, but contained

inaccurate information. After reading each statement, the student was asked whether or not the exact sentence they read was included in the text or not. For example, the following question was asked to students who read the text "About the Eskimos":

*Directions: Please answer whether or not the following statement was in the text you just read:*

*1. Most of the people lived as hunters and gatherers \_\_\_\_\_ (yes or no)*

To assess which level of Mental Representation of Text each student reached, ratios were computed by comparing correct and incorrect responses for each question based on a different combination of the four possible statement types. In every case, the correct answer to *verbatim* statements was "yes", while the correct answer to all other statements was "no".

To compute the ratio examining whether or not the *surface* level was reached, correct responses on *verbatim* statements ("yes") and incorrect responses on *paraphrase* statements ("yes") were compared (see Figure 1). A greater number of correct responses on *verbatim* statements coupled with a lower number of incorrect responses on *paraphrase* statements indicated a strong ability to remember the exact wording of the text, or *surface* level representation.

To compute the ratios examining whether or not the *textbase* level was reached, incorrect responses on *paraphrase* statements ("yes") and incorrect responses on the *inference* statements ("yes") were compared. In this model, incorrect responses on *paraphrases* were actually considered positive, as these statements could have potentially been in the text. As a result, a greater number of incorrect responses on *paraphrases* coupled with a lower number of incorrect responses on *inference* statements indicated a strong *textbase* mental representation level.

Finally, to compute the ratios examining whether or not the *situation model* level was reached, incorrect responses on *inference* statements ("yes") and incorrect responses on *incorrect* statements ("yes") were compared. In this model, incorrect responses on *inference* statements were considered positive as they were consistent with the situation being described in the text. Consequently, a greater number of incorrect responses on *inference* statements, coupled with a

lower number of incorrect responses on *incorrect* statements signified a *situation model* level of mental representation.

Following Schmalhofer and Glavanov's (1986) signal detection task protocol involving sentence prompt type recognition, students received one point if they made a "hit" (meaning that for the level of Mental Representation of Text being examined, they answered as one would expect). If they made a "false alarm" no points were awarded. Because there was only one observation with one text for each student in the current study, scores were computed for each of the three levels of Mental Representation of Text: *surface*, *textbase*, and *situation model*. Each level had four sentences that were compared, thus a score between 0 and 4 was possible. If the student received a 4, it indicated that he or she was able to reach that individual level to the highest extent, and answered all 4 sentence-questions for that comparison correctly as suggested by the instrument.

After calculating a sum score between 0 and 4 for each of the three levels of Mental Representation of Text comparisons, scores were examined across each level. The level of Mental Representation of Text was identified as the one in which the student scored the highest. If the student scored equally across two or more levels, their level was considered "unclear".

*General Comprehension.* Four additional multiple choice questions, modeled after the Florida Comprehensive Assessment Test, were administered (see Appendix H). Each multiple choice item had one absolute correct answer and two to three distracters. For example, the following question was asked of students who read the text "About the Mayans":

*According to the text, why was religion so important to the Mayans?*

- A. It helped explain how and why things happened*
- B. They hoped it would give them good luck on their hunts*
- C. They hoped it would ward off evil spirits*
- D. The surrounding cultures imposed their religion on the Mayans, and it became habit*

For each question students answered correctly, one point was awarded. A ratio was then computed of the number of items answered correctly to the total number of items.

*Demographic Questionnaire.* A demographic questionnaire was administered to every student to help identify characteristics of the population participating in this study. The questionnaire contained 23 questions that included topics such as age, gender, and race or

ethnicity. Thirteen of the 23 questions assessed the students' level of enjoyment during varied reading situations by using a 6-point Likert-type scale seen in Figure 2. The remaining questions tapped into the students' frequency of reading for fun and general comprehension beliefs of their own reading.

As a manipulation check for some potential confounds, 3 of the demographic questions were related to the actual passage read during the manipulation. The first question asked how familiar students felt they were with the topic of their text, the second with their perceived importance of doing well on the assessment, and the third with their level of motivation to read the passage (See Appendix I).

*Please rate how much you enjoy or do not enjoy the following readings:*

	Enjoy	Somewhat Enjoy	Neutral	Somewhat Do Not Enjoy	Do Not Enjoy	Does Not Apply
in class	0	0	0	0	0	0
at home	0	0	0	0	0	0
when you choose the book	0	0	0	0	0	0

Figure 2. Selection from Student Reading Enjoyment Questionnaire.

**Procedure**

Before the onset of data collection, permission was obtained from the Institutional Review Board from both Florida State University and Leon County School Board. During the first of two classroom visits, students were introduced to both the study and the researcher and asked for their willingness to participate. Parental consent forms were distributed and returned within one week if the parent was willing to allow this or her student to participate in the study. To encourage participation, a raffle was held for each group of students assessed for a free meal gift card (approximately \$7.00 value) at a local restaurant.

During the second classroom visit, students whose parents consented were identified and taken to a small empty classroom where noise and other distractions were minimized. Within each of these groups of students, individual students were randomly assigned to one of two treatment groups or the control group. For this study, the two treatment groups were identified as

either the "inference generating" reading purpose group or "non-inference generating" reading purpose group. Students in the control group were not given a purpose for their reading.

A total of three packets were distributed, one at a time, to the students. The packets were arranged in a counterbalanced order and distributed to students as they entered the room. They were distributed separately to control for variations in students' pacing and to prohibit backtracking. Each packet was marked with a unique identification number to ensure that it was matched with a student's other two packets. The first packet included an informed consent letter and the Test of Silent Word Reading Fluency (TOSWRF). The second packet included a cover page, which described one of the three treatment conditions, and one of the two expository texts. The third and final packet included the comprehension assessment and demographic questionnaire.

Students were given ample time to read the informed consent letter and ask any questions they may have had before proceeding. If the student chose not to participate, he or she was dismissed to his or her class without penalty. In all, only two students elected to withdraw from the study. To those choosing to participate, the TOSWRF was administered as a whole group to have a baseline assessment of the students' reading ability.

Following the TOSWRF protocol, every group was told that they had exactly three minutes to identify as many words as possible from the lines of letters. Two example lines were completed as a whole group to ensure understanding. Once all student questions were addressed, they began the test and were stopped after exactly three minutes. The first packet was then collected.

The second packet, which included a reading purpose, instructions, and the text was then distributed. The group of students was instructed to read the directions very carefully, read the text, and then raise their hand for the final packet. The students were not timed and afforded as much time as necessary to complete the reading. Once finished, the second packet was collected and their matching third packet was delivered.

The third packet contained the comprehension assessment including 12 questions and the demographic questionnaire. When the students were finished with all three packets, they were dismissed back to their classes. Generally, the experiment lasted between 25 and 30 minutes.

## ***Treatment***

For this study, Reading Purpose was defined as the reason, provided by the researcher, for having the students read a particular text before the reading assignment was initiated. Reading Purpose was classified in two different ways, inference generating and non-inference generating.

Three different sets of directions were randomly assigned to the students before reading commenced and served as their perceived reading purpose. Students in the inference-generating condition were told that they should read the text in preparation for translating and summarizing the text into a children's book they will have to create at a later date (*"Please read the following story. When you are finished, you will be asked to create a children's book describing the story so that someone younger than you will be able to understand the information."*). This purpose aligned with literacy techniques compelling students to generate on-going relations between the text and their prior background knowledge. This purpose's intent was to compel students to reach the *situation model* level of representation and allow them to link different parts of what they have read to generate an overall message for the younger students.

Students in the non-inference-generating condition were told to read in preparation for a test (*"Please read the following story. When you are finished, you will be asked to take a short test about what you read."*). This purpose's intent was to elicit a *surface* or *textbase* level of representation, typical of standard purposes within the education setting.

Students in the control group were not given a purpose and told to await further instructions (*"Please read the following story. When you are finished, you will be given further instructions."*).

To ensure a comfortable reading environment for all students, all talking and other distractions were prohibited during the manipulation. After all comprehension questions were answered, the demographic questionnaire was completed at the student's own pace. After every student was finished, the group of students was debriefed and the purpose and methodology of the study were explained. The students were told that neither of the purposes for their reading would actually be carried out, and they were thanked again for their voluntary participation. When all assessments and debriefing were completed, students were dismissed back to their respective class. In all, there were six different groups of students and data collection took place over the course of three days.



## CHAPTER 4

### RESULTS

#### Preliminary Analysis

##### *Reading Level*

The mean reading level of the sample ( $N=104$ ) was 8.78 ( $SD = 2.34$ ). To ensure every student was reading at or above the reading level of the two texts, participants who did not reach the 8.0 reading level as determined by TOSWRF results were removed from the analysis; the mean of the 30 participants who were excluded was 5.85 ( $SD=1.14$ ). After participants reading below the required reading level were excluded, the total number of participants included in analysis was 74 ( $M=9.93$ ,  $SD=1.55$ ). All results reported in the following sections were based on the remaining sample of 74.

##### General Descriptive Results

Of the remaining 74 participants, general demographics were descriptively similar to that of the entire sample of students before initial reading level was taken into consideration. In the reduced sample, the majority of students were still in the eighth grade (64%), female (74%), and ranged in age from 12 to 14 years ( $M=13.51$ ,  $SD=.602$ ). In addition, 81% of the students identified themselves as “White or Caucasian” with the next more prominent group again identifying themselves as “Black or African American” (8%).

Student responses to sentence prompt questions were scored based on instrument protocol and categorized based on the level of Mental Representation of Text they were able to reach. Levels included: *unclear* ( $N=5$ ), *surface* ( $N=3$ ), *textbase* ( $N=27$ ), and *situation model* ( $N=39$ ). There were also four general comprehension questions on the assessment. Each student received one point for each correct response, creating a final score between 0 and 4. The mean comprehension score for the sample of students 3.05 ( $SD=.919$ ).

To ensure that there was an even balance of demographic characteristics across the six experimental conditions as well as the full and reduced samples (see Table 4.1), three Pearson’s chi-square tests were conducted. Results indicate that there were no significant differences in the proportion of students in each condition and sample by Gender ( $\chi^2=8.08$ ,  $p=.621$ ) or Race ( $\chi^2=4.42$ ,  $p=.927$ ). However, the chi-square test of the proportion of students in each condition and sample by Grade was significant ( $\chi^2= 19.75$ ,  $p=.003$ ). A chi-square test comparing the six

different conditions by Grade within just the full sample was not significant ( $\chi^2=1.33, p=.248$ ). Also, the chi-square test comparing the six conditions by Grade within just the reduced sample was not significant ( $\chi^2=.833, p=.991$ ). Because of the way in which the sample was reduced given the selection criteria (reading level), the number of seventh grade students in the reduced sample was lower.

### ***Manipulation Check***

To check for any unintentional confounds, students were asked to rate their level of text familiarity (i.e., background knowledge), perceived importance of doing well on the assessment, and their level of motivation to read the passage assigned.

*Background knowledge.* Students were asked to rate their level of familiarity with the text they were given. A 6-point Likert-type scale was used, where 1 indicated “extremely unfamiliar” and 6 “extremely familiar” ( $M=4.00, SD=1.33$ ). By text, students indicated that they were more familiar with Text 2 “About the Mayans” ( $M=4.52, SD= 1.15$ ) than Text 1 “About the Eskimos” ( $M = 3.53 SD= 1.32$ ). A one-way Analysis of Variance (ANOVA) indicated that students were significantly more familiar with Text 2 than Text 1,  $F[1, 68] = 10.90, p = .002$ . However, an additional one-way ANOVA indicated that there were no significant differences in the students’ level of background knowledge by assigned reading purpose,  $F[ 2,68] =1.19, p=.312$ .

*Perceived importance.* Students were asked to rate how important they felt it was to do well on the given assessment. A 5-point Likert-type scale was used, where 1 indicated “not important” and 5 “very important” ( $M=2.45, SD=1.16$ ). By text, no significant difference was found in the students’ perceived importance between Text 1 “About the Eskimos” ( $M=2.22, SD=1.10$ ) and Text 2 “About the Mayans” ( $M=2.70, SD=1.19$ ). An additional one-way ANOVA indicated that there were also no significant differences in the students’ perceived importance by assigned reading purpose,  $F[ 2,68] =.252, p=.778$ .

*Motivation.* Students were asked to rate how motivated they felt to understand the text they had just read. A 5 point Likert-type scale was used, where 1 indicated “not motivated at all” and 5 “extremely motivated” ( $M=2.55, SD=1.05$ ). Broken down by text, no significant difference was found in the students’ level of motivation between Text 1 “About the Eskimos” ( $M=2.39, SD=.96$ ) and Text 2 “About the Mayans” ( $M=2.73, SD=1.13$ ). An additional one-way ANOVA indicated that there were also no significant differences in the students’ level of motivation by assigned reading purpose,  $F[ 2,68] =1.62, p=.205$ .

Table 4.1

Frequencies of Participants in Full and Reduced Sample for Demographic Items by Text and Purpose

Text	Purpose	Grade				Gender				Race			
		7th		8th		Male		Female		Caucasian		African American	
		Full	Reduced	Full	Reduced	Full	Reduced	Full	Reduced	Full	Reduced	Full	Reduced
Eskimos	Inference Generating	9	6	9	7	5	2	13	11	16	13	1	0
	Non-Inference Generating	9	5	9	9	8	4	10	10	13	9	3	2
	Control	8	5	9	6	8	3	9	8	15	11	2	0
Mayans	Inference Generating	9	4	8	8	8	4	9	8	11	8	3	2
	Non-Inference Generating	8	3	9	9	6	3	11	9	15	10	0	1
	Control	8	4	9	8	5	3	12	9	13	9	1	1

### Research Question 1

The first analysis sought to investigate whether or not different perceived reading purposes affect the level of Mental Representation of Text in seventh and eighth grade social-studies students. A Pearson's chi-square test was used to examine if the independent variable (reading purpose) had an effect on the dependent variable (Mental Representation of Text level). Results seen in Table 4.2 indicate that there were no significant differences in the proportion of students at each level of Mental Representation of Text within each reading purpose,  $\chi^2 = .189$ ,  $p = .910$ .

Table 4.2

#### *Chi-square Frequencies*

Reading Purpose	Level of Mental Representation of Text			
	Unclear	Surface	Textbase	Situation Model
Inference Generating ( $n=25$ )	1	1	9	14
Non-Inference Generating ( $n=26$ )	4	1	8	13
Control Group ( $n=23$ )	0	1	10	12

### Research Question 2

The second analysis sought to investigate whether or not different perceived reading purposes affect general comprehension of a text. A one-way analysis of variance (ANOVA) was performed on the independent variable (reading purpose) and the dependent variable (general comprehension). Results indicated that there were no significant differences in the students' general comprehension score based on their given reading purpose,  $F[2,71] = .761$ ,  $p = .471$ .

#### Post hoc Analyses

Given that there was a significant difference in the participants' background knowledge for the two texts, post hoc analyses were performed to explore the relationship that the assigned text might have had with participants' responses on the comprehension assessments.

### ***Level of Mental Representation of Text by Text***

A Pearson's chi-square test was used to examine the relationship between the levels of Mental Representation of Text by the given text. No significant results were found, indicating the given text did not affect a student's level of Mental Representation of Text,  $\chi^2 = .054, p = .816$ .

### ***Reading Purpose, Text, and Purpose by Text Interaction***

A between-subjects multivariate analysis of variance (MANOVA) was performed on Reading Purpose, Text, and the Purpose by Text interaction for General Comprehension as well as for Sentence Prompt types, including: *verbatim*, *paraphrase*, *incorrect*, and *inference* sentences. For these sentence prompts, the literal scoring was used rather than the interpretive scoring, which was used to identify the patterns for determining the level of Mental Representation of Text.

*Main effects of Purpose.* Using Wilks'  $\lambda$  standards a significant effect for purpose alone was not found,  $F[5, 73] = .755, p > .05$ . As seen in Table 4.3, the General Comprehension score was not found to be significantly different across reading purposes. There were also no significant differences in the students' sentence prompt scores across the reading purpose groups (see Table 4.3).

*Main effects of Text.* Results showed significant main effects for text,  $F[5,74] = 17.53, p < .001$ . However, a significant effect was not found with students' General Comprehension score with respect to the text assigned (see Table 4.3). Of the four different sentence prompt scores examined, two were significantly different across texts. *Incorrect* and *Inference* sentence prompts were both found to be statistically significant (see Table 4.3).

For the *Incorrect* sentence prompts, the mean score for text 1, "About the Eskimos" ( $M=.365, SD=.538$ ), was lower than the mean score for text 2, "About the Mayans" ( $M=.783, SD=.896$ ). For the *Inference* sentence prompts, the mean score for text 1 ( $M=.527, SD=.744$ ) was actually greater than the mean score for text 2 ( $M=.081, SD=.275$ ). That is, in both cases, the higher the mean score, the more questions the students' answered correctly out of a possible score of 2.

*Interaction effects of Purpose by Text.* Finally, results indicated a significant purpose by text interaction effect,  $F[5,73] = 2.00, p < .05$ . With regards to students' General Comprehension score, there was also a significant effect found (see Table 4.3). However, there

were no significant effects of the Text by Purpose interaction on each of the four sentence prompt type scores (see Table 4.3).

Table 4.3

*MANOVA Results for Purpose, Text, and Purpose by Text Interaction for Assigned Reading Purpose*

Effect	Wilks' $\lambda$	F-value	P-value
<b>Purpose</b>	0.892	0.755	0.671
General Comprehension		.938	.396
Verbatim Sentences		.125	.882
Paraphrase Sentences		.241	.787
Incorrect Sentences		2.00	.143
Inference Sentences		.217	.805
<b>Text</b>	0.425	17.33	.000**
General Comprehension		2.37	.128
Verbatim Sentences		2.44	.123
Paraphrase Sentences		.985	.324
Incorrect Sentences		50.03	.000**
Inference Sentences		36.71	.000**
<b>Purpose*Text</b>	0.748	2.00	.038*
General Comprehension		4.03	.022*
Verbatim Sentences		1.08	.344
Paraphrase Sentences		.957	.389
Incorrect Sentences		2.25	.114
Inference Sentences		1.10	.338

\* $p < .05$ , \*\*  $p < .001$

To interpret the interaction effect (see Figure 3), post hoc one-way ANOVAs with a Bonferroni correction were performed for all of the possible paired comparisons with regards to the two different texts and three different reading purposes (see Table 4.4). A Bonferroni correction was used to minimize the risk of a Type I error, being one of the most conservative corrections. The only comparison that was significantly different was in the control group where students' General Comprehension score was significantly higher for Text 2: "About the Mayans" than Text 1: "About the Eskimos" ( $p=.041$ ).

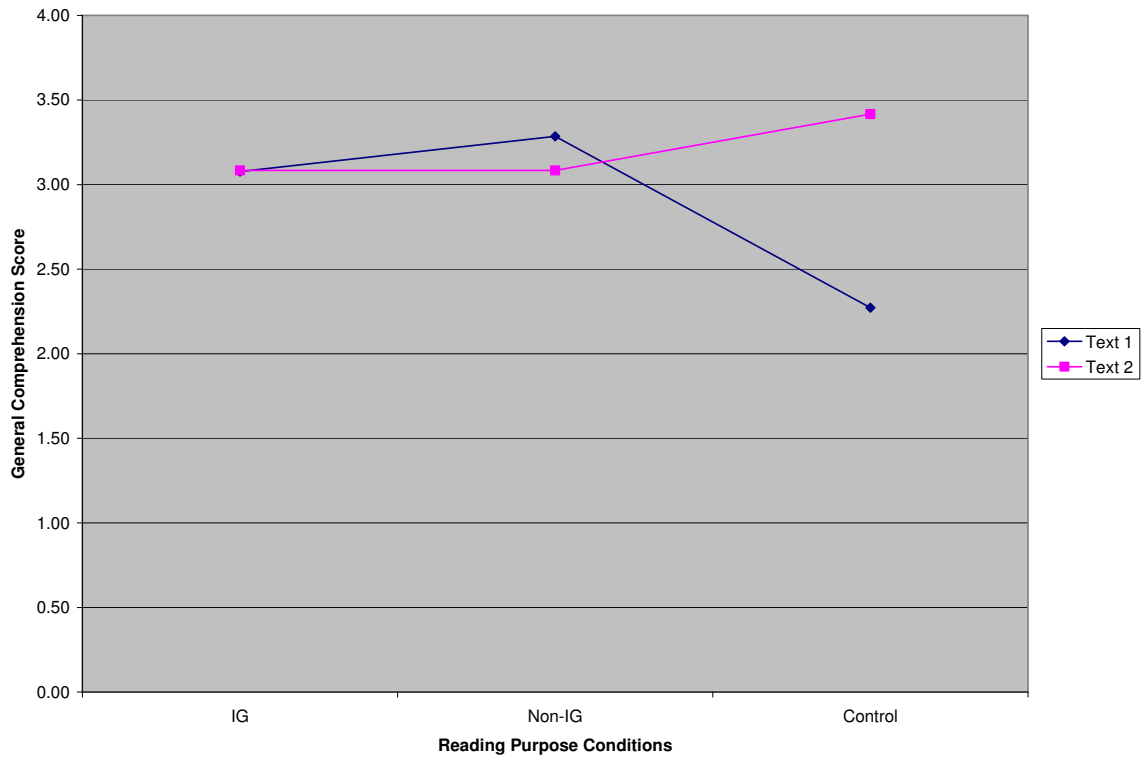


Figure 3. Text by Purpose Interaction with regards to Students' General Comprehension Score.

Table 4.4

*Means for Purpose by Text Interaction*

Text	Reading Purpose		
	Inference Generating	Non-Inference Generating	Control
About the Eskimos	3.08 ( <i>SD</i> = .86)	3.29 ( <i>SD</i> = .61)	2.27 ( <i>SD</i> = 1.01)
About the Mayans	3.08 ( <i>SD</i> = 1.24)	3.08 ( <i>SD</i> = .90)	3.42 ( <i>SD</i> = .51)

### ***Reading Purpose, Text, and Purpose by Text Interaction for Known and Unknown purpose groups***

To examine the differences between a given reading purpose and no purpose at all, an additional between-subjects MANOVA was performed on Reading Purpose, Text, and the Purpose by Text interaction for General Comprehension and Sentence Prompt types. Once again, the literal scoring was used rather than the interpretative scoring for the sentence prompt items. The original three reading purposes (inference generating, non-inference generating, and control) were collapsed into two purposes: known purpose and unknown purpose.

*Main effects of Purpose.* Using Wilks'  $\lambda$  standards a significant effect for purpose alone was not found,  $F[5, 66] = .708, p > .05$ . As seen in Table 4.5, the General Comprehension score was also not found to be significantly different across the two different reading purposes (known purpose and unknown purpose). There were also no significant differences in the students' sentence prompt scores across the two reading purpose groups (see Table 4.5).

*Main effects of Text.* Results showed significant main effects for text,  $F[5,66] = 14.816, p < .001$ . A significant effect was also found with students' General Comprehension score with respect to the text assigned. (see Table 4.5). Of the four different sentence prompt scores examined, two were significantly different across texts. *Incorrect* and *Inference* sentence prompts were both found to be statistically significant (see Table 4.5).

*Interaction effects of Purpose by Text.* Finally, results indicated a significant purpose by text interaction effect,  $F[5,66] = 3.677, p < .001$ . With regards to students' General Comprehension score, there was also a significant effect found (see Table 4.5). Of the four different sentence prompt scores, only *Inference* sentence prompts were found to be statistically significant (see Table 4.5).



Table 4.5

*MANOVA Results for Purpose, Text, and Purpose by Text Interaction for Known and Unknown Purpose*

Effect	Wilks' $\lambda$	F-value	P-value
<b>Purpose</b>	0.949	0.708	0.619
General Comprehension		1.751	0.19
Verbatim Sentences		0.265	0.608
Paraphrase Sentences		0.462	0.499
Incorrect Sentences		0.935	0.337
Inference Sentences		0.017	0.896
<b>Text</b>	0.471	14.816	.000**
General Comprehension		5.67	.020*
Verbatim Sentences		3.066	0.084
Paraphrase Sentences		1.937	0.168
Incorrect Sentences		33.991	.000**
Inference Sentences		27.918	.000**
<b>Purpose*Text</b>	0.782	3.677	.005**
General Comprehension		8.103	.006**
Verbatim Sentences		0.713	0.401
Paraphrase Sentences		1.937	0.168
Incorrect Sentences		4.295	.042*
Inference Sentences		0.908	0.344

\* $p < .05$ , \*\*  $p < .001$

## CHAPTER 5

### DISCUSSION

#### *Summary of Findings*

The purpose of this study was to test the effects of various perceived academic reading purposes on seventh and eighth grade social-studies students' levels of Mental Representation and General Comprehension of text. Based on previous research in the areas of reading comprehension and inference generation, it was hypothesized that a reading purpose meant to encourage inference generation, those in which the literacy strategy of inference generation were inherently embedded, would lead to higher levels of Mental Representation of Text and General Comprehension of texts than would reading purposes that did not.

The results of this study did not support the hypothesis that an inference generating reading purpose would promote a higher level of Mental Representation of Text or overall General Comprehension of a text than a non-inference generating reading purpose. When examined, it was found that no differences existed in the proportion of students reaching each level of Mental Representation of Text as influenced by reading purpose alone. In addition, no significant differences in the students' General Comprehension score based on their given reading purpose were found. Overall, students in all reading purpose conditions seemed to have relatively high General Comprehension scores, and more than half of the total sample was able to reach the *situation model* level of Mental Representation of Text.

Post hoc analyses were performed to examine what, if anything, might be affecting students' levels of Mental Representation of Text and General Comprehension besides the given reading purpose. Significant main effects were found for the Text and the interaction of Purpose by Text. Further analyses confirmed that the students' General Comprehension score was not significantly affected by the given reading Purpose or the Text. However, with regards to the text, significant differences were found between how students responded to the *incorrect* and *inference* sentence type prompts. These results suggest that the way in which students responded to these two types of sentence prompts might be affected by the text to which they were assigned.

A significant Purpose by Text interaction was also found for the students' General Comprehension score. Based on follow-up tests to explore this interaction, it was found that

students' General Comprehension score in the control group was significantly higher on Text 2 "About the Mayans" than Text 1 "About the Eskimos". These results suggest that, again, the text in which the student was assigned might be a contributing factor for differences in students' General Comprehension score. This corresponds with the ratings of the students about their level of familiarity with each of the topics. It was found that students were significantly more familiar with Text 2, "About the Mayans", than they were with Text 1, "About the Eskimos". That is, having a known reading purpose (i.e., reading to prepare for an exam) versus an unknown reading purpose truly seems to make a difference for students' General Comprehension when reading a text they are less familiar with.

### ***Implications of Findings***

The results obtained have several implications. First, background knowledge for a text proved very important when it came to students' General Comprehension of a text. Referring back to van den Broek et al.'s (2001) study, they suggested that among other things, background knowledge affects a reader's ability to generate an accurate inference. In this study, varying degrees of background knowledge seemed to influence how students answered the comprehension assessment items more so than did the different reading purposes.

In the control group, where no reading purpose was assigned, students who indicated having a strong background knowledge for the text actually answered more questions correctly on the General Comprehension assessment. This indicates that, even when given no direction for reading, students relied on their previous topic knowledge to answer comprehension questions. Thus, when left to their own resources, students may resort to other comprehension strategies considered off-line, such as recall. For on-line text processing, such as inference generation, it seems that any purpose was better than none, but without a purpose given, off-line processing might rely more heavily on prior background knowledge rather than newly learned knowledge.

When examining the influence background knowledge had on the different levels of Mental Representation of Text, the sentence prompt questions themselves were inspected to investigate why there were no differences in the amount of students reaching the *situation model* level across purposes. Because the questions were worded in such a way that they asked if a sentence was or was not included in the reading, a student with high background knowledge would have been able to discredit or identify the incorrect sentence, thus answering "no", it was

not in the text. While such a student may have known this was an accurate inference to make, he or she might also have been focused on judging the literal accuracy of whether the prompt as presented was in the text previously read. However, using the original protocol of the sentence-recognition items, such responses would suggest this student has not reached a higher level of Mental Representation of Text. On the contrary, they might have been relying on off-line text processing skills (background knowledge) and answered accordingly.

With regards to the pressures of standardized testing in middle schools today, the influence background knowledge has on a student's ability to comprehend material still needs to be explored in more detail. Content area classroom teachers might be able to increase comprehension strategies taught throughout the year, such as generating questions that structure reading and asking "why" questions (Vellutino, 2003) to help offset discrepancies between varying levels of text familiarity when presented with passages on these tests.

### ***Limitations of Study***

One of the primary strengths of the study was that no previous research has tried to directly examine the effects of academic reading purposes on middle school students' comprehension, including their level of Mental Representation, for expository texts. Unlike other studies, this study compared only academic reading purposes. In addition, this study took place in a classroom, making the setting as natural as possible for the students. Given the novelty of the experiment presented here, it should be considered a preliminary study, and, as such, there were some unexpected findings and limitations.

To ensure a sound methodology, two texts were used in the manipulation to control for possible confounds. Through analysis, the actual texts proved to be a very significant factor with regards to student outcomes. Because the texts were chosen prior to receiving any baseline student information, there was no method in which to ensure equal levels of background knowledge across texts. Researchers in future studies might want to devise a more systematic method of assessing students' background knowledge for specific texts. Also in future studies, researchers might want to find a way to control or more purposefully manipulate the texts, taking into account the students' level of background knowledge.

One limitation of this study was the small sample size and its subsequent affect on power. Any student not reading at or above the grade level of the text was excluded from analysis.

Difficulties with recruitment of schools, teachers and minors to participate led to a smaller than required sample given the power analysis, and then almost one third of the sample had to be excluded because the texts were written above their reading level. Because students were dropped from the sample, besides lowering the actual sample size, it also restricted the range of possible results, decreasing the chances of finding differences within the sample. Future researchers might want to lower the reading level of the text and over sample to ensure adequate numbers of students all reading at the same level.

Another possible limitation of the study is with regards to the plausibility of the reading purposes assigned. In the student assent letter, it explained that the entire manipulation should only take approximately 30 minutes to complete. Students in the treatment groups might never have believed that they were actually going to carry out the given assignment, possibly reading with a purpose different than that assigned. Future research should include an additional manipulation check item assessing the students' belief that the assigned reading purpose would actually be carried out.

An additional limitation of the study is related to the generalizability of the sample population. Students in this study were relatively more affluent with regards to socio-economic status when compared to the rest of the county and state. In addition, most students participating reported receiving "mostly A's and B's" on reading assignments. While drawing conclusions based on this sample of students, it should be noted that because the students reading at lower levels were removed from analysis, the overall ability of the readers sampled was quite high regardless of the reading purpose they were assigned.

One final limitation of this study regards the interpretation of the different Mental Representation of Text level sentence prompts. Caution should be taken when drawing conclusions about the meaning behind the way a student answered each question. Students' literal interpretation of the questions might actually suggest a lower Mental Representation of Text level; when in actuality, they might have just answered the question as written. For example, if a student was presented with an *inference* sentence prompt and asked whether or not the sentence was in the text and they answered "no", the instrument interpretation suggests that this student was not able to create an inference. However, interpreted literally, the student actually identified correctly that the prompt sentence was not in the original text. This

discrepancy between students' interpretation of the questions should be explored to ensure each student answers the questions as the researcher intends.

### ***Conclusions and Directions for Future Research***

Throughout this study it was evident that a student's ability to comprehend a text was dependant on several factors. While hoping to manipulate the level of Mental Representation of Text a student was able to reach by encouraging inference generating reading purposes, other variables such as their background knowledge on the topic of the text they were assigned might have contributed to the results.

One interesting observation to note was that of the high General Comprehension scores and number of student's reaching the *situation model* level of Mental Representation of Text of students in all reading purpose groups. This suggests that all students were comprehending well and generating inferences anyway, regardless of a given reading purpose. Background knowledge and difficulty level of the texts assigned should be varied as conditions in future studies in order to examine what role these might play in relation to the effect of purpose on comprehension. Each reading purpose created for this study also might have inadvertently encouraged the students to use on-line text processing strategies and generate inferences. In the control group where no purpose was assigned, students might have created their own purpose for reading that influenced the way in which they read the text. Future studies might want to pilot several reading purposes and employ a think-aloud protocol to understand further the thought process of the students while reading for various purposes or for no purpose given. In addition, because this was a preliminary study with regards to the different reading purposes, the assigned reading purposes were all perceived. Thus, it might be helpful in future studies to actually carry out the activity or purpose for the students reading, and then assess their General Comprehension and Mental Representation of Text levels. This strategy would provide a more natural and familiar environment for the students, in addition to providing them opportunities to develop off-line situational representations of the information.

With future studies concentrating on the impact that teachers' instructions prior to reading might have on student reading achievement, new and more effective methodology in content area literacy instruction may be created. Instructors and researchers should try to keep in mind Victoria Purcell-Gates' third question posed at the National Reading Conference in 2006:

“Why am I, as a classroom teacher, planning these lessons/asking my students to do these things?” (p.1). With the countless demands placed on students, schools, and teachers, efforts to ensure students are reading for an effective “purpose” should always be kept in mind.

**APPENDIX A**  
**FLORIDA STATE UNIVERSITY IRB APPROVAL**

Office of the Vice President For Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2742  
(850) 644-8673 · FAX (850) 644-4392

**APPROVAL MEMORANDUM**

Date: 5/7/2008

To: Katie Ganson

Address: 1128 Ocala Rd. Apt. B5  
Dept.: EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research  
Reading for a purpose: the effects of reading purpose on the inference generation and comprehension of middle school students.

The application that you submitted to this office in regard to the use of human subjects in the research proposal referenced above has been reviewed by the Human Subjects Committee at its meeting on 04/09/2008. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 4/8/2009 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Alysia Roehrig-Bice, Advisor  
HSC No. 2008.1105



**APPENDIX B**  
**LEON COUNTY IRB APPROVAL**

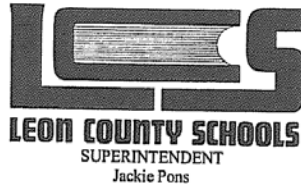
**BOARD CHAIR**  
Dee Crumpler

**BOARD VICE-CHAIR**  
Georgia "Joy" Bowen

**DIVISION OF EVALUATION**  
Michelle Gayle, Ph.D., Director

April 16, 2008

Ms. Katie Ganson  
1128 Ocala Rd. #B5  
Tallahassee, FL 32304



**BOARD MEMBERS**

Sheila Costigan  
Maggie B. Lewis-Butler  
H. Fred Varn

Dear Ms. Ganson:

Topic: "Reading Purposes' affect on reading comprehension"

The Leon County Schools Research Review Board has determined that the findings of your proposed study could be pertinent to our efforts and so we are approving your request to conduct the research mentioned above.

Your research request is approved for the period of April 2008 through March 2009. Should you desire to extend your research efforts after this period of time, you must submit (a) a progress report, (b) preliminary results of your research, and (c) a request for renewed approval for continuation. Any significant changes or amendments to the procedures or design of this study must be approved by resubmitting the request for research to the Research Review Board.

Approval by the Research Review Board does not in itself constitute permission to carry out the research. You may now contact principals of the schools in your study. The principal has the final decision relative to research at each school. It is your responsibility to return the enclosed "Principal's Consent for Research Participation," signed by the principal(s) of the school(s) to be involved, prior to the start of any research. Receipt of this form by this office will complete the approval process.

Since your research study involves direct contact with students, the background check policy requires the research applicant(s) to be fingerprinted for clearance. It is the responsibility of the applicant(s) to complete all required documentation prior to the beginning the study.

Leon County Schools is approving your research partly due for the potential benefit of information to the district; therefore, it is important that you send this office an executive summary with purpose, methods, results and discussion when your study is complete. We will place information from your study in our research library and annotated listing of conducted research. We look forward to receiving your results.

Please feel free to phone me (850.487.7817) if I may be of further assistance.

Sincerely,

A handwritten signature in black ink that reads "Michelle Gayle, Ph.D." The signature is written in a cursive style.

Michelle Gayle, Ph.D.,  
Director, Division of Evaluation and Chairperson, Research Review Board

C: Merry Ortega, and administrators at Deerlake and Swift Creek schools

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**APPENDIX C**  
**PARENTAL CONSENT LETTER**



*Educational Psychology & Learning Systems*

Dear Parent or Guardian,

My name is Katie Ganson and I am a graduate student under the supervision of Dr. Roehrig-Bice, from the Educational Psychology and Learning Systems department at Florida State University. Your child is invited to be in a research study about the effects different reading purposes have on reading comprehension. We are asking that your child take part because they are in the age group I would like to study. I ask that you read this form and ask any questions you may have before agreeing to allow your child to take part in this study.

**The Study:** The purpose of this study is to find out whether or not different reasons students are given to read (such as reading to prepare for a test versus reading to complete a worksheet) affect their comprehension of the information. With the information I gather from this study, I hope to develop new teaching strategies that increase students' deeper level of reading comprehension. If you agree to allow your child to take part, they will be asked to read one (1) short text with a given purpose, and fill out a questionnaire. Reading the text and filling out the questionnaire will take about twenty (20) minutes to complete.

**Risks and Benefits:** There are no direct risks associated with participating in this study. If your student does participate, they have the potential to learn new reading strategies that may increase their reading comprehension. In addition, their participation will help contribute to the growing research on best practices for reading instruction. To help with recruitment, a gift certificate raffle will be conducted for each class, consisting of a free meal at Sonic Drive-In.

**Confidentiality:** The records of this study will be kept confidential to the extent permitted by law. The demographic questionnaire will only ask for gender, age, and race or ethnicity, in addition to reading preferences and reading strategies. It will **not** include your child's name, nor will it be possible to link answers to a particular student. Questionnaires will be kept securely for three (3) years after this study ends in a locked cabinet and office at the Florida Center for Reading Research.

**Voluntary Participation:** Your child's participation in this study is completely voluntary. Your child may skip any questions he or she does not feel comfortable answering. Your decision whether or not to allow your child to take part will not affect your current or future relationship with Florida State University or with your child's school. If you decide to allow your child to take part, they are free to choose not to complete the demographic questionnaire, skip any

questions, or stop at any time. You are free to withdrawal your child at any time without affecting your relationship with the University or your child's school.

Again, my name is Katie Ganson. You may reach me at (850) 645-8401 or at kganson@fcrr.org. Please feel free to ask any questions you may have now, or at any point in the future. If you have any questions or concerns about your child's rights as a research participant, you may contact the FSU Institutional Review Board (IRB) at (850) 644-8633 or you may access their website at <http://www.research.fsu.edu>. You will be given a copy of this consent form for your records.

*Please keep the upper portion of this letter for your records, and return just the second page with your signature by **Friday May 23rd**.*

Please indicate whether or not you give consent for your child to participate in the study, enter your child's name, and sign below.

\_\_\_\_\_ My student may participate in this study.  
\_\_\_\_\_ My student may NOT participate in this study.

Your child's name: \_\_\_\_\_

Parent or Guardian signature: \_\_\_\_\_ Date: \_\_\_\_\_

Thank you so much for your consideration,

**Katie Ganson**

kganson@fcrr.org  
Florida State University  
Educational Psychology & Learning System  
Learning & Cognition

**APPENDIX D**  
**STUDENT ASSENT LETTER**



**FLORIDA STATE  
UNIVERSITY**

*Educational Psychology & Learning Systems*

Dear Student,

My name is Katie Ganson and I am a graduate student under the supervision of Dr. Roehrig-Bice from the Educational Psychology and Learning Systems department at Florida State University. You are invited to be in a research study about the effects different reading purposes have on reading comprehension. Please read all of the following before agreeing to be a part of this study:

If you choose to participate in the study, you will be asked to read a short informational text and fill out a few questionnaires about yourself. Together, it will only take about 30 minutes of your time.

By participating in this study, you will be helping contribute to all of the research done on the best ways to teach students. To thank you for your participation, I will hold one drawing per class where you may win a gift certificate for a free meal at Sonic Drive-In.

All of your answers to the questionnaire will be kept confidential and your name will never appear on any document you turn in.

Your decision to participate is completely voluntary and you may choose not to participate without penalty. If you do choose to participate, you may stop at any time during the experiment or skip any questions you do not feel comfortable answering.

I have read and understand this consent letter. I also understand that even though my parent or guardian has given me permission, it is completely my choice and I can decide whether or not I would like to participate.

\_\_\_\_\_  
Student's Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Student's Signature

## APPENDIX E

### STUDENT TEXTS

*Text 1:* 407 words, Flesch-Kincaid Reading Level = 8.2

#### *About the Eskimos*

“Eskimo” is an American Indian word which translates to “eaters of raw meat.” They originally came from Asia across a land bridge into northern North America, now called Alaska. They gradually spread across the Arctic regions of the continent. Eventually they came to live in for countries: the Soviet Union, the United States, Canada, and Greenland.

They do not use the word “Eskimo” when speaking of themselves. Instead they use a term that means simply “people.” In Canada that word is “Inuit”. In Alaska, Eskimos refer to themselves as “Inupiat” and “Yupik.” The word “Yuit” is used in Siberia. Eskimos lived in some of the world’s coldest areas near the Arctic Circle. Surviving was a struggle, a constant battle with the elements. The cold waters of the Arctic provided the Eskimos with their food. They lived on seals, salmon, cod, whales, and other sea life. On land there were caribou and geese in the summer.

In order to find those animals, it was necessary for the Eskimos to live a wandering life, following the animal migrations. Generally, they would have a summer home and a winter home. Tents made of seal or caribou skin provided shelter during the summer months. In winter, most of them built sod houses. A dome-shaped snow house was built by some groups. It served as temporary shelter when traveling or hunting. It would consist of blocks cut from the snow and built upward in a spiral shape. Outsiders would call this an “igloo”.

However, to the Eskimo, any place for living can be called by that name. Eskimos lived in groups of several families. The man’s role was to hunt for food, drive the dog sled, row the boat, and build shelters. A woman’s most important duty was to make the family’s clothing, being sure it was warm and windproof. She also looked after the children and cooked for her family. Sometimes she even helped her husband with his duties. Eskimo men and women treated each other as equals. Women were not “second-class citizens.”

Today, Eskimo life is much different. Most of the people live in towns or small settlements. They wear modern clothing and live in modern houses. They eat food purchased from stores. Instead of kayaks and dog sleds, they use motorboats and snowmobiles. Many have renounced their native religion for Christianity. Many Eskimos now work for wages, but a substantial number are unemployed and require government help to live.

Text 2: 372 words, Flesch-Kincaid Reading Level = 8.2

### *About the Mayans*

The ancestors of the Maya were Asian people that migrated to Central America via Siberia to Alaska across the Bering land bridge. The area ranging from Mexico to Costa Rica is called the Yucatan Peninsula and became the area where the Maya lived. Most of the people lived as hunters and gatherers. By around 2000 B.C.E. they learned to plant crops such as maize, beans and squash. The people lived in caves, rock shelters and open camps. Later they began to live in village-like settings.

Religion was important to the Mayans. They worshiped everything in nature and tried to explain how things happened because of the Gods. The Mayans believed that the world was made up of heavens and underworlds. They were linked together by a giant tree, which had its branches in the heavens, and its roots in the underworld. The Mayans also believed that every person had an animal companion spirit. When the person was born, the same soul that they had would be placed in an animal's body.

It was believed that people could transform into their animal companion. Most people would have one animal spirit, but powerful shamans would have more than one spirit. All kings would have the animal companion of the jaguar. The Kings were often shown in art as wearing jaguar helmets. Mayans had a different definition of beauty than people today. Many things were done to meet the standards of beauty. When they were babies their heads were pressed to make them longer.

Also noses were purposely broken to add curvature. The men wore clothing called loincloths. Women wore long dresses going to their ankles. Ears, lips, tongues, and noses were pierced at young ages. The Maya had advanced architecture for their time. Maya pyramids were made of limestone. These hard-to-climb buildings had temples, basically right inside the pyramids.

The first large pyramid built by the Mayans was made between 600 B.C. and 400 B.C. There were also large but low buildings. These were homes to nobles and other buildings appeared taller. Why the Maya disappeared is a question that has baffled historians for years. Because the Maya disappeared long ago no one will ever know for sure what happened to them. Many theories exist but none are definitely true.

**APPENDIX F**  
**TEST OF SILENT WORD READING FLUENCY**

Example B.6

see|he|ni|m|y|g|o|g|e|t|d|o|u|p|g|r|e|e|n|t|w|o|d|r|e|s|s|/  
 n|e|w|f|l|e|w|l|e|t|f|l|y|t|a|k|e|t|r|e|b|u|y|g|u|e|s|s|p|u|t|/  
 o|v|e|r|w|h|y|s|t|a|y|p|e|o|p|l|e|b|a|g|t|r|y|d|u|c|k|o|u|r|a|l|/  
 a|u|n|t|l|u|n|c|h|s|u|n|c|r|y|c|o|u|l|d|f|i|v|e|p|r|i|z|e|h|u|r|r|y|/  
 n|i|g|h|t|b|y|g|i|v|e|c|o|u|n|t|c|e|n|t|p|o|p|k|e|p|t|r|e|a|l|/  
 o|a|k|b|u|i|l|d|e|e|p|t|y|f|u|l|l|s|e|n|t|d|e|e|p|a|b|l|e|n|u|t|/  
 r|e|s|t|w|a|g|h|u|r|t|q|u|i|e|t|f|o|o|d|k|e|y|r|i|v|e|r|c|o|n|b|/  
 f|r|e|e|p|o|u|n|d|a|i|m|n|e|t|r|i|c|h|s|e|r|v|e|d|a|g|e|p|u|r|p|l|e|/  
 d|r|e|w|e|a|g|l|e|b|u|l|l|a|r|r|i|v|e|p|o|l|e|s|t|e|m|f|a|u|l|t|/  
 y|e|t|s|c|e|n|e|o|i|l|c|l|u|b|g|i|r|a|f|f|e|a|g|r|e|e|p|o|l|a|r|/  
 u|r|g|e|b|u|c|k|o|b|j|e|c|t|d|u|l|l|c|r|e|e|p|t|e|a|f|r|y|m|o|p|/  
 w|i|g|r|e|s|u|l|t|l|i|c|k|a|c|t|i|c|y|s|n|a|r|l|h|o|g|e|f|f|e|c|t|/  
 w|o|u|n|d|g|l|u|e|a|f|f|e|c|t|p|o|e|m|r|e|f|l|e|c|t|b|o|u|l|d|e|r|/  
 j|u|g|n|e|r|v|e|h|u|d|d|l|e|k|e|e|n|v|o|t|e|o|y|s|t|e|r|y|e|l|p|/  
 a|p|e|f|i|l|e|c|l|u|t|c|h|s|n|u|g|e|n|v|y|t|h|u|d|m|i|r|a|c|l|e|/  
 d|u|e|o|o|z|e|h|u|e|w|a|f|f|l|e|j|e|s|t|b|a|z|a|r|r|i|g|p|e|l|t|/  
 y|i|e|l|d|d|i|a|r|y|i|m|p|g|e|m|c|y|c|l|e|b|a|l|d|s|l|i|m|i|a|r|/  
 v|e|s|t|p|o|u|n|c|e|l|a|r|d|r|e|a|p|n|i|c|k|a|r|c|k|i|l|t|r|o|p|h|y|/  
 s|i|e|g|h|u|b|d|e|t|e|c|t|w|i|l|t|c|u|e|t|h|r|e|s|h|s|u|l|k|i|l|t|/  
 a|c|c|e|s|s|g|a|u|d|y|s|w|i|v|e|l|p|i|v|o|t|r|e|i|c|v|e|r|d|i|c|t|/  
 e|d|i|b|l|e|p|r|i|v|a|c|y|i|r|k|e|r|r|e|f|e|s|t|i|v|e|d|u|l|y|r|o|v|e|/  
 s|t|a|u|n|c|h|c|l|i|q|u|e|p|h|y|s|i|q|u|e|d|i|v|u|l|g|e|/  
 s|l|u|r|c|u|l|t|n|a|i|v|e|b|a|u|b|l|e|h|y|s|t|e|r|i|a|r|o|s|t|e|r|/  
 g|i|r|h|d|e|f|i|c|i|e|n|t|f|e|i|g|n|e|s|e|m|b|l|e|f|o|i|b|l|e|/  
 b|o|l|s|t|e|r|f|e|t|t|e|r|c|o|m|m|u|n|e|g|l|u|t|v|i|e|b|i|e|r|/  
 n|e|g|i|g|i|b|l|e|n|e|u|t|e|r|e|s|s|e|n|c|e|l|i|b|e|l|q|u|i|b|l|e|/  
 p|r|e|c|l|u|d|e|p|r|e|c|e|p|t|v|e|r|n|a|c|u|l|a|r|j|u|n|c|t|u|r|e|/  
 t|e|r|t|i|a|r|y|s|e|c|u|l|a|r|v|o|l|u|b|l|e|p|u|l|s|a|r|g|u|i|l|e|/  
 d|u|r|e|s|s|s|u|l|l|y|w|r|e|a|k|e|p|o|c|h|d|u|b|c|o|r|c|e|/  
 s|y|m|p|o|s|i|u|m|r|a|z|e|i|m|b|u|e|q|u|a|f|f|i|r|d|a|c|q|u|i|e|s|c|e|/  
 e|g|r|e|s|s|f|a|c|i|l|e|n|e|o|p|h|y|t|e|c|a|j|o|l|e|f|e|c|u|n|d|/  
 e|n|c|o|m|i|u|m|p|e|c|u|n|i|a|r|y|i|m|b|r|o|g|i|o|j|o|c|u|n|d|/

<b>Scoring</b>	
Form	<u>  B  </u>
Chron. Age	<u>  14-5  </u>
Raw Score	_____
Age Equiv.	_____
Grade Equiv.	_____
%ile Rank	_____
Std. Score	_____
Descriptive Rating	_____
	_____

**APPENDIX G**  
**MENTAL REPRESENTATION OF TEXT ASSESSMENT**

**Text 1: About the Eskimos**

Was the following statement in the text?

*Please answer “yes” or “no” to the following questions:*

1. “Eskimo” is a Siberian word which translates to “eaters of raw meat”. \_\_\_\_\_ (yes or no)
2. They originally came from Asia across a land bridge. \_\_\_\_\_ (yes or no)
3. When speaking of themselves they do not use the word “Eskimo”. \_\_\_\_\_ (yes or no)
4. Surviving was a struggle, a constant battle with the elements. \_\_\_\_\_ (yes or no)
5. Generally, Eskimos would change their home every sixth months. \_\_\_\_\_ (yes or no)
6. Some groups built snow houses that were shaped like a dome. \_\_\_\_\_ (yes or no)
7. Those snow houses served as the Eskimo’s winter home. \_\_\_\_\_ (yes or no)
8. Eskimos don’t live a wandering life anymore. \_\_\_\_\_ (yes or no)

**Text 2: About the Mayans**

Was the following statement in the text?

*Please answer “yes” or “no” to the following questions:*

1. Most of the people lived as hunters and gatherers \_\_\_\_\_ (yes or no)
2. They lived in open camps, caves and rock shelters. \_\_\_\_\_ (yes or no)
3. Later, religion was not very important to the Mayans anymore. \_\_\_\_\_ (yes or no)
4. The jaguar was regarded as a very powerful animal. \_\_\_\_\_ (yes or no)
5. Also, noses were broken on purpose to add curvature. \_\_\_\_\_ (yes or no)
6. Piercings in ears, lips, tongues, and noses were regarded as beautiful. \_\_\_\_\_ (yes or no)
7. There were also small but high buildings. \_\_\_\_\_ (yes or no)
8. These were homes to nobles and other important people. \_\_\_\_\_ (yes or no)



**APPENDIX H**  
**GENERAL COMPREHENSION ASSESSMENT**

**Text 1: About the Eskimos**

**Please circle the best answer:**

9. What was one difficulty the Eskimo's with surviving according to the story?
- A. Building shelters
  - B. Cold weather
  - C. Finding food
  - D. Trading goods
10. The Eskimo's had both winter and summer shelters because:
- A. they had to travel to meet other tribes
  - B. they moved with migrating animals to find food
  - C. their shelters only lasted through winter
  - D. they never liked to stay in the same place for very long
11. How would you classify the relationship between the duties of Eskimo men and women?
- A. Men were generally considered more useful than women
  - B. Women were generally considered more useful than men
  - C. Men and women were considered equals when it came to their usefulness
12. How would you characterize Eskimo life today?
- A. Generally the same as it was hundreds of years ago
  - B. They are up-to-date with modern society in terms of clothing and houses
  - C. Pretty modern, but they still hunt like they did years ago.
  - D. The same as it was hundreds of years ago, but now they drive snowmobiles

**Text 2: About the Mayans**

**Please circle the best answer:**

9. According to the text, why was religion so important to the Mayans?
- A. It helped explain how and why things happened
  - B. They hoped it would give them good luck on their hunts
  - C. They hoped it would ward off evil spirits
  - D. The surrounding cultures imposed their religion on the Mayans, and it became habit
10. There is little information about the current Mayan society because:
- A. they assimilated into mainstream society.
  - B. they disappeared and nobody knows why.

- C. they moved so far away from modern society that nobody can find them.
  - D. they were involved in a war and became extinct.
11. The Mayan's pressed babies heads to make them longer because:
- A. it aligned with their standards for beauty.
  - B. they believed it would make them smarter.
  - C. they considered a rite of passage.
  - D. it was tradition to do so.
  - E.
12. One advanced technique the text explained the Mayan's used was:
- A. carving ivory tusks.
  - B. making jewelry.
  - C. mixing medicinal herbs.
  - D. building pyramids.

**APPENDIX I**  
**DEMOGRAPHIC QUESTIONNAIRE**

*Please answer the following questions about yourself:*

1. Age: \_\_\_\_\_

2. Gender:    Male  
                   Female

3. What grades do you usually receive on reading assignments? (These could include worksheets, tests, group discussions, etc.) *Please check one:*

- |   |   |
|---|---|
| <input type="checkbox"/> Mostly A's         | <input type="checkbox"/> Mostly B's and C's |
| <input type="checkbox"/> Mostly A's and B's | <input type="checkbox"/> Mostly C's         |
| <input type="checkbox"/> Mostly B's         | <input type="checkbox"/> Mostly D's or F's  |

4. Race or Ethnicity:

- |   |   |
|---|---|
| <input type="checkbox"/> American Indian or Alaska Native | <input type="checkbox"/> Hispanic or Latino |
| <input type="checkbox"/> Asian or Pacific Islander        | <input type="checkbox"/> White/Caucasian    |
| <input type="checkbox"/> Black or African American        | <input type="checkbox"/> Other: _____       |

5. Please rate how much you enjoy or do not enjoy the following readings:

	Enjoy	Somewhat Enjoy	Neutral	Somewhat Do Not Enjoy	Do Not Enjoy	Does Not Apply
Readings in class	0	0	0	0	0	0
Readings at home	0	0	0	0	0	0
Readings when you choose the book	0	0	0	0	0	0
Readings when they are assigned for class	0	0	0	0	0	0
Readings to complete your homework	0	0	0	0	0	0
Readings in class as a group	0	0	0	0	0	0
Silent sustained readings	0	0	0	0	0	0
Readings about current events	0	0	0	0	0	0
Readings to complete hands on projects	0	0	0	0	0	0
Reading novels at home	0	0	0	0	0	0
Reading comic books	0	0	0	0	0	0
Reading newspapers	0	0	0	0	0	0
Reading news on the internet	0	0	0	0	0	0

6. How often do you read for fun or read when it is not part of an assignment?

- Every day
- Once or twice a week
- Once a month
- Almost never
- Never

7. Do you feel that you comprehend the information you read when it is assigned in class?

- Yes, always
- Most of the time
- Sometimes
- Not really
- No, never

8. Did you enjoy the topic of the reading today?

- Yes
- No

9. How familiar were you with the topic of the reading you did today? (Please answer next to the title you read).

	extremely familiar	very familiar	rather familiar	rather unfamiliar	very unfamiliar	extremely unfamiliar
The Life of Eskimos	o	o	o	o	o	o
The Life of the Maya	o	o	o	o	o	o

10. How important was it to you to do well on the assignment today?

- Very important
- Somewhat important
- Neutral
- Somewhat not important
- Not important

11. How motivated were you to understand what you read today?

- Extremely motivated
- Somewhat motivated
- Neutral
- Not very motivated
- Not motivated at all

Thank you for your participation!



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## **BIOGRAPHICAL SKETCH**

Katie Ganson graduated from Florida State University in Tallahassee, FL with a Bachelor's degree in Social-Science Education. She entered the Learning and Cognition graduate program at Florida State in the Fall of 2006 in the Educational Psychology and Learning Systems department. Throughout her time as a graduate student, Katie was a research assistant at the Florida Center for Reading Research and a teaching assistant and instructor for the undergraduate education course EDF4430: Classroom Assessment. Currently, she is working as an academic program coordinator for FSUOnline in the Academic and Professional Program Services department at Florida State. Her advising professor is Alysia D. Roehrig, Assistant Professor in the Learning and Cognition program and Research Faculty for the Florida Center for Reading Research.