

2-6-2017

Background knowledge: a study of the effects background knowledge has on comprehension

Jacqueline Murtha

Rowan University, jtmurtha88@gmail.com

Let us know how access to this document benefits you - share your thoughts on our feedback form.

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

 Part of the [Junior High, Intermediate, Middle School Education and Teaching Commons](#)

Recommended Citation

Murtha, Jacqueline, "Background knowledge: a study of the effects background knowledge has on comprehension" (2017). *Theses and Dissertations*. 2357.

<https://rdw.rowan.edu/etd/2357>

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

BACKGROUND KNOWLEDGE:
A STUDY ON THE EFFECTS BACKGROUND KNOWLEDGE HAS ON
COMPREHENSION

by
Jacqueline T. Murtha

A Thesis

Submitted to the
Department of Language, Literacy, and Sociocultural Education
College of Education
In partial fulfillment of the requirement
For the degree of
Master of Arts in Reading Education
at
Rowan University
December 19, 2016

Thesis Chair: Dr. Susan Browne

© 2016 Jacqueline Murtha

Dedications

This study is dedicated to my parents, Drew and Ann, and my sisters, Libby and Alison. I could not have done this without your support, love and patience over the last two years. Thank you and I love you all! I would also like to dedicate this study to all the Spartans that helped me complete this thesis. Thank you teachers for your constant support and thank you students for helping me with my “really big paper.”

Acknowledgments

Many people have guided me through this program. I would like to thank all the faculty at Rowan University especially Dr. Susan Browne who guided me and my classmates through the final stage of this program.

Abstract

Jacqueline T. Murtha

**BACKGROUND KNOWLEDGE: A STUDY ON THE EFFECTS BACKGROUND KNOWLEDGE
HAS ON COMPREHENSION.**

2016-2017

Dr. Susan Browne

Master of Arts in Reading Education

Teachers can never assume student come to their classrooms with background knowledge needed to contextually understand a book read in class. Students in low socioeconomic areas often do not have the experiences to build schema about certain topics. Field trips are one way to build students background and schema, however, they can be expensive. Teachers need to find multiple ways to build background knowledge prior to reading a book. This thesis explores the impact background knowledge has on students' reading comprehension.

Table of Contents

Abstract	v
List of Figures	viii
List of Tables	ix
Chapter 1: Introduction	1
Purpose Statement	2
Statement of Research Problem and Question	4
Story of the Question	5
Chapter 2: Literature Review	8
Background Knowledge	9
Schema	11
Making Connections to Texts	14
Chapter 3: Context	15
Community	15
School	15
Classroom	15
Participants	16
Research	17
Data Collection	18
Data Analysis	19
Chapter 4: Data Analysis and Interpretation	21
Lack of Adequate Background Knowledge	21
Background Knowledge Supports Comprehension	23

Table of Contents (Continued)

Defining Terminology	24
Making Connections	24
Providing Clarifications	28
Chapter 5: Discussions, Limitations and Implications	30
Discussion	30
Limitations	32
Implications.....	33
References	34
Appendix A: Student Discussion Board Responses	36
Appendix B: Teacher Interview	40
Appendix C: Student Interview	41

List of Figures

Figure	Page
Figure 1. Student Survey Responses.....	22
Figure 2. Background Knowledge Data.....	23
Figure 3. Student Connections as a Bar Graph.....	26
Figure 4. Student Connections as a Pie Chart.....	26
Figure 5. Student Responses.....	28

List of Tables

Table	Page
Table 1. Types of Connections	25

Chapter 1

Introduction

“What is the number on your book?” the teacher asked a student after she distributed their new novel for the marking period. Each marking period the students in fourth through eighth grade are required to read a novel with their class. The fifth grade class is going to begin reading their new core novel, *Freedom Crossing* by Margaret Goff Clark. The students are often disengaged and unmotivated to read the classroom novel. They view reading the book as “work” which often results in frustration. Teachers constantly ask students to find supporting textual evidence to defend their answers. Students become frustrated with classwork because they struggle to find their own views and answers to questions about the novel due to a lack of understanding. Therefore, they have a tough time finding supporting details to use as evidence to support their answers. Assignments are then not completed or receive a low grade. As this continues, students receive failing grades which is frustrating to the students because they begin to feel pressured by their parents and teachers. What if this could have all been avoided if the student had become excited about the book before reading it? What if the teacher taught the background of the book to the students so they understood the content of the book?

A survey conducted before reading *Freedom Crossing*, showed that 65% of the student do not understand the novels that they read in class. If more than half of the students are not understanding the book, how hard are they struggling to complete the required classroom assignments? How difficult is it for them to pass the class for the year? What can be done to make more students understand the pre-selected mandated text in the classroom?

Purpose Statement

The purpose of this study is to examine how building background knowledge supports fifth grade students' comprehension of the novel, *Freedom Crossing*. The school district in which this study takes place has pre-selected novels that teachers must use in their Language Arts classrooms. This study is designed to observe what happens to reading comprehension when students are given non-fiction texts, videos and websites to build background knowledge or schema before reading a pre-selected mandated text. The purpose of building background knowledge is to provide students with relevant information about a topic that they can use while reading. The classroom used in this study follows a Language Arts curriculum that uses the LEADS program which is a blend of Social Studies and Language Arts. Teachers in fifth and fourth grade do not have a social studies curriculum to follow but the plot and setting of novels used in the classroom revolve around historic events. This study is significant in that students must comprehend the novels in order to be successful in their language arts class. The core novel is used to teach students how to draw inferences, determine meanings of new words from context clues, or understand a character's point of view. The core novels are also a basis of student centers which has an impact on classroom participation and overall marking period grades.

As teachers, we see the "compartmentalization of knowledge in our classes on a regular basis." (MacMillan, 2014, p. 945) Meaning, students struggle to make the connections between reading and other knowledge that experienced readers can make. Through research conducted on background knowledge, Karen Manarin (2012) found that "30 percent of students reported connecting the reading to other knowledge." (p.

289) Douglas Fisher, Donna Ross and Maria Grant (2010) explain that the “lack of background knowledge can have an impact of their ability to ask questions and wonder.” Asking questions is a higher-order thinking process that allows students to take their learning to an advanced level. When it comes to comprehension, reading strategies such as visualizing, predicting, summarizing, questioning, making connection and inferring are ineffective if students do not have sufficient background knowledge (Fisher, Ross & Grant, 2010). Through this research and as my own teacher inquiry about background knowledge grew deeper, I wanted to investigate how background knowledge impacted reading comprehension.

Background knowledge, prior knowledge and schema theory have separate definitions; however, they are all used by readers to make connections to a text. Background knowledge and prior knowledge can be defined as previous knowledge about a topic, while schema is thought of as a structure that is used for understanding (An, 2013) that interrelates all the reader’s knowledge about a particular topic (Richgels, 1982). Schema is made up of the experiences within a reader that allows them to make a connection to what they have read. A reader’s prior knowledge can be organized into schema which influences the form and content of new knowledge (Richgels, 1982). An (2013) describes comprehending a text as “an interactive process between the reader’s background knowledge and the text” (p. 130).

There are several ways readers can interact with a text; one way is by drawing inferences. Inferencing is a skill that students can use as a way to interact with the text. When students successfully infer character’s emotions or book themes, they have used prior knowledge, linked it to the text, and drew conclusions about the novel. Successful

interactions, such as inferencing, between the reader and the text results in reading comprehension (Richgels, 1982).

Further research by Hunter (1984) and Braten and Stromso (2006) clarifies that “a failure to make a connection while reading can result in a failure to learn” (MacMillan, 2014, p. 945). When students make connections to what they are reading, they begin to generalize their knowledge. Generalizing information can lead to expanding information and viewing situations from different perspectives. In this study, students will be asked to understand the viewpoints of different characters in the book. Without sufficient background knowledge of slavery, it can be difficult for students to find connections with the characters in *Freedom Crossing* and be motivated to read the novel. This study shows the importance of background knowledge and how connections are made between previous knowledge and the text. It is important that background knowledge is explored and studied. While establishing background knowledge appears minor, it played a critical role in students’ level of comprehension.

Statement of Research Problem and Question

I have identified the problem in the fifth grade as students lacking the appropriate background knowledge to make connections to the novel read in the classroom. The district adopted the LEAD program for grades four through eight which is an integration of Language Arts and Social Studies. Middle school students attend social studies class where historical, as well as current, events are taught through a curriculum. Unfortunately, elementary level teachers do not have a social studies curriculum and must find their own information and activities to share with the students during their social studies block. The novels used for LEADs in fourth and fifth grade have historical

content. Without a curriculum to follow, are elementary teachers sure students are equipped with background knowledge about topics such as the Civil War and slavery? The students in this study are going to reading *Freedom Crossing*, without prior knowledge of slavery and the terminology used throughout this book, students may not understand the content of the book.

Students at the school where the study is being conducted, which is identified as a Title 1 school with a low socioeconomic status, are not exposed to as much information as higher socioeconomic areas. The classroom teachers in fourth and fifth grade do not have the resources, such as text books, to build students background knowledge on historical events. Schools might also lack funding to send students on class trips to a museum where students have the opportunity to expand their knowledge on certain topics. It is important that the classroom teacher takes responsibility of teaching social studies and do not assume students have the prior knowledge needed to comprehend required novels. Even without a social studies curriculum to follow, teachers can still build background knowledge in other ways, which leads to the research question for this study: What happens to reading comprehension when texts and videos are used to build schema and activate background knowledge for fictional novels in Language Arts?

Story of the Question. Background knowledge became an area of concern for me as I was working with a student on a particular math task. The task involved the student selecting food items and their given prices. The student selected different items, and then placed them on a menu and solved an equation using the price of each item. The student I was working with had an Individualized Education Plan (IEP) and received special education services for forty-five minutes in language arts and math. He had selected the

Italian Food basket to complete his assignment. The student is Brazilian and eats foods related to his culture; he was not familiar with any of the Italian food items in his task which seemed to be why he was struggling with the assignment.

I looked at his general education math teacher and asked her if she had reviewed any of the items on this list with the class, she replied “No.” She sounded confused as to why I had even asked her that question. I continued to tell her that my student seemed to be struggling because he did not know what the items were, therefore, he was having a difficult time relating to the task. He was uninterested and unmotivated to complete the task. To me, the student missed out on a great learning opportunity because he was unable to connect to the task on a non-mathematical level.

This situation made me realize that reading is important in all content areas, not just language arts. Part of reading comprehension is making connection to the text. In this case, the math teacher did not activate students’ background knowledge and assumed the students were aware of the items used in the task. This made me wonder how many other times teachers, myself included, assumed students were familiar with information but were actually completely unaware.

I continued to look for areas where background knowledge might be needed. The students I have worked with in language arts always struggled to read the required core novels in their classroom. I always thought that it was because their reading levels were lower than the book’s determined reading level. I voiced my concern about student appearing to be lost in the book to a language arts teacher. She explained that it is common among the general education students as well; they all have a hard time connecting to the book. The teacher even said the books were too hard and the students

are not interested in the topics. It was at that point I decided to focus my thesis on background knowledge and the effects it has on reading comprehension. I later asked the same teacher if I would be able to use her fifth grade class to continue to find answers to my question.

The remainder of this paper will provide a review of the related literature used to research my thesis question as well as a description of the school and the participants that were selected for this study. A review of how data was collected and analyzed will also be provided. A chapter is dedicated to the interpretation of the data that was collected during the four-week study. Finally, the last chapter will be a discussion about the findings, limitations, and future implications in regards to the impact background knowledge has on reading comprehension.

Chapter 2

Literature Review

The Common Core expects students to be able to read multiple texts on similar topics to “develop their skills related to key ideas and details” (Elish-Piper, Wold, & Schwingedorf, 2014). Each quarter, the school districts in this study, require teachers to read specific novels to their students to build reading skills and simultaneously expand students’ knowledge in the content area of History. Teachers cannot assume students come to their classrooms with the specific background knowledge necessary to comprehend a given text beyond surface level comprehension. Margy MacMillan (2014) refers to Karen Maranian’s (2012) study on reading which reported that only 30% of students connected their reading to background knowledge. This data implies that 70% of students do not use prior knowledge to make connections when they are reading a text. The connections between texts are what creates deeper levels of reading comprehension.

The theoretical framework for this study is built on John T. Guthrie’s Motivational Theory and Louise Rosenblatt’s Transactional Theory. Students need to be motivated in order to actively be engaged when reading a novel. According to Guthrie, Wigfield, Humenick, Perencevich, Taboada and Martinez (2006), “reading comprehension of text is relatively high when students are curious or excited about the topic.” Therefore, at the beginning of this study, I hypothesized that establishing background knowledge would have a positive impact on reading comprehension. When establishing background knowledge, the teachers have an opportunity to make their students excited about the topic of the novel which can boost overall comprehension.

Background Knowledge

If students are not familiar with the context of a novel, they will often lack motivation to read the book. Neuman, Kaefer and Pinkham (2014) believe that background knowledge is essential to reading comprehension; the more you know about a topic, the easier it is to read a text, understand it and retain the information. Lenski (1998) describes people as “natural synthesizers”; meaning that people tap into their background knowledge for experiences they have had with other texts about a similar topic (p. 75). Tapping into background knowledge can also motivate a student to read a novel. Wigfield, Guthrie, Tonks, Perencevich (2004) express that motivation “is crucial to reading engagement” (p. 299). When students are engaged, “they comprehend better and have strong reading outcomes than when they are not engaged” (p. 232).

Brownson (1988) a Reading Specialist, believed that students have difficulty with reading because “they do not have the conceptual knowledge to relate the text material to their own lives” (p.3). Without conceptual knowledge, the information students are reading might be unfamiliar to the student. When students are not familiar with the topic, it can be difficult for students to correctly comprehend the text. Students’ might not be familiar with vocabulary words, terms or overall history of the book which can result in a misconstrued thinking of the text, which can lead to misinterpretation of the book.

The context of the book *Freedom Crossing* is related to the history of slavery, in particular to the Underground Railroad. The students will be provided information to create a “foundation of knowledge about the topic” (Neuman, et al., 2014, p. 146). According to Brownson (1988) students will have a difficult time understanding the novel if they lack knowledge about slavery. Teachers must expose students to texts that

promote intertextual connections. Intertextual connections can be described as connections across texts that revolve around the same topic. One way to encourage students to make such connections is by using Linked Text Sets (LTS). LTS engage students in a wide variety of texts that allow students to build their knowledge base (Elish-Piper et al., 2014). Wide reading, which can include reading magazines, books and newspapers, can be an effective indirect way to build background knowledge (Fisher, Ross & Grant, 2010). Other types of platforms that students interact with can be non-print and include music, videos, drama and art (Lenski, 1998). Building background knowledge creates the foundation that students need in order to make inferences to make coherent sense of what is not being explicitly stated in the text (Neuman, et al., 2014).

When students are exposed to texts and videos, they are also given the opportunity to expand their vocabulary and learn the meaning of new words. Words also have different meanings depending on how they are used in context and “their meanings in particular instances are cued by the readers’ domain knowledge” (Neuman, et al., 2014, p. 146). For example, the word “operation” is a multiple meaning word. It can mean the action of operating on someone with an injury or it can mean the way to solve a mathematical problem such as addition, subtraction, multiplication or division (Neuman, et al., 2017). Establishing background knowledge before reading a novel is important to the students so they are aware of the nuances of vocabulary words related to the topic. Developing the domain knowledge provides the students with new meanings of words which they can call upon when they come across the word or phrase in a novel. Having prior knowledge of a topic allows the students to use the appropriate definition of the word which is important for overall comprehension of the text.

Reading and expanding student knowledge on a topic can engage the students in subject matters such as science and social studies. The content area teachers should “provide the students with as many avenues to make conceptual connections as possible” (Brownson, 1988, p. 7) between texts. Providing students with the background knowledge will allow the students to actively read and build knowledge from one situation to the next (Brownson, 1988).

Schema

Louise Rosenblatt’s Transactional Theory suggests that students have a role in the reading process. Aesthetic experiences are what build students schema about certain topics or themes. Schema can be thought of as a knowledge structure which interrelates all of one’s knowledge about a given topic (Richgels, 1982). For example, “schema for a restaurant would include information about services, menus, ordering dishes, paying the bill (giving a tip), and so on” (An, 2013, p. 130). Schema is general knowledge about a situations and individuals that have been abstracted from prior experiences and stored in long-term memory (Che, 2014). In the example about the restaurant, a person who has been to a restaurant has built that schema based on individual experience which can result in varied interpretations. Che (2014) explains that the differences between understandings of a text will depend on the readers’ comprehension ability, cultural level, related background knowledge and many other factors. When students are required to read novels in their classroom, they might not have a schema for the topic of the book, therefore, teachers need to build background knowledge through texts and videos.

Reading comprehension is a successful interaction between a reader and the text (Richgels, 1982). According to An (2013), interaction occurs at three different levels:

“interaction between bottom-up and top-down processing, between lower-level and high-level skills, and between reader’s background knowledge and the background knowledge presupposed in the text” (p. 134). In order for interaction to happen between the reader’s background knowledge and the literary elements presupposed in the text, teachers need to expose students to texts that allow the students to develop a foundation of the topic. Going on a class field trip is a way to build background knowledge for thematic units. Unfortunately, field trips can be time consuming and costly. Teachers must come up with indirect ways to build students background knowledge (Fisher et al., 2010). Therefore, schema needs to be built by exposing students to different types of text such as non-fiction and fiction pieces. These types of text can be read so students can “read with connection and engage more deeply with academic texts” (MacMillian, 2014 p.943). Non-fiction texts are based on real facts and events that students can use to connect information between texts. “In order to interact meaningfully with the text, a reader must bring something to the reading process” (Anderson & Hite, 2010, p. 26). For example, if a student is reading a book or novel about the Holocaust, reading texts that include real facts about the Holocaust would be beneficial to the students. Reading a non-fiction text is a way to give the students something to bring to the text in order to have meaningful interactions between the text and the students. Teachers can also have students read fictional texts that enable them to gain experience through the eyes of a fictional character.

Students reading fictional novels in Language Arts that correlate to Social Studies units, should be able to make connections between the content of the social studies textbook and the novel that is being read. Developing a connection between characters in

a novel and information learned during a Social Studies lesson, demonstrates that the student is synthesizing the information they have gained; they are taking their previously learned knowledge and applying it as they are reading a novel or vice versa. Elish-Piper et al (2014), share a teacher's, Mr. Johnson's, approach to building schema before teaching his required text, *To Kill a Mocking Bird*. He made use of song lyrics and other texts and books such as *Staying Fat for Sarah Brynes* to help the students build their knowledge of prejudices which he identified as the theme of the novel, *To Kill a Mocking Bird*. These Link Text Sets (LTS) allowed the students to form connections between text in relation to a common theme. Reading novels "enable students to engage with real-life issues and the shared human experiences of fictional characters" (Elish-Piper, et al., 2014,). The experiences allow the student to develop schema through characters in a novel if they have not experienced the situation themselves.

Schema theory also assumes that written text does not carry meaning by itself (An, 2013). The results of MacMillan's (2014) study determined that meaning-based connections "are likely related to deeper understanding of the material being read." (p. 947) A deeper understanding of the text can be determined if the student creates analogies, integrates information or critiques the text (MacMillan, 2014). When students make such connections, it shows that they are interacting with the text and using the information from their prior knowledge and text being read to form their own personal opinions and views. "Schema theory guides readers as they make sense of new experiences and also enable them to make predictions about what they might experience in a given context" (An, 2013, p. 134).

Making Connections to Texts

The overall process of comprehension is not “fueled solely by information from the text” (Lenski, 1998); comprehension is “the result of a successful interaction” between the reader and the text (Richgels, 1982). “Failure to make connections while reading can result in a failure to learn,” (MacMillan, 2014, p. 945) MacMillan’s (2014) study, describes several ways students can make connections to the text; students can make connections which can be categorized by the following: word associations which are sparked by the words and phrases in the text; context associations which focuses on what the text describes; summarizing which connects the text to broader external knowledge; analogies that show connections to situations beyond what is described in the text; integration which connects to profession work and attitudes; critique that focuses on how the writing affect student perception of meaning (p. 948-949).

“Making connections not only help students understand a given text but that understanding also had an impact on wider aspect of learning” (MacMillan, 2014, p. 944). When students are reading novels with a historical background, such as this study, it is important that the students are given the necessary background knowledge to be able to make the meaningful transactions between the reader and the text.

Chapter 3

Context

Community

The school in which the study is conducted is in an urban school district. The district houses 23,000 students that come from diverse backgrounds such as Hispanic, African American, Caucasian and Asian. The majority of students are classified as hispanic and about 13% of the students are enrolled in Bilingual Education classrooms. The city is considered to be one of the neediest school districts in terms of population and income. Approximately 88% of the students are eligible for free or reduced-priced lunch.

School

The school houses roughly 400 students in grade levels kindergarten through eighth grade; two classes per grade level. This school is a title one school located in a low socioeconomic area. It receives funding to provide after school academic programs for struggling students. The school is located in an area that can be considered one of the “toughest” neighborhoods in the city. Despite the location of the school and the socioeconomic status of the students, the principal and teachers remain at the forefront of technology. The school is designed for one to one learning in all the grade level. The middle school uses the most technology and submits all assignments online. The school was recently recognized as an AVID Elementary Certified Site which prepares students for success in high school, college and a career.

Classroom

A fifth grade class was selected for this study. There are two classes per grade level; one class is typically for students that receive in-class support from a special

education teacher and the other class receives in-class support for ESL/Bilingual students. The class participating in the study has two students that receive bilingual services once a day. Reading is done for 45 of the 90 Language Arts block. A bilingual teacher supports during the writing portion of the literacy block. Reading is taught in the English language without any type of in-class support.

There is not an established social studies curriculum in the elementary grades. Due to testing and low student achievement, language arts and mathematics are prioritized. As a result, content areas such as social studies and science have become secondary. Without a social studies curriculum in place, teachers often follow workbooks or purchase their own social studies programs. As a way to incorporate social studies, the district has designed their language arts curriculum to include core novels that mirror the grade level material that would be covered in a social studies class. The core novels in the fifth grade are *The Well of Sacrifice*, *Color My Words*, *Bud, Not Buddy* and *Freedom Crossing*. These books cover the topics of the ancient Mayan Culture, Slavery, Racism and War.

The novel read during this study is *Freedom Crossing*. This story tells about a young girl returning to New York after living in the south with her aunt and uncle. She finds that her brother and father are helping fugitive slaves escape to Canada. In order for student to comprehend the novel, they must be familiar with slavery and the Underground Railroad.

Participants

The participants in this study are the 24 students in one of the fifth grade classes at the school. The students are between the ages of nine and eleven. Aside from English,

half of the class speaks Spanish at home, while others speak Portuguese, and British. The students started the LEADS program in their fourth grade class. They are familiar with having to read novels as a class and participate in classwork and assignments revolving around the novel.

Research

Qualitative research has been done to determine the impact background knowledge has on reading comprehension. Qualitative research utilizes small groups while a researcher observes the behaviors of participants in an effort to answer a research question. In this particular study, qualitative research is the best type of research because in order to determine the benefits of background knowledge, observations must be done in the classroom which is the natural setting for the participants in the study. “A researcher that selects a qualitative research method collects open-ended, emerging data that is then used to develop themes” (Campbell, 2014, p. 3). The theme that is trying to be identified in this study revolves around whether or not background knowledge has an impact on reading comprehension.

After working closely with students and the core novels, I found that students were not familiar with the background needed to comprehend the text they were required to read. Therefore, my research question stems from my own questions and reflections on my own classroom practice.

This study is also considered to be teacher research. “Teacher research is intentional and systematic inquiry by teachers with goals of gaining insights into teaching and learning, becoming more reflective practitioners, effecting changes in the classroom or school, and improving the lives of children” (Cochran-Smith & Lytle, 2009).

Conceptualization, implementation and interpretation are three major components of teacher research” (Henderson, Meier, Perry and Stremmel, 2012, p. 1). I have abstracted information from research that I conducted on the topic of background knowledge and developed a plan to implement background knowledge to students prior to reading their new core novel for the marking period. After observing and analyzing the data collected during this four week study, I interpreted the information for other teachers to read with the same or similar inquiry.

Data Collection

During this study, data was collected and analyzed to determine the effects of background knowledge on reading comprehension. Before the students began reading the novel, they completed a survey on Google Forms indicating how much they knew about slavery and the Underground Railroad. As mentioned in Chapter 2, Brownson (1988) believed that students had difficulty with reading because they lacked conceptual knowledge about the topic. In this particular study, students were unfamiliar with the Underground Railroad which is an event students need to be aware of in order to comprehend the novel. Based on the survey and the background knowledge students already have, they were presented with more information to deepen their comprehension of the novel. For this study, the teacher used the wide reading strategy as a way to build background knowledge on slavery and the Underground Railroad. The characters in the book allowed the readers to gain insight to the thoughts and feelings of a slave and children during slavery. In order to provide students with prior knowledge and develop a schema for slavery, the teacher used non-fiction texts and videos to build context for the book. Teaching new information about slavery and the Underground Railroad were used

to engage and motivate students to read a text that they are required to read.

Observations were done in the classroom; paying close attention to the conversations happening and listening for connections being made between the text and prior knowledge. Online discussion boards were monitored and read to see if connections and links were made. This study focused on students making connections that were sparked by words and phrases in the text. The students are taught to use the “RACES” model to answer open ended questions; Restate the questions, Answer the questions, Cite the text, Explain why selected that quote, Sum it up. The students’ open responses were gathered to analyze the explanation of why they selected the quote from the text. I looked for connections being made from the text to the information that was taught to the students while building background knowledge.

Data Analysis

The data collected over the study was used to draw conclusions about the impact background knowledge has on reading comprehension. Students completed a survey before the classroom teacher provided them with wide reading activities to build contextual knowledge about slavery and the Underground Railroad. The results from the survey allowed the teacher to see what prior knowledge her students had in regards to slavery.

Once the class began reading the novel, their assignments were designed assessed their ability to connect their prior knowledge to the chapter. They were also required to participate in an online discussion board which allowed them to voice their opinion and give reasons to support their belief. Student responses were read and analyzed to identify themes among answers. After the data was analyzed, I used it to determine an answer to

the research question.

Chapter 4

Data Analysis and Interpretation

Chapter four is an analysis of the data in response to the research question that asks: What happens to reading comprehension when texts and videos are used to build schema and activate background knowledge for fictional novels in Language Arts?

Lack of Adequate Background Knowledge

The data in Figure 1 represents a trend among students in this particular fifth grade classroom. It is shown in Figure 1 that 65% of the students do not understand the books they are required to read in their classroom. The data shows that students are unaware of the content of a text that is the basis of several classroom lessons and activities. It is thought-provoking to see the difference between the student motivation to read and their personal views of their own ability to comprehend a novel. Several student responses indicated that they like to learn new things, however, many of the students do not understand the novel. As noted in my teacher journal, I wonder if students struggle to understand the books because their background knowledge is never activated prior to reading the novel. If students were provided the initial background knowledge about the book, would the same question result in a higher percentage of student answering “yes” when asked if they understood the book?

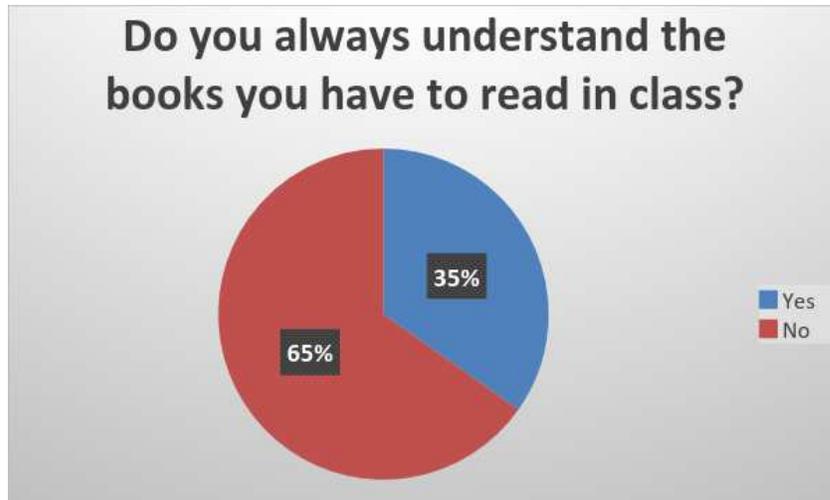


Figure 1. Student Survey Responses. Shows student responses to the question: Do you always understand the books you have to read in class?

Students' responses for the last four questions on the initial survey further reveals the unawareness students have about the content of a required book. The last four questions on the initial survey asked the students to define key terms that are directly related to the content of the novel, *Freedom Crossings*. The students were required to answer in a short answer format, not multiple choice. The short answer format was the best way to determine if students had prior knowledge of slavery, the Underground Railroad, Harriet Tubman, fugitives and abolitionists. These key terms are all domain specific; comprehension could be impacted if their definitions of these terms remains unknown. Multiple choice answers would have given students the option to select the definitions whether or not they were familiar with the term. Whereas responding with a short answer required the students to write what they knew which resulted in several students answering with the phrase, "I don't know." In figure 2, the blue bar indicates the students' responses prior to being exposed to information about the history of slavery. The data shows out of 23 responses, less than half of the students were able to provide a

correct definition for the following terms: slavery, Underground Railroad, Harriet Tubman, abolitionist, and fugitive. The data proves that students do not have the appropriate background knowledge needed before reading Freedom Crossing.

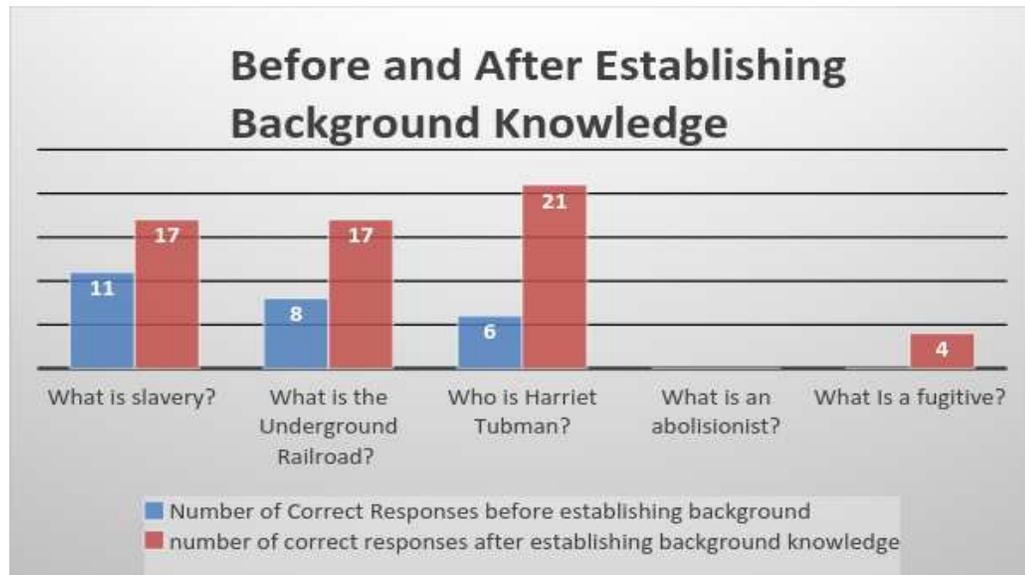


Figure 2. Background Knowledge Data. This figure represents the number of correct responses to each questions before and after background knowledge was provided to the class.

Background Knowledge Supports Comprehension

After analyzing student responses and reflecting on the study, the theme throughout this study is background knowledge support comprehension. After the initial survey, the students were provided with websites, videos and articles to help build their background knowledge. The classroom teacher planned lessons that revolved around the difference in the lifestyle and beliefs between states in the North and South of the United States. Students were asked to complete K-W-L charts and participate in classroom discussions to build background knowledge.

Defining Terminology

After the teacher provided background knowledge to the class, the students were asked to complete a second survey. The survey asked the students to define the same terminology as the first survey: slavery, the Underground Railroad, Harriet Tubman, abolitionists, and fugitives. In Figure 2, the red bars represent correct definitions of the key terms in the second survey. Figure 2 also compares student responses from the first and second survey. The data shows that background knowledge increased when the students were exposed to non-fictional texts and videos about slavery. After six days, student responses increased and out of 24 responses, more than half of the students provided correct answers. The data begins to answer the research question: What happens to reading comprehension when texts and videos are used to build schema and activate background knowledge for fictional novels in Language Arts? As evidenced by the data, the texts and videos built the appropriate background knowledge for the students and the students are now prepared to read *Freedom Crossing*.

Making Connections

Double Entry Journal responses indicated that background knowledge supports comprehension. Student responses were analyzed and then categorized as “No Connection,” “Surface Level Connection,” and “Deeper Level Connection.” Table 1 displays the types of student responses that would reflect each category. Responses that were considered to have no connection to background knowledge tended to rephrase the quote that was provided. In three out of the four chapters analyzed, more students were able to provide an answer that used background knowledge.

Table 1

Types of Connections

Student samples of each type of connection: “He’s had a long hard trip up from North Carolina”		
No Connection	Surface Level Connection	Deeper Level Connection
“It was hard for him to come up from North Carolina to where he is now.”	“It related to the Underground Railroad because he was in the Underground Railroad. I also relates because traveling from South to North is really hard”	“This means that Martin had a hard time because he traveled from South to North without getting caught since he is probably a slave.”
This response is considered “No Connection” because the student reworded the quote but did not explain why it was hard.	This response is “surface level” because the student made the connection that Martin was traveling through the Underground Railroad.	This response is considered to be “deeper level” because they included the risk of being caught as well as inferring Martin was probably a slave.

Note. These are sample student responses. Student responses varied.

Figure 3 provides a breakdown of the responses per chapter; Figure 4 provides an overall view of the connections made for all four chapters which shows that 59% (surface level and deeper level combined) of the responses were capable of making connections to their prior knowledge of slavery.

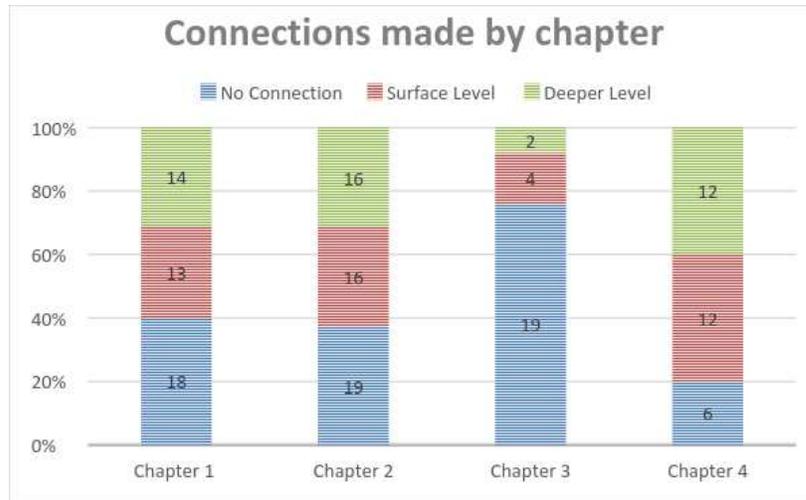


Figure 3. Student Connections as a Bar Graph. Represents the connections that students were able to make based on the four chapters read during this study.

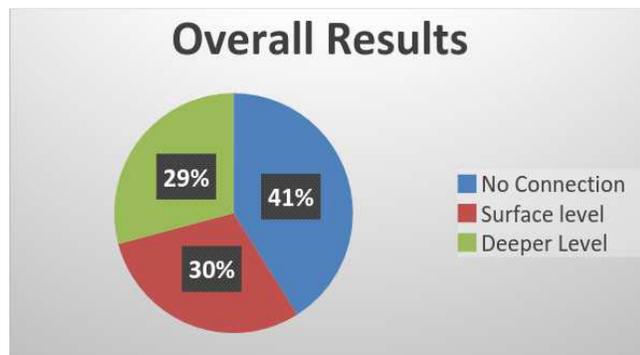


Figure 4. Student Connections as a Pie Chart. Represents the overall connections that were made for the four chapters read during this study.

The student responses continues to answer the research question: What happens to reading comprehension when texts and videos are used to build schema and activate background knowledge for fictional novels in Language Arts? The students responses indicates that, 59% of the time, the background knowledge they established through reading texts and watching videos, helped the students make connections to the text. Therefore proving that activating background knowledge prior to reading has a positive impact on reading comprehension.

Additional data was collected based on a discussion board question: *In chapter 1, Bert is talking to Joel about hiding Martin in the house. He is worried about Laura. What does Bert mean when he says, "Maybe she picked up some southern ideas."* This quote was intentionally selected because it requires the students to know about life in the South compared to life in the North in regards to slavery. Students were advised to select other quotes that supported their responses. Ten out of thirteen responses indicated that the southern ideas Laura might have picked up are about slavery and it is okay to have slaves. Students often replied with the same quote about Uncle Jim teaching Laura that slavery was acceptable. As seen in Appendix A, student 19 wrote, "What Bert means when he says, 'Maybe she picked up some southern ideas' is that Laura is from the south and white people in the south think that slavery is cool. On page 16, it states that Uncle Jim told her that slaves were treated good and that they were rude so if she found a slave she could send them back to her master." This student referenced the part of the chapter where the students needed infer that Laura spent several years in the south and was taught that slavery was acceptable. Student 12 wrote, "Laura has been told her entire life that slavery is good." Students 2, 10 and 17 used a quote from Uncle Jim, "I say anyone who helps a slave escape is a thief, because a slave is just as much a man's property as his cow or horse." This discussion board revealed students were able to make inferences relating to Bert's concern about Laura. Student responses displayed positive effects background knowledge had on their inferencing, a skill used when reading for comprehension. This data further supports the theme found throughout this study that background knowledge supports comprehension.

Providing Clarification

During the first survey, students answered the question: What do you do when you do not understand words or phrases in the study? The majority of student responses suggested that they read around the word and used context clue. However, there were several students that responded they would ask the teacher or continue reading. Figure 4 shows the breakdown of student responses.

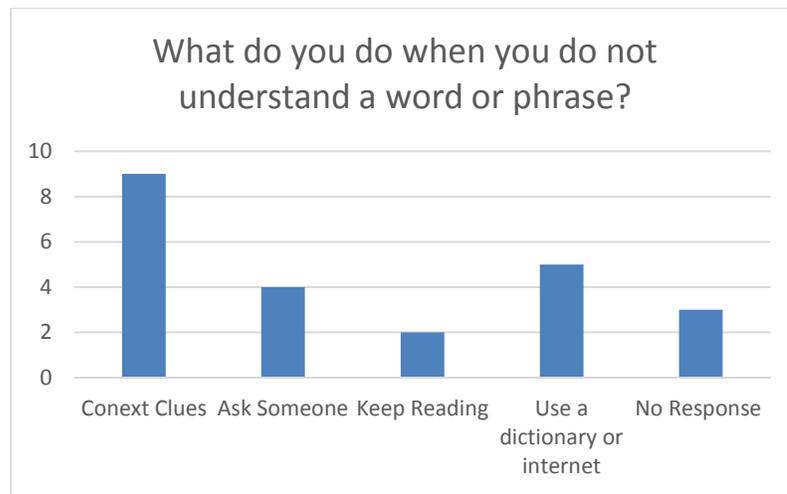


Figure 5. Student responses. How students find meaning of unfamiliar words or phrases.

The data from this survey question shows that majority of students searched to find the information they needed when they needed clarification. Comparing this data to the data in Figure 1; although the students search to find meaning of unknown words, the fact that 65% of the student do not understand that content of the book indicates that students might not be understanding the information or definitions given to them when they search for the meaning of an unknown word or phrase. Therefore, students are still not developing a schema or building background knowledge to comprehend the content

of a text. This data further confirmed my need to research the impact background knowledge has on reading comprehension.

Finally, interviews that were conducted followed the same theme; the teacher and students shared how the background knowledge helped the students while they read the book. A trend in all the interviews was the clarification of the Underground Railroad. Three out of five the five students that were interviewed, reported that learning about the Underground Railroad helped them understand the book. One student shared that knowing what the Underground Railroad was helped her understand that the “stations” were actually people’s homes and the slave hid there. When the teacher was asked what she did last year, in regards to building background knowledge, she replied, “Last year, I just started reading the book and they did not get any background knowledge about slavery. So if something came up in the book that I had to go over, I stopped and we had a class discussion about it.” The teacher explained how teaching about the Underground Railroad and how it was a pathway and not an actual train before reading the book, helped the students visualize the text better. These interviews (as seen in Appendices B and C) are additional evidence that background knowledge, specifically building knowledge about the Underground Railroad, had a positive impact on student comprehension.

Chapter 5

Discussion, Limitations and Implications

Discussion

Marilyn Cochran-Smith and Susan L. Lytle (2009) explain how practitioner inquiry and professional learning communities have many parallels. One in particular is seen in this study, the equity agenda which is “a commitment to improving learning experiences and outcomes of those traditionally least likely to have quality learning opportunities and most marginalized by the system” (p. 53). As a teacher researcher, I found questions in my own teaching practice that needed improvement in order to enhance the learning experiences in the classrooms I service. The problem I have experienced is students do not have adequate background knowledge to successfully understand the content of the core novels they are required to read each marking period. Working in a Title I school district, the student population does not have the same learning opportunities as students in more affluent school districts.

The first survey that was conducted revealed that 65% of the students do not understand the books they are required to read in class. (See Figure 1) This confirmed my assumption that students were not understanding the texts. The first survey also revealed that students lacked the adequate background knowledge and were no familiar with the terminology, the history of slavery, and the Underground Railroad, which is necessary to understand the content of the novel, *Freedom Crossing*. The teacher provided the class with texts and videos to help define the unfamiliar terminology. After the classroom teacher provided the students with background knowledge needed to help understand the content of the book, students were reassessed and the data shows (as seen in Figure 2)

that there was an improvement in students' schema and they now possessed knowledge about slavery. With their new knowledge, students were ready to begin reading the novel. These results were the beginning answers to my question; background knowledge supports comprehension.

As the students read chapters one through four, they were asked to complete a Double Journal Entry Log which was used to determine if the connections the students made had any correlation to the background knowledge that was established prior to reading the text. As mentioned in Chapter 2, Hunter (1984) and Braten and Stromso (2006) share that "a failure to make a connection while reading can result in a failure to learn" (MacMillan, 2014, p. 945). The data indicated that students were able to respond to a quote using the background knowledge obtained before reading the text. The students were making connection and as a result of the connections, the students were learning and expanding their knowledge of slavery.

The data obtained from the discussion boards also supports that students used their background knowledge to answer the discussion board questions. The students answered an inference questions which required them to take the information from the text and link it to their prior knowledge. Based on their survey responses from the first survey, the students would not have been able to make inferences because they lacked background knowledge about slavery.

Interviews with the teacher and students provided clarification of the impact background knowledge had on comprehension. The interviews with the teacher and students provided insight on how background knowledge helped the students while reading the first three chapters of the book. The interviews are further proof that the

students were given the sufficient information to help understand the content of the book. Students shared that before they learned what the Underground Railroad was, they thought it was a railroad. However after looking at videos and reading non-fiction texts they learned it was a path way and the “stations” were actually people’s homes where the slaves hid. This is a key realization that is important in comprehending the novel, *Freedom Crossing*.

To answer the question of this study: What happens to reading comprehension when texts and videos are used to build schema and activate background knowledge for fictional novels in Language Arts? The data from this study suggests that comprehension improves when background knowledge is activated. The data collected and analyzed throughout this study can be generalized to other books students are required to read. It demonstrates that teachers should not assume students have the necessary background to comprehend texts. Students need to be exposed to texts and videos that activate background knowledge, or build onto prior knowledge.

Limitations

Some of the student responses were difficult to interpret. As mentioned earlier in this paper, the students in the classroom come from Spanish speaking families. According to the first survey the students took, 74% of the students speak Spanish at home. Although the students are not coded as Bilingual or English as a Second Language (ESL), their expressive language could be effected. Their inability to express their opinions and feelings related to the text could have resulted in a misinterpretation of their responses.

Another limitation to the study is the number of student responses varied. Due to absences and students skipping question, the number of responses was not consistent. The

highest amount of responses was 24, and the lowest amount of responses was 13. The lack of consistency could have an impact on this data. Not all students were accounted for and their responses could have changed the results of this study.

Implications

Making connections should be further explored in future studies. While conducting this study, students required maximum support and modeling when making connections to the text. Future studies should provide more time to teach students how to make the connections between text-to-self, text-to-text, and text-to-world.

References

- An, S. (2013). Schema theory in reading. *Theory and Practice in Language Studies*, 3(1), 130. doi:10.4304/tpls.3.1.130-134
- Anderson, N. A., & Hite, C. E. (2010). Building comprehension for reading novels: The prereading-schema building process. *New England Reading Association Journal*, 45(2), 26.
- Brownson, J., & North Dakota Univ, Grand Forks Center for Teaching, and Learning. (1988). *Using Knowledge To Build Knowledge: The Thematic Approach to Content Reading* No. 20) Insights.
- Cochran-Smith, M., & Lytle, S. L. (2009). *Inquiry as stance: practitioner research for the next generation*. New York: Teachers College Press.
- Connell, J. M. (2000). Aesthetic Experiences in the School Curriculum: Assessing the Value of Rosenblatt's Transactional Theory. *Journal of Aesthetic Education*, 34(1), 27-35.
- Elish-Piper, L., Wold, L. S., & Schwingendorf, K. (2014). Scaffolding High School Students' Reading of Complex Texts Using Linked Text Sets. *Journal of adolescent & Adult Literacy*, 57(7), 565-574.
- Fisher, D., Ross, D., & Grant, M. (01). Building background knowledge: improving student achievement through wide reading. *The Science Teacher (National Science Teachers Association)*, 77(1), 23; 23.
- Guthrie, J., Wigfield, A., Humenick, N., Perencevich, K., Taboada, A., & Barbosa, P. (2006). Influences of Stimulating Tasks on Reading Motivation and Comprehension. *The Journal of Educational Research*, 99(4), 232-245.
- Henderson, B., Meier, D. R., Perry, G., Stemmell, A. J. (2012). The Nature of Teacher Research. *Voices of Practioners*, 1-7.
- Lenski, S. D. (1998). Intertextual Intentions: Making Connections across Texts. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 72(2), 74-80. doi:10.1080/00098659809599601
- MacMillan, M. (11). Student connections with academic texts: a phenomenographic study of reading. *Teaching in Higher Education*, 19(8), 943; 943-954; 954.
- Neuman, S. B., Kaefer, T., & Pinkham, A. (2014). Building Background Knowledge. *The Reading Teacher*, 68(2), 145-148. doi:10.1002/trtr.1314

Richgels, D. J. (1982). Schema Theory, Linguistic Theory, and Representations of Reading Comprehension. *The Journal of Educational Research*, 76(1), 54-62. doi:10.1080/00220671.1982.10885424

Wigfield, A., Guthrie, J., Tonks, S., & Perencevich, K. (2004). Children's Motivation for Reading: Domain Specificity and Instructional Influences. *The Journal of Educational Research*, 97(6), 299-309.

Appendix A

Student Discussion Board Responses

Discussion Board Question - In chapter 1, Bert is talking to Joel about hiding Martin in the house. He is worried about Laura. What does Bert mean when he says, "Maybe she picked up some southern ideas."	
Student	Student Response
#9	What I think Joel means by probably she picked up some ideas from the southern means she disagrees that they should have a slave. She said this because there were breaking the law. So then Joel thought that she was going to report it to the hunters. Joel also thought she was going to make Martin a slave. They thought this because she was from the south and the southern people like slaves. This is why Joel said she picks up some southern ideas.
#21	What he means in (chapter 1, page 5) the book, Bert said, "Maybe she picked up some southern ideas. Didn't you know you weren't supposed to bring anyone here?" They might be thinking about Laura southern ideas, that is why he is worried about Laura.
#20	In chapter one, Bert is talking to Joel about hiding Martin in the house. He is worried about Laura that reminds me when I was hiding my toys when I was 5 years old I use to have Barbie doll and my dad never know I had all the Barbie doll the fairy, princess and the book but know my dad finds out and took them all away. This means Joel trying to hid Bert and Martin and Laura know that she was breaking the law but she have to help her brother.
#15	Maybe Bert said that Laura might have so southern idea's because Laura was in the south for 4 years with her aunt and uncle so Bert thinks that Laura might know what to do because she came from South to North. Bert is talking to Joel about hiding Martin because what if Slave Catchers come in the house to see if Martin is there so they are thinking about hiding Martin or finding a place to hide him.
#5	He is worried about Laura because when he said that he could've thought she was go to tell

	<p>the slave hunters that Martin (the slave) was in the house with her. Or when he said that he could've also thought Laura was going to keep Martin as slave to do all the work.</p>
#19	<p>What Bert means when he says, "Maybe she picked up some southern ideas" is that Laura is from the south and white people in the south thinks that slavery is cool. On page 16, it states that Uncle Jim told her that slaves were treated good and that they were rude so if she found a slave she could send them back to her master. Since slaves were treated badly they had to escape and if a fugitive were caught they would be punished. If someone hides a fugitive in their house and the slave catchers found the fugitive in the house the slave will get punished and the person who hid the slave will also be punished. That is what Bert means when he says, "Maybe she picked up some southern ideas."</p>
#14	<p>The quote means that Laura has picked up ideas from when she met Martin and Bert try to hide Martin but now Laura has an idea but Bert thinks that she would say that they would never.</p>
#9	<p>Bert means that maybe Laura will tell the slave hunters that they are hiding slaves in their house. Laura also might treat Martin like a slave and maybe hurt him because she is from the south. Laura might yell out and say that they have a slave because she thinks slavery is good. Bert means she might try and take him back to his master. Bert means since Laura is from the south she might take him from the south.</p>
#12	<p>In Chapter 1, Bert is talking to Joel about hiding Martin in the house. He is worried about Laura. What Bert means when he says, "Maybe she picked up some southern ideas?" Is that Laura has been told her whole entire life that slavery is good but now that they're bringing a slave into their house now she knows that she has been lied to her whole life. According to the text on page 16 the author states that the slave (Martin) said "My master liked to catch any runaway, so he can take him back and</p>

	<p>show the other slaves it doesn't pay to escape from him." I chose this quote because it clearly states that if Martin gets caught by other slaves something bad will happen to him. This is what Bert means.</p>
#10	<p>What Bert means when he says, "maybe she picked up on some southern ideas" was that she was in south Virginia for a long time and probably learned the way of the southern people which was that slaves belonged. On the bottom of page 5 it says "It's no railroad" Uncle Jim had said. "It's a secret organization for sneaking slaves away from their owners. The Underground Railroaders have been worse then ever since the Fugitive Slave Law was passed around in 1850. I say anyone who helps a slave escape is a thief, because a slave is just as much a man's property as his cow or horse." I chose this quote because in the south they think slavery is fine and they teach children there its fine but in the north its way different. This is why said "Maybe she picked up on some southern ideas."</p>
#13	<p>Martin is worried about Laura because she is confused about slavery because when she was in Virginia she thought that slavery was good but it is not good. Those Underground Railroaders have been worse than ever since the Fugitive Slave Law was passed in 1850 that means the Underground Railroaders are danger to people.</p>
#17	<p>What Bert means by "Maybe she picked up some southern ideas" is that Laura lives in the South and she thought that slavery was good. In page 5 Chapter 1 it says "Ill say to anyone who helps a slave escape is a thief because a slave is just as much a man's property as his cow or horse. I chose this quote because Uncle Jim is telling her that but he also teaching her that slavery is actually good. This is why Bert said that maybe she picked up some southern ideas.</p>
#2	<p>"Maybe she picks up some southern idea" means that she should believe that slavery is good. On page 5 it said, "I say anyone who helps a slave escape is a thief, because a slave</p>

	is just as much a man's property as his cow or horse." Who helps slave will be a thief.
--	---

Appendix B

Teacher Interview

Me: “Compared to last year, how do you feel your students are understanding Freedom Crossing?”

Teacher: “I feel they are able to visualize what is going on more this year than last year because I activated their background knowledge and they understood the topic of the book before we started reading it.”

Me: “So what did you do last year?”

Teacher: “Last year, I just started reading the book and they did not get any background knowledge about slavery. So if something came up in the book that I had to go over, I stopped and we had a class discussion about it. After talking with you about background knowledge, I made it a point to build their background knowledge before we began reading the book this year.”

Me: “What do you feel like the students learned the most from you giving them the background knowledge about slavery?”

Teacher: “I think they had a much clearer idea about the Underground Railroad. Many of them thought it was an actual train. So clearing that up and teaching them it was a path way was really important to know before we read the book.”

Appendix C

Student Interview

What did you know about slavery?

Student 5 – *I didn't know much about slavery.*

Student 10 – *I knew slaves were used to work on farms and house chores and they weren't fed a lot*

Student 12 – *Slavery was when white people treated black people differently*

Student 14 –

Student 21 – *I didn't know anything about slavery.*

How are you enjoying the book?

Student 5- *It's really good, I enjoy it. I try to picture what is going on in the book.*

Student 10 – *I am enjoying it because it builds a lot of tension. They are afraid Martin will get caught*

Student 12 – *I don't like it because I don't understand it. It is not as interesting as the other book. (Well of Sacrifice)*

Student 14 – *I enjoy it because it is telling us what happened back during slavery.*

Student 21 – *I like it because Laura is being nice and helping Martin.*

Did building background knowledge help you as you began reading this book?

Student 5- *Before reading the book, I thought the Underground Railroad was a train. Now I know it is a path the slaves took to go North and get away from slavery.*

Student 10 – *Learning about the Underground Railroad helped me understand the book. It helped me understand that the stations were actual houses and slaves hid there.*

Student 12 – *I learned who Harriet Tubman was. I also thought that it was the black people treating the white people back but it is really the white people treating the black people bad.*

Student 14- *Yes, I didn't know what the Underground Railroad was until we talked about it in class. It made it easier to understand the book. I would have thought it was a train station, not Bert and Laura's house.*

Student 21 – *If the teacher did not give us information about slavery, I would have never known what it was.*