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The Impact of the Summarization/Paraphrasing Strategy, Frayer Model, and Student Engagement on Reading Comprehension

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The Impact of the Summarization/Paraphrasing Strategy, Frayer Model, and Student
Engagement on Reading Comprehension

By
Yolanda J. Reilly

A Dissertation Submitted to the
Gardner-Webb School of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

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2017

Approval Page

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Abstract

The Impact of the Summarization/Paraphrasing Strategy, Frayer Model, and Student Engagement on Reading Comprehension. Reilly, Yolanda J., 2017: Dissertation, Gardner-Webb University, Reading Strategy Instruction/Student Engagement/Comparison Study/Student Achievement/Secondary Education

This mixed-methods research examined student achievement in reading comprehension as measured by the North Carolina End-of-Grade Test for Reading Comprehension, and specific reading strategies (Frayer Model & Summarization/Paraphrasing strategy) in Grades 6-8 classrooms. The purpose of this research was to determine if a difference exists in student reading comprehension achievement between students instructed using the Frayer Model and students instructed using the Summarizing/Paraphrasing strategy, when used with fidelity, and which reading strategy students found to be more engaging between the Frayer Model and Summarization/Paraphrasing strategy. Engagement is a major factor in education that impacts achievement in the classroom as well as outside the classroom (Dotterer & Lowe, 2011). Maximizing school engagement can improve a student's level of student achievement (Dotterer & Lowe, 2011). This study sought to add to the body of knowledge surrounding student achievement and student engagement.

The relationships between the variables of student achievement, student engagement, reading theory, and reading strategies were examined. Student achievement was measured by the North Carolina End-of-Grade Test for Reading Comprehension and student engagement was measured by the Van Amburgh Active Learning Inventory Tool. In order to analyze quantitative data, the Hartley test for equal variance, summary *t* tests, and independent samples tests were used. Qualitative data were collected using the results of the Van Amburgh Active Learning Inventory Tool and the results of the Student Survey. The quantitative and qualitative data were compared in order to draw conclusions.

The study concluded that there were varying correlations between grade levels with student achievement and the reading strategies of the Frayer Model and Summarization/Paraphrasing strategy. In student achievement, reading scores were significantly higher in sixth- and seventh-grade students who were taught using the Frayer Model, whereas eighth-grade students who were taught the two strategies did not have significance between their scores. When looking at student engagement, students taught with the Summarization/Paraphrasing strategy were more engaged but did not score as high on the North Carolina End-of-Grade Test for Reading Comprehension.

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Chapter 1: Introduction

Introduction

Knowing how to read and understand literature and written text is an important part of the foundation of society. “Reading and understanding text is what drives the gaining of knowledge and is a tool used to communicate thoughts, feelings, and express creativity” (Ontario Ministry of Education, 2006, p. 1). “Understanding written text, often referred to as reading comprehension, is important enough to be considered a gateway to the next grade level for K-12 students” (Ontario Ministry of Education, 2006, p. 1). Often, teachers use multiple types of reading strategies such as the Frayer Model and Summarization/Paraphrasing Strategy to assist students in improving their reading comprehension level. These are valuable tools that can help students understand the information they read (Luke, 2006). Reading across the curriculum or reading in every subject area, along with using reading strategies in all subjects, is considered to be extremely important in reference to implementing the new Common Core Curriculum which is being used across the country (Sloan, 2010). This study sought to determine whether or not the use of reading strategies, specifically the Frayer Model and Summarizing/Paraphrasing strategy, has an impact on the student level of reading comprehension.

Problem Statement

One might ask, what exactly is the underlying problem with a low level of reading comprehension? The problem was that students at the middle school in this research were underachieving in reading comprehension as measured by North Carolina (NC) end-of-grade (EOG) tests. These results were due to low levels of reading comprehension. According to the school’s NC School’s Report Card data and the North

Carolina Department of Public Instruction (NCDPI, 2014b), the school of study has performed lower than the state and district average on the NCEOG Reading Comprehension Test. Test scores can be increased by the proper utilization of literacy strategies in all subject areas including language arts, math, social studies, and science (Marshall, 2008). The two literacy strategies that were studied were the Frayer Model and the Summarizing/Paraphrasing strategy. These EOG tests determine whether or not a student is allowed to matriculate to the next grade. The Common Core Standards have increased the Lexile scores that are needed to pass the EOG Reading Comprehension Test, therefore creating more rigorous requirements. The Common Core Standards state that middle school students should have Lexile scores in the range of 955-1055, which is higher than the previously required scores of 860-1010. Lexile levels or lexile scores represent a student's reading ability. The higher the score, the higher the student's reading ability. Middle schoolers are also expected to comprehend informational text at the higher end of the lexile scores previously discussed (Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science and Technical Subjects Appendix A, 2011). Informational text is nonfiction that informs the reader of content specific information. The expectations for utilizing informational text in each grade level are the same, except for the complexity of the text used in different grades. The text complexity should increase as the grade levels increase. Students with a higher Lexile score have a higher reading ability and higher levels of reading comprehension; therefore, students will have a greater chance of performing well on the NCEOG Reading Test because it measures reading comprehension, therefore increasing their chances of being promoted to the next grade level (MetaMetrics, 2015).

The EOG Reading test scores are recorded in Tables 1 and 2. These tables consist

of the state average score, district average, and current scores at the studied school for each grade level, according to the NC Schools Report Cards website (NCDPI, 2014b).

Table 1 displays the scores for the sixth and seventh graders at the school of study, and

Table 2 displays the scores for the eighth-grade students.

Table 1

Sixth- and Seventh-Grade EOG Reading Scores

	Sixth Grade			Seventh Grade		
Year	2011/2012	2012/2013	2013/2014	2011/2012	2012/2013	2013/2014
School of Study	54.9	36.6	22.2	52.9	28.2	35.8
District Average	59.0	37.1	33.5	54.0	34.9	35.8
State Average	75.2	46.4	45.7	68.2	47.8	47.6

Table 2

Eighth-Grade EOG Reading Scores

	Eighth-Grade		
Year	2011/2012	2012/2013	2013/2014
School of Study	70.1	26.4	19.4
District Average	57.8	31.0	29.5
State Average	71.1	41.0	42.3

The scores show that the sixth- through eighth-grade reading scores at the middle school of study were below the state average for the past 3 years. The EOG scores of every grade level have declined over the course of 3 years, except for seventh-grade, whose scores increased by 7.6% but were still below the state and district average. The sixth- and seventh-grade scores were consistently lower than the state average. In the 2011-2012 school year, some of the grade level's scores were lower than the state and district averages, but the gap has gradually increased. Not only have the school of

study's scores declined, but the state and district averages in reading comprehension have decreased over the past 3 years. The data showed the need for additional assistance in reading education in the middle school of study, the district, and the state.

Context of the Problem

This research was conducted in a middle school located in a large, urban school district within the East Central Piedmont area of NC. There were approximately 515 students in this school. The racial student groups of the school are displayed in Table 3, according to the NC School Report Card 2015.

Table 3

Student Groups

Student Groups	Number of Students Per Group	Percentage of the School of Study
American Indian	1	.19%
Asian	5	1%
Black	445	86.4%
Hispanic	59	11.41%
Caucasian	5	1%

Table 3 displays the multiple student groups that populate the school of study. Of the 515 students, 36.4% (n=188) are Limited English Proficient students. According to school district's free and reduced lunch statistics report, this school has 71.78% (n=370) of students who receive free or reduced lunch.

In addition to the student demographics in the middle school of study, the teacher demographics were presented for the purpose of analysis in the NC School Report card as well. According to the school's NC School Report Card 2012-2013, there are 36 classroom teachers in this school, who teach in the subject areas of math, science, language arts, social studies, law, chorus, business technology, technology, Spanish,

French, Chinese, physical education, and visual arts. Of the teachers at the middle school, 32 are licensed teachers, 34 are classified as highly qualified, eight have advanced degrees (master's degrees or higher), and 14 have 10 or more years of teaching experience. The teacher turnover rate in 2012 was 14%, 22% in 2013, and 20% in 2014; which is lower than the overall district turnover rate of 19% in 2012, 25% in 2013, and 27% in 2014.

Along with the teacher demographic data, the NC Teacher Working Conditions Survey (NCTWCS) data were added to the research as well. The NCTWCS is “a statistically valid and reliable instrument to assess whether educators have working conditions in their school that support effective teaching” (NCTWCS Research Brief, 2014, p. 1). According to these data, 26 teachers in this school indicated they needed professional development in the new Common Core Standards, 23 teachers indicated they needed additional professional development in student assessment, 24 teachers felt as if they needed assistance in differentiating instruction, and 17 teachers felt that they needed professional development opportunities to develop or use reading strategies. The NCTWCS Research Brief (2014) result data indicated that there was a need for understanding of the Common Core Curriculum and more structured strategies to teach reading. The NCTWCS data for the school of study are displayed in Table 4.

Table 4

NCTWCS Data for the School of Study

Issue	Teacher Percentages
Teachers felt they needed professional development in the new Common Core Standards	71%
Teachers felt as if they needed additional professional development in student assessment	65%
Teachers felt as if they needed assistance in differentiating instruction	67%
Teachers needing additional professional development in understanding Common Core Curriculum	71%
Teachers needing professional development in reading strategies	48%
Teachers who needed professional development opportunities to develop or use reading strategies	48%

To summarize Table 4, the issues that surrounded the problem of low reading scores on the NCEOG test include but are not limited to the following: teacher unfamiliarity with the Common Core Curriculum, teacher unfamiliarity with the proper use of reading comprehension strategies, and limited professional development opportunities for teachers to learn how to properly implement and use these tools (Sloan, 2010).

Purpose Statement

The purpose of this study was to determine the difference in student reading comprehension achievement between students instructed using the Frayer Model and students instructed using the Summarizing/Paraphrasing strategy when used with fidelity. For the purpose of this study, fidelity referred to implementing the discussed reading strategies for the same amount of times per week using the same steps with all students

involved in the study. The Summarizing/Paraphrasing strategy is effective in helping middle school students of all backgrounds (English as a Second Language, English Language Learners, Exceptional Children) learn and understand vocabulary (Babbitt, 2002). The Frayer model, designed by Dorothy Frayer and two of her colleagues in 1969, is a graphic organizer used to develop concepts and build vocabulary (Monroe & Pendergrass, 1997). This model allows students to organize their thinking by defining a term, identifying characteristics, providing examples, and providing non-examples (Monroe & Pendergrass, 1997). This study also investigated the kinds of professional development teachers receive on these literacy strategies and whether or not they feel these trainings are helpful in assisting them with implementation. This research adds to the current body of knowledge concerning reading, literacy, success of teacher professional development opportunities, and their relationship with the Common Core Curriculum.

Research Questions

This study examined the impact of two literacy strategies, the Frayer Model and Summarizing/Paraphrasing strategy, on reading comprehension in middle school students. The research also examined the factors surrounding the implementation of these strategies in the classroom such as the amount of professional development teachers receive on reading strategies, the impact that these strategies may possibly have on student achievement, which strategies seem to be most engaging to middle school students, and the relationship between the use of these strategies and the NCEOG tests. The following questions were the focus of what will drive this study on the impact of literacy strategies on reading comprehension and whether or not they had an impact on student reading scores.

1. What differences exist between students instructed using the Frayer Model and students instructed using the Summarization/Paraphrasing Model on reading comprehension in Grades 6, 7, and 8 as measured by the NCEOG Reading Comprehension Test.
2. Which literacy strategies do teachers perceive students find to be most engaging during reading instruction, Frayer Model or Summarizing/Paraphrasing as measured by the Active Learning Inventory Tool (Appendix A)?

Theoretical Framework

This study sought to find the connection between the variables of student engagement, reading strategies, reading theory, and student achievement in reading as measured by the NCEOG Reading test. Each variable has secondary constructs that contribute to each theory or content. Figure 1 illustrates the connection between the variables.

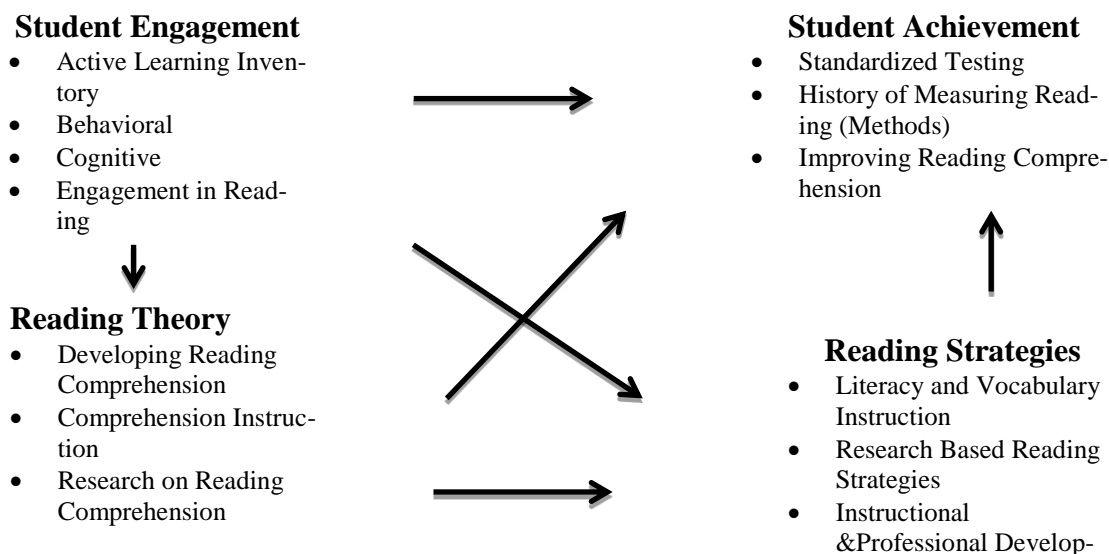


Figure 1. Theoretical Framework.

The Theoretical Framework (Figure 1) illustrated the secondary constructs for each variable. The concept of student engagement was separated into three sections: behavioral, cognitive, and engagement in reading. The variable of reading strategies was discussed in three areas: literacy and vocabulary instruction, research-based reading strategies, and reading professional development programs. Student achievement was divided into the three areas of standardized testing, history of measuring reading (methods), and improving reading comprehension. The variable of reading theory was divided into the three areas of developing reading comprehension, comprehension instruction, and research on reading comprehension. Each of these variables has a connection, and student achievement was impacted by both reading strategies and student engagement.

Operational Definitions

For the purpose of this study, the following terms were defined.

Student engagement. The level to which a student is interested, passionate, or motivated to learn. Student engagement is behavioral and psychological.

Student achievement. Defined as the level of student performance on the NCEOG test.

Framer Model. A graphical organizer used for word analysis and vocabulary building. This four-square model prompts students to think about and describe the meaning of a word or concept by defining the term, describing its essential characteristics, providing examples of the idea, and offering non-examples of the idea (Allen, 2007).

Fidelity. Refers to implementing the discussed reading strategies for the same amount of times per week, using the same steps, with all students involved in the study.

NCEOG tests. Designed to measure student performance on the goals, objectives, and grade-level competencies specified in the NC Standard Course of Study. NCEOG tests report Lexile measures for students in Grades 3-8 (NCDPI, 2014a).

Summarizing/Paraphrasing. Strategy that involves putting main ideas or information from read passages into your own words, including only the main points (Driscoll, 1995).

Significance

As adults, students will need to be able to complete everyday tasks which encompass things such as reading directions and understanding instructions. This study intended to inform educational leaders of the impact of reading strategies that can assist with reading comprehension in order to assist education institutions with improving comprehension education. This study also aimed to provide additional knowledge in the areas of student engagement, student achievement in reading comprehension, and reading theory.

This study sought to provide a framework of action to utilize in order to educate teachers on how to utilize literacy strategies in their classes. There is significant research that expresses the importance of including research-based reading strategies in instruction in order to improve reading skills (Marzano, Pickering, & Pollock, 2001). Student engagement often plays a large role in student achievement in multiple subjects including reading comprehension (Appleton, Christenson, Kim, & Reschly, 2006). Reading theories from the past have significant impacts on the types of reading strategies that are used during instruction. The constructs of reading theory, student achievement, student engagement, and reading strategies are all connecting elements that can assist in a student's educational success.

This study also sought to prompt more research relevant to increasing reading comprehension at an early age. Understanding written text can lead to an excellent educational future. There is not an academic subject where reading does not take place or is not needed (NCDPI, 2003). The compilation of student achievement data, student engagement data, reading comprehension strategies, and reading theory research supported the implementation of successful instructional techniques used in order to increase reading comprehension in middle school students.

Summary

This study sought to find which literacy strategy, the Frayer Model or Summarizing/Paraphrasing strategy, has the largest positive impact on reading comprehension. The purpose of this study was to determine the difference in student reading comprehension achievement between students instructed using the Frayer Model and students instructed using the Summarizing/Paraphrasing strategy when used with fidelity. Low reading scores have been supported by data provided by the NC School Report Card website, and NC Teacher Working Conditions data support the need for additional training in reading strategies for teachers. These results, coupled with student socioeconomic status, provided valuable information to assist educators in which reading strategies were the most beneficial for students and how to improve reading comprehension in their classes.

Chapter 2: Literature Review

Introduction

Reading comprehension has been defined as the process that excerpts and at the same time creates meaning by having the student interact and be involved with written language (Watson, Gable, Gear, & Hughes, 2012). “Reading comprehension is the most critical skill students need in order to be successful in school” (Watson et al., 2012, p. 80). The skills associated with this process are necessary to any student’s academic career in any content area such as math, language arts, social studies, and science. By utilizing literacy strategies in the classroom, reading comprehension levels can possibly be increased in students (Stone, Boon, Fore, Bender, & Spencer, 2008).

Student Engagement

Active Learning Inventory Tool. Student engagement is becoming more than just a popular phrase in the educational realm. Student engagement refers to the level of attention, passion, and interest students display while being taught or while they are learning (Appleton, Christenson, & Furlong, 2008). Engagement is often driven by the desire to enhance student learning (Appleton et al., 2008). Student engagement often stems from intrinsic motivation or individual student need (Dotterer & Lowe, 2011). Student engagement encompasses more than just academically engaged (Appleton et al., 2008). Engagement involves different aspects of a student’s emotion including behavior and cognition (Appleton et al., 2008). Studies show that students who are engaged retain more information and have an increased level of learning (Van Amburgh, Devlin, Kirwin, & Qualters, 2007). A student’s engagement involves the material being learned, the instructor, and their fellow classmates. Student engagement is referred to as the glue

that links important subjects such as home, school, peers, and communities to students (Appleton et al., 2008). The relationships teachers have with their students also play a large role in the level of student engagement a student has (Appleton et al., 2008). Students who are actively engaged in usually value school and academics more because of their level of engagement (Appleton et al., 2008). Student engagement is often mentioned in conjunction with student dropout and completion of school rates (Appleton et al., 2008). “Dropout and completion of school are not events, they are processes of disengagement or engagement” (Appleton et al., 2008, p. 373); meaning that over a period of time, a student became motivated and engaged and eventually completed school or became disengaged and uninterested which ultimately led to a student dropping out of school (Appleton et al., 2008).

Variables that impact student engagement include the student, the family, and the school. Each one of these aspects has positive and negative characteristics that can contribute to a student’s engagement or disengagement in school (Appleton et al., 2008). Examples of positive student characteristics include a student who completes homework, comes to class prepared, has a high level of control, has a good self-concept, and is expecting to complete school. Examples of negative student characteristics include high rates of absences, behavior problems, poor academic performance, and grade-level retention. Examples of positive family characteristics include academic support (help with homework and assignments), motivational support for learning (high expectations for learning and school achievement), and parental monitoring. Examples of negative family characteristics included low educational expectations, lack of mobility, and permissive parenting styles.

Parents and teachers play an important role in promoting and increasing student

engagement (Dotterer & Lowe, 2011). Types of positive school characteristics include having orderly school environments and caring and committed teachers and a school having fair discipline policies. When teachers boost a student's level of motivation, it helps the student gain a sense of school engagement (Dotterer & Lowe, 2011).

Categories of negative school characteristics include weak adult authority, large school size (more than 1,000 students), high student/teacher ratio, few caring relationships between staff and students, a nonrigorous curriculum, and low expectations and high rates of absences (Appleton et al., 2008). Students without a sense of school engagement are likely to lose interest in studying (Dotterer & Lowe, 2011). Engagement is a major factor in education that impacts achievement in the classroom as well as outside the classroom (Dotterer & Lowe, 2011). Maximizing school engagement can improve a student's level of student achievement (Dotterer & Lowe, 2011). There are many advantages of active learning including learning information while applying it, allowing students to ask questions and practice skills, and allowing instructors to assess a student's learning as material is being presented (Van Amburgh et al., 2007). Classrooms that utilize active learning increase student learning and allow students to become "self-directed" learners (Van Amburgh et al., 2007).

Van Amburgh et al.'s (2007) Active Learning Inventory Tool (Appendix A) was developed as a tool to compare faculty perceptions of active learning taking place in large classrooms. This tool was created using published research and was validated by experts in educational research. Faculty members trained in the use of this tool used it in classroom lectures and established reliability (Van Amburgh, 2007).

Behavioral. In the area of engagement, behavioral engagement refers to the quality of a student's engagement in the classroom (Davis & Summers, 2012).

Behavioral engagement usually contains characteristics such as a student's effort, persistence, compliance with school structures, and participation. It also encompasses practices and behaviors that are related to the instruction that takes place in school and can promote positive behaviors such as following school rules and steering away from negative behaviors (Dotterer & Lowe, 2011). Many school-level changes are based on the student's behavioral engagement; and the way a student is evaluated on a daily basis by teachers is also often based on behavioral engagement (Davis & Summers, 2012). Daily activities that students are graded on such as turning in homework and participating in classroom activities and projects are all items that are in the behavioral engagement realm. "Behavioral engagement draws on the idea of participation and includes involvement in academic, social, or extracurricular activities; it is considered crucial for achieving positive academic outcomes and preventing dropping out" (Fredricks et al., 2011, p. 2).

Cognitive. Davis and Summers (2012) defined cognitive engagement as the quality of a student's psychological engagement in academic activities including their strategies for learning, their interest level, and the ownership of things they complete or produce. Cognitive engagement refers to how students feel about their work and how they choose to complete it or retain information. Students who are cognitively engaged are sometimes those who are not behaviorally engaged. They try hard to achieve but still struggle (Davis & Summers, 2012). Basically, "cognitive engagement refers to the quality of students' engagement whereas sheer effort refers to the quantity of their engagement in the class" (Davis & Summers, 2012, p. 23). How students reflect on their comprehension and their willingness to take action, in reference to their education, is a large part of cognitive engagement (Dotterer & Lowe, 2011). Students who are

cognitively and behaviorally engaged often utilize problem-solving skills and previously learned skills to attempt tasks they are unsure of and realize that they need assistance. Student engagement is similar to the motivational systems theory developed by Ford (Davis & Summers, 2012). It states that competency is met when the following four goals are met: person has the motivation needed to initiate and maintain activity toward a goal; person has the skill needed to construct and execute a pattern of activity that is appropriate and effective with respect to those outcomes; person's biological structure and functioning are able to support both the motivational and skill components; and there is a responsive environment facilitating progress toward a goal (Davis & Summers, 2012, p. 24). These goals are similar to the characteristics needed to be behaviorally or cognitively engaged in a classroom.

Engagement in reading. Engaged readers enjoy reading and have confidence in their reading (Guthrie, 2001). They are motivated intrinsically, seek mastery, and have a high level of self-competence. Specific classroom environments can promote engaged reading (Guthrie, 2001). Teachers can create these environments for their students when they provide them with goals in their reading; provide them with real-world connections to reading; provide them with choices about when, what, and how to read; and provide them with materials that are interesting to them, important to them, and relevant to them (Guthrie, 2001). Also, teachers utilizing and teaching students reading strategies can further student engagement in reading. Engagement has a strong relationship with student achievement in reading (Guthrie, 2001). A reader who is engaged understands text because he or she can and because he or she is motivated to do so. Engaged reading is referred to as a state of absorption (Guthrie, 2001). It is the merging of several motivational qualities such as reading being purposeful to the student, reading to

understand, believing in their own capability, and being responsible for their own learning.

A very large faucet of engagement in reading is motivation. Individuals with mastery in reading want to improve their reading skills and accept new challenges (Guthrie, 2001). Students who are motivated develop long-term engagement and interest in the learning of performance goals (Guthrie, 2001). Self-efficacy is an aspect of motivation as well. Student perceptions of how they perform and their level of confidence cause them to see difficult reading tasks as challenges and work hard towards achieving them. In Figure 2, the Engagement Model of Reading Development is displayed.



Figure 2. The Engagement Model of Reading Development (Guthrie, 2001).

Achievement and knowledge practices are at the core of this model. Motivations, social interactions, conceptual knowledge, and strategy are the first areas that are impacted by achievement knowledge practices. The final part of this engagement model is what engages students to read in general. The real-world instruction, the interesting

text, collaboration activities, etc., are all items that motivate students to be engaged in their reading (Guthrie, 2001).

Reading Theory

Developing reading comprehension. Reading comprehension has been defined as the process that excerpts and at the same time creates meaning by having the student interact and be involved with written language and is one of the most critical skills a student needs in order to be successful in school (Watson et al., 2012). According to census data, there are large numbers of students who are immigrants or who have low socioeconomic status entering into U.S. schools, which often predicts reading difficulties within that student population (Lesaux, 2012). Government statistics show that child poverty has increased from 16.2% to 21.6% between the years 200 and 2010. Children whose parents are immigrants now make up 24% of the student population which could contribute to students having low reading levels (Lesaux, 2012).

In order to assist the student population in developing reading comprehension, reading must be taught as a practice with methods through systematic instruction. A step-by-step procedure is needed beginning with relevant vocabulary, background knowledge, and instructional strategies (Lesaux, 2012). Also, to develop reading, comprehension policies should be in place for reading instruction to be taught from kindergarten through twelfth grade, instead of only through the third grade, which encompasses teaching the at-risk population throughout their matriculation in school (Lesaux, 2012). Last, reading development is a collaborative effort between teachers of all content areas in order to reach all students in need (Lesaux, 2012). This is a form of comprehensive instruction which can take many forms or models.

Comprehension instruction. Popular comprehension instruction models are

supported by research and included specific components that allow students to read, write, and discuss text. A successful model includes the following: “a description of the strategy and when and how it should be used,” “teacher and/or student modeling of the strategy in action,” “collaborative use of the strategy in action,” “guided practice using the strategy with gradual release of responsibility,” and “independent use of the strategy” (Farstrup, Duke, & Person, 2002, pp. 208-209). This comprehension model follows the Gradual Release of Responsibility Model. The components of this model include focus lessons (teacher presented content), guided instruction (teacher facilitation), collaborative learning (working with other students), and then independent work (working individually; Fisher & Frey, 2008). This model also incorporates vertical alignment which is a comprehensive curriculum that insures instruction is incorporates student needs along with content standards (Fisher & Frey, 2008). Figure 3 displays the Gradual Release of Responsibility Model.

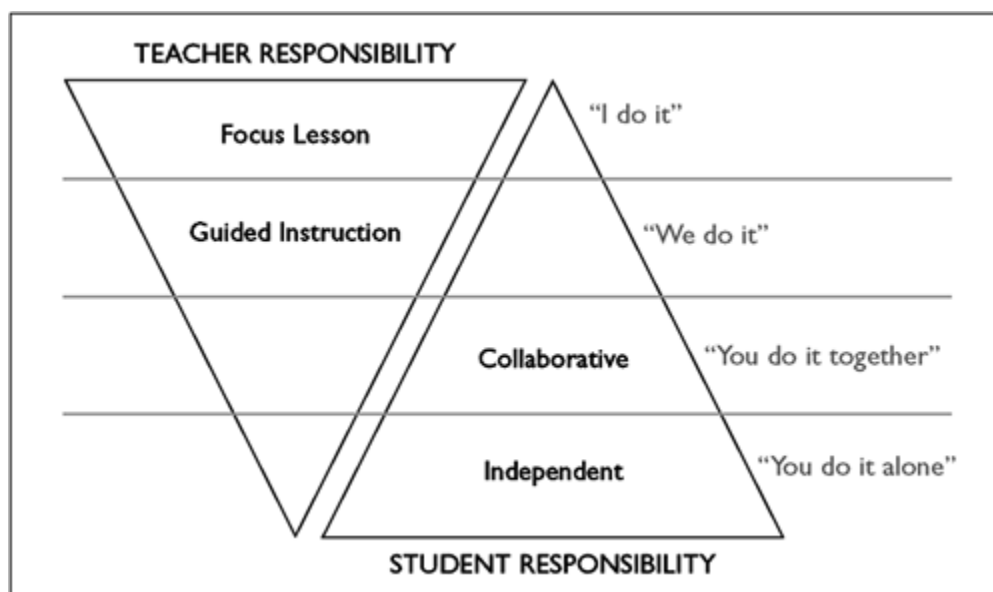


Figure 3. Gradual Release of Responsibility Model (Farstrup et al., 2002, pp. 208-209).

In comprehensive instruction, students use multiple types of strategies simultaneously, instead of using them one at a time (Farstrup et al., 2002). Teachers also choose appropriate texts for their students in various content areas found in books, articles, specific chapters, and newspapers for motivational purposes. Also, formal and informal assessments are used to monitor student use of comprehension strategies and whether or not students understand what they have read. Some of the individual reading comprehension strategies include prediction, think-aloud (teacher or student), story structure, informational text structure, visual representations of text, summarization, and questions/questioning (Farstrup et al., 2002).

Reading Strategies

Literacy and vocabulary instruction. Literacy instruction and vocabulary instruction are two evidence-based methods that have an effect on reading comprehension (Horn & Feng, 2012; Misulis, 2009). Vocabulary instruction plays an important role in student development of reading comprehension. Students may understand the meaning of individual words; but if they do not understand the context in which they are being used, their comprehension is negatively affected (Horn & Feng, 2012). Utilizing a focused vocabulary curriculum that requires students to develop word meanings can increase levels of reading comprehension (Horn & Feng, 2012). According to Horn and Feng (2012), “activities that encourage deep processing challenge students to move beyond memorizing simple dictionary definitions to understanding words at a richer, more complex level” (p. 154). By using literacy strategies in everyday classroom activities, student ability to comprehend will increase (Horn & Feng, 2012). Frayer models, concept analysis diagrams, definition organizers, and semantic maps all show positive results with students in reading (Horn & Feng 2012).

Horn and Feng (2012) conducted a project using two groups of seventh-grade students. The purpose of this study was to determine whether direct vocabulary instruction has a positive effect on the reading comprehension of seventh graders. The sample of students chosen was two classes of on-level students. One class was the treatment group and received direct vocabulary instruction before content reading, and the other class was the control group and did not receive direct vocabulary instruction. Both groups of students contained a mixture of all ethnicities. Both groups of students were administered a pretest. The control group received no specific instruction and completed the pretest, reading, and posttest within 5 days. The treatment group received eight lessons that concentrated on vocabulary meaning, identifying vocabulary in context, and story comprehension. After vocabulary instruction was complete, the students in the treatment group took the posttest, and test results for both groups were analyzed. Direct vocabulary instruction did not have a positive effect on reading comprehension. There were no significant increases in test scores in either groups; however, when the mean of the pretest and posttest scores were analyzed, the control group average increased by 9.82 points, whereas the treatment group average scores increased by 17.77 points which indicated that the treatment group made larger gains in reading comprehension (Horn & Feng, 2012).

Literacy instruction also plays a large role in student reading development (Misulis, 2009). Literacy instruction is more than just adding literacy to subject or content. Making connections between literacy and content is what constitutes literacy instruction (Misulis, 2009). According to McConachie et al. (2006), literacy instruction combined with general instructional strategies can be effective in learning through literacy in all subject areas and grade levels. Content literacy develops skills in the areas

of vocabulary, comprehension, study strategies, and writing. These skills are often referred to as instructional tools (Misulis, 2009). Vocabulary strategies allow students to understand individual words and make connections to content with those words. Comprehension strategies assist students in understanding written material at multiple levels of instruction. Study strategies utilize techniques that facilitate student learning (Misulis, 2009). These methods in literacy seek to assist in reading comprehension improvement for students.

Research-based reading strategies. There are many evidence-based reading strategies that assist in improving reading comprehension in students. Research-based strategies can encourage language skills in young learners as well as middle school age students (Wasik, 2010). In the following paragraphs are descriptions of evidence-based literacy strategies that are being utilized by educators nationwide.

Fraye Model, often referred to as Frayer Diagram, encourages students to understand words at a richer, more complex level and make connections between that word and the contexts in which it can be used (Horn & Feng, 2012). Frayer Model incorporates definitions, illustrations, facts, examples, and non-examples of a word or term (Trask & LaGrange, 2011). Similar to a graphic organizer, this strategy seeks to give learners a better understanding of vocabulary words that are read or learned from written material (Trask & LaGrange, 2011). Figure 4 is an example of the Frayer Model (West Virginia Department of Education, n.d.).

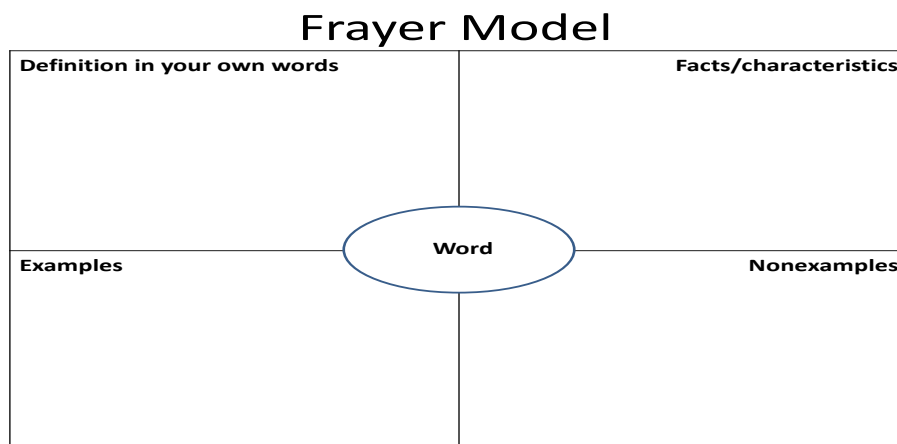


Figure 4. Frayer Model (Allen, 2007).

Text mapping is a method by which text is organized, or mapped out, to emphasize important concepts, words, and phrases within documents using outlining, hyperlinking and text formatting features found in most word processors (Stone et al., 2008). Developed by Dave Middlebrook in the 1990's, text mapping can help students understand how information is organized in a specific content area (Webster, 2014). The goals of text mapping include teaching students how to use the text for that specific class, teaching students developmental reading skills in order to use them in other content, teaching students to identify text features across subject areas, mapping out a textbook chapter, or focusing on available resources in a textbook (Webster, 2014). This can be done in three steps: Step one is to create a text scroll; step two is to decide on the elements that are important for the text being taught; and step three is the teacher modeling the process and allowing students to model as well (Webster, 2014). Text mapping has several advantages which include decreasing study time and increasing reading comprehension summarizing (Stone et al., 2008).

The SQ3R method stands for Survey, Question, Read, Recite, and Review when

studying or reading any kind of written material (Artis, 2008). It is very popular in college reading courses and assists students in utilizing higher order thinking skills while reading (Artis, 2008). This process is broken down into five steps. First, surveying material means to preview or look over the material that is to be read. Second, questions should be developed to promote critical thinking. Third, the material should actively be read with attention to detail. Fourth, the answers to the questions asked in the second step should be recited in order to be memorized. Fifth, the material should be reviewed in order to determine how much of it was actually understood. The five steps of the SQ3R method, if taught and used correctly, should result in an increase in reading comprehension, the heightened ability of identifying main points, and an increased remembrance of read information (Fraser, 1996).

Graphic organizers, question generating, and summarizing have been identified as strategies that are effective in improving reading comprehension (Babbitt, 2002).

Graphic organizers provide a visual aid for readers and can assist the reader in understanding a story, text, or any written information (Babbitt, 2002). They often fall into the category of nonlinguistic representation (Marzano et al., 2001). Graphic organizers require skill and practice (Trask & LaGrange, 2011). There are six common patterns of graphic organizers used in instruction: descriptive patterns, time-sequence patterns, process or cause and effect patterns, episode patterns, generalization or principle patterns, and concept patterns (Marzano et al., 2001). The descriptive pattern is usually used to display facts about specific places, events, people, and things. These facts are not displayed in any specific order. Figure 5 is an example of a descriptive pattern organizer.

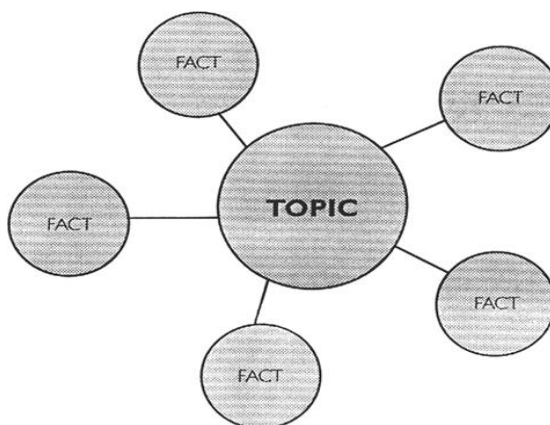


Figure 5. Descriptive Pattern Organizer (Marzano et al., 2001, pp. 75-78).

Time sequence patterns organize a sequence of events in chronological order. They are often used to create timelines. Figure 6 is an example of a time sequence pattern organizer.



Figure 6. Time Sequence Pattern Organizer (Marzano et al., 2001, pp. 75-78).

Process or cause-effect pattern organizers organize information in a way that displays events leading to a specific outcome or steps that lead to a specific product. Figure 7 is an example of a process/cause-effect organizer.

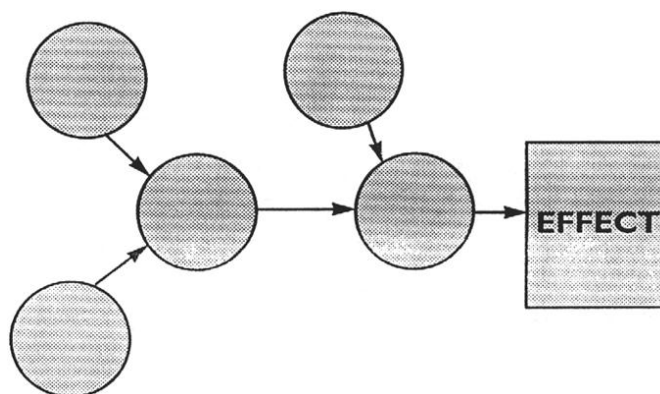


Figure 7. Process or Cause-Effect Pattern Organizer (Marzano et al., 2001, pp. 75-78).

Episode pattern organizers organize specific information about events including setting, people, duration, sequence, and cause and effect. Figure 8 is an example of the episode pattern organizer.

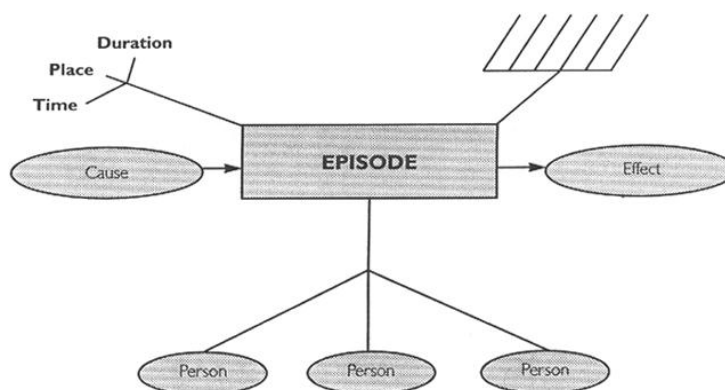


Figure 8. Episode Pattern Organizer (Marzano et al., 2001, pp. 75-78).

Generalization/principle pattern organizers separate information into general statements along with supporting examples. Figure 9 is an example of a generalization/principle organizer.

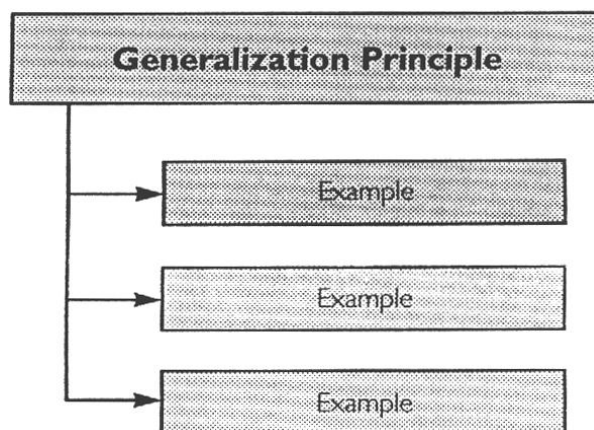


Figure 9. Generalization/Principle Pattern Organizer (Marzano et al., 2001, pp. 75-78).

The last common graphic organizer pattern is the concept pattern organizer. Mostly used to display information into categories of places, events, things, persons, etc., the organizer gives examples and characteristics of each category displayed. An example of the concept pattern graphic organizer is shown in Figure 10.

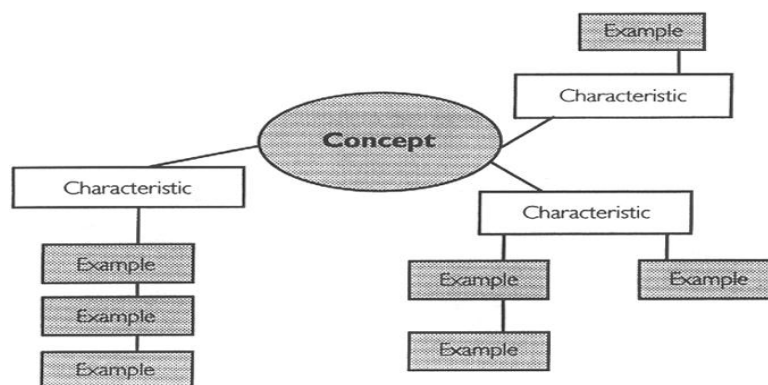


Figure 10. Concept Pattern Organizer (Marzano et al., 2001, pp. 75-78).

Open-ended questions can also support graphic organizers, question generating, and summarizing strategies (Wasik, 2010).

Question generating is an exercise that can be completed after material is read. These questions can be made into a review game or flashcards to help with

comprehension of material (Babbitt, 2002).

Leveled readers are more tools that assist struggling students with their reading skills. Leveled readers are reading materials that progress from simple to complex and help students become successful in literary development (Cusano, 2008). Guided reading can also be used to assist with reading comprehension in small groups of children who have similar reading levels (Cusano, 2008). These tools also help students learn how to read more independently and on their own (Cusano, 2008). These two tools are often used simultaneously in order to have a greater impact on student reading level development (Cusano, 2008). When a reader encounters an unknown word, the information gained from these tools help them make a connection to the meaning (Rausch-Aviles, 2011).

Summarizing is known as not only a skill that is important to reading comprehension but also an effective instructional tool overall (Marzano et al., 2001). In order to summarize, students must be able to delete, substitute, and analyze previously written information (Marzano et al., 2001, p. 30). Summarizing is a strategy where students can give a brief overview of the material that was read or re-word the sentences they have read (Babbitt, 2002). Summary frames are an additional way to aid in summarizing material. Summary frames are a series of questions teachers give to students. There are six different frames of questions used to summarize: narrative frame, topic-restriction-illustration frame, definition frame, argumentation frame, problem/solution frame, and conversation frame (Marzano et al., 2001). The narrative frame is mostly fiction and poses questions about the story such as who the characters are, the setting, the resolution on the story, etc. The topic-restriction-illusion frame poses questions about what the topic is that is being discussed, which information restricts the

topic, and what examples illustrate the topic. The definition frame asks questions about what is being defined, what category the item being defined belongs to, what characteristics separate it from other items in its same category, and the classes of the item that are being defined. The argumentation frame asks questions that are designed to support a view such as questions seeking evidence, a claim, support for the claim, and qualifier. In the problem/solution frame, questions seeking the problem, possible solutions, and whether or not the solution will succeed are posed (Marzano et al., 2001). In the conversation frame, the components of greeting, inquiry, discussion, and conclusion create the questions. Summarizing has a strong connection to vocabulary instruction (Trask & LaGrange, 2011). Without knowledge of vocabulary, it is difficult to summarize any type of written material (Trask & LaGrange, 2011). These research-based strategies seek to assist teachers in an overall improved instruction (Marzano et al., 2001, p. 42). In order to improve reading comprehension, literacy strategies may possibly be used (Stone et al., 2008). There are several evidence-based strategies that are utilized by educators that can assist in increasing reading comprehension levels including using graphic and semantic organizers, answering teacher-posed questions, creating questions, recognizing story structure, and summarizing (Stone et al., 2008). There are also research-based strategies that can be used to improve reading comprehension as well, including the Frayer Model, text mapping, SQ3R method, graphic organizers, question generating, and summarizing (Artis, 2008; Babbitt, 2002; Trask & LaGrange, 2011; Stone et al., 2008).

Instructional and professional development programs. Many educational institutions utilize instructional programs for students and professional development programs for staff and educators to improve student achievement in various areas of

study (Leithwood, Harris, & Hopkins, 2008). Some of these instructional programs include literacy, vocabulary, and reading programs for students.

Peer-Assisted Learning/Literacy Strategies, also known as PALS, were created for students to work together in pairs in the classroom, similar to a tutor/tutee relationship (What Works Clearinghouse, 2012). Students read aloud to each other, listen to their partners read, and give feedback to each other on the multiple types of activities they perform such as summarizing, predictions, and partner reading (What Works Clearinghouse, 2012). PALS were found to have a positive effect on alphabetics (recognition of words and letters) and mixed results on reading comprehension (What Works Clearinghouse, 2012).

There are studies that compare instructional programs in order to seek which strategies improve reading comprehension. One study compared literacy strategies (predicting, summarizing, questioning, and clarifying) to text structure usage (Ocasio, 2006). This study was conducted in order to examine the possibility that usage of text structure and using organizational patterns of writing improve comprehension at a similar rate (Ocasio, 2006). The findings of study state the following:

- 1) Fifth grade students can be taught to use text structure as a strategy to improve their comprehension of expository material.
- 2) Using the text structure of the original text as a framework to extract key ideas can be taught to fifth grade students to improve their written summaries of the original information.
- 3) Each program of strategy instruction was effective in raising the scores on the written summary for low performing students.
- 4) While both methods of strategy instruction were shown to be effective, the use of text structure as a strategy produced a better quality of written summaries. (Ocasio, 2006, pp. 76-77)

Project GRAD is a program that was created to assist at-risk students to graduate by providing them with services such as reading comprehension interventions (McCallum et al., 2010). Students who were in this program were exposed to reading comprehension interventions that included prereading and postreading activities that were designed to enhance comprehension in students (McCallum et al., 2010). This is another program that seeks to increase reading comprehension in students.

Another is the Science IDEAS instructional model; another program used with students that incorporates reading comprehension for integrating reading within science (Romance & Vitale, 2011). This program integrated reading and writing through science instruction in elementary age students. Through linking science and literacy experiences, students gained many opportunities to utilize fundamental literacy practices such as discussion, reading, writing, and developing arguments (Romance & Vitale, 2011). Teachers utilized common literacy strategies or tools such as concept maps and comparison/contrast models for student use (Romance & Vitale, 2011).

The Delphi Method is another method where information is collected from a knowledgeable group of experts (Napper, 2007). In this particular study, groups of reading and literacy experts were pooled together to create a program to assist middle school students who were struggling with reading and literacy (Napper, 2007). The study itself provided ammunition for educational leaders to create professional development programs for teachers to engage in, in order to improve reading achievement in middle school students (Napper, 2007).

Studies on professional development models for educators in reading comprehension have also been conducted. According to Griffin (2010), a professional development initiative for reading comprehension was provided for teachers in the area

of reading comprehension. This professional development opportunity gave teachers several interactive instructional techniques to use with students interactive read aloud, open-ended questioning, and scaffolding (Griffin, 2010). The teacher is one of the most important factors in helping students develop reading comprehension (Griffin, 2010). This professional development opportunity or professional learning allowed teachers to focus on student learning and not an additional tool to use in the classroom (Griffin, 2010).

Changes in curriculum (Common Core Curriculum). The new Common Core Curriculum is affecting education in many ways. It is changing education and has created instructional changes for students at every educational level (Liben & Liben, 2012). Text complexity has now become a standard for the curriculum that students are required to learn (Liben & Liben, 2012). Vocabulary development, syntax, and fluency are all major parts of this new curriculum (Liben & Liben, 2012). The type of reading required has also changed with this curriculum. The new standards specifically address literacy in the social studies and science portions of the curriculum (informational texts; Liben & Liben, 2012).

According to Kist (2013), the Common Core Curriculum requires students to be “text detectives,” since they will be performing a great deal of their reading and writing on a screen, due to advances in technology. This seeks to assist in preparing students for college and career readiness in students (Kist, 2013). Students need practice in digital writing, collaborative writing, and working with informational texts in order to prepare for the implementation of the Common Core Curriculum (Kist, 2013). These are just some of the changes that are being made to the curriculum in reference to reading comprehension and literacy.

Student Achievement

Standardized testing. According to The Johnson Center for Child Health and Development (2015), a standardized test is an assessment given in a consistent manner every time it is administered. All aspects of the test are consistent including the type of questions, the directions for administering, the directions for taking it, and the procedures used for scoring the assessment. The benefits of these types of tests are that they are typically more reliable and valid because of their parameters. Often, there are standard measures that will allow one to interpret how close a student's score is to the average scored on the assessment (The Johnson Center for Child Health and Development, 2015). These tests are used to compare student rankings against their peers (Reddell, 2010). These types of tests are administered all over the United States. The name of the standardized test administered in the state of NC is the NCEOG test. According to NCDPI (2009), the NCEOG is administered to students from Grades 3-8 in the areas of mathematics, language arts, and science (fifth and eighth grade only). According to NCDPI (2009), this test is "designed to measure student performance on the goals, objectives, and grade-level competencies specified in the North Carolina Standard Course of study" (p. 1). Tests similar to this were implemented across the country due to the No Child Left Behind Act 2001 (NCLB) passed by former President George W. Bush. This act was based on the idea of setting high standards and measureable goals in order to educate on a more individual basis (U.S. Department of Education, 2001). This act required all schools who receive federal funding to take a statewide mandatory standardized test and increased accountability for teachers, schools, and school districts. Eligible students enrolled at schools that do not meet adequate yearly progress (AYP),

now have the choice to attend higher performing schools, and school districts must hire teachers who are classified as highly qualified or certified in their content areas (U.S. Department of Education, 2001). In addition to these requirements, some schools often cut the time in the elective classes to make more time to prepare for the state-mandated exams. The aspects of this act are very different than how they previously were before this act was implemented.

History of measuring reading. Prior to the implementation of NCLB, there were several ways that reading comprehension was measured. The earliest measures of reading comprehension were derived from how well a reader could reproduce what he would read without referring to the text (Farr, 1970). This was referred to as the Durrell Analysis of Reading Difficulty created by Pinter. In 1914, Brown developed additional criteria to measure reading comprehension including rate of reading, quantity of production, and quality of reproduction. Also used, beginning in 1915, was the first published reading test called the Gray Standardized Reading Paragraphs; however, it did not include a measure of reading comprehension (Farr, 1970). The first reading comprehension measure was the Kansas Silent Reading Test developed by F. J. Kelly which was published in 1916 (Farr, 1970). The California Achievement test, which was used more recently, had some similarities to Kelly's test. Other reading comprehension tests, all published by 1920, included the Courtis Silent Reading Test, Monroe's Standardized Silent Reading Test, the Haggerty Reading Examination, and the Chapman Reading Comprehension Test (Farr, 1970).

The Courtis Reading Test was a timed assessment that allowed students to read as much of a two-page story as they could in 3 minutes. Next, the student is given the same story, broken down into paragraphs with a series of "yes/no" questions to answer within 5

minutes (Farr, 1970). Monroe's test was a 4-minute timed test comprised of several paragraphs for a student to read. Following each paragraph was a list of five words, and the student had to underline the relevant word according to information read throughout the paragraph (Farr, 1970). There was a subtest of Monroe's assessment called the Gates-MacGintie Reading Test that was published in 1964 and was focused on the speed and accuracy of reading. The Haggerty Reading Examination was comprised of a sentence comprehension test, a vocabulary test, and a paragraph comprehension test. The sentence comprehension component consisted of 40 statements that were to be answered with a yes or no, and the paragraph comprehension portion contained seven paragraphs with true/false statements following each paragraph. This was a times assessment as well (Farr, 1970). The Chapman Reading Comprehension Test was composed of paragraphs that contained vocabulary terms that made the paragraph incorrect. Students were to mark out the terms that muddled the meaning of the paragraph (Farr, 1970).

Comprehension test evaluators such as John Dewey continued to seek ways to improve these tests so they would assess the subskills of reading comprehension, determine the best format for questions for these types of tests, and determine the language structure in which the tests should be formed, in order for the assessments to benefit education (Farr, 1970).

Improving reading comprehension. According to Stone et al. (2008), literacy strategy instruction has been classified as an “important component of comprehension instruction” (p. 91). The strategies that are identified as being effective by the National Reading Panel (NRP) are monitoring comprehension, using graphic and semantic organizers, answering teacher-posed questions, creating questions, recognizing story structure, and summarizing (Stone et al., 2008). Monitoring comprehension consists of

teaching students to recognize when they understand or do not understand what they read. Creating questions consists of students asking their own, self-posed questions as they read through material (Stone et al., 2008). Studies on how summarization strategy compared to traditional instruction methods were completed in the late 1990's (Bakken, Mastropieri, & Scruggs, 1997). The summary strategy prompted students to ask and answer more general questions such as "who or what is the paragraph about," "what is happening in the paragraph," and "create a summary sentence in your own words using less than 10 words" (Stone et al., 2008, p. 90). These questions were commonly used parts of the summarizing strategy (Stone et al., 2008). In the previously mentioned study completed by Bakken et al. (1997), it was found that summarization strategies were more effective in small groups or one-on-one settings and may not be very practical for large classroom settings (Stone et al., 2008). Studies have been conducted on the teacher perception of how well certain literacy strategies work; however, depending on how the teacher feels about the subject that is being taught can influence the effectiveness of the strategy being used (Gibson, 2009).

According to Watson et al. (2012), students who struggle with reading comprehension usually benefit from literacy strategies such as paraphrasing, making inferences, story mapping, and other evidence-based strategies. "Reading comprehension is the most critical skill students need to be successful in school. Deficiencies in comprehension can have a negative effect on a student's classroom performance" (Watson et al., 2012, p. 83). Comprehension requires students to understand what written text means as a whole instead of understanding the individual sentences or words. Students have to have many different types of skills so they can determine the main idea and summarize or paraphrase what they read (Watson et al., 2012). Often, teachers use

traditional approaches that utilize workbooks and teacher manuals to attempt to increase reading comprehension in students (Thames et al., 2008). A more balanced approach might include traditional materials along with student-centered teaching aids (Thames et al., 2008).

“Students must practice reading to improve literacy yet as they get older and textbooks get more difficult, adolescents continue to struggle and their motivation to read becomes a factor” (Williams, 2010, p. 3). This statement explains how important it can be to develop reading comprehension skills at an early age. As students matriculate through their educational lives, vocabulary and literature become more advanced. For a student with low levels of reading comprehension, any difficult reading or vocabulary can be misunderstood or interpreted incorrectly (Torgesen, Houston, Rissman, & Kosanovich, 2007).

Summary

This literature review provides a research behind each variable being discussed and analyzed by this study. Several researchers including VanAmburgh, Appleton, Christenson, and Furlong connected the first variable of student engagement to motivation, retaining of information, and student value of academics. The second variable of reading theory discussed several areas including comprehension instruction and the gradual release of responsibility model used for instruction. A large portion of these theories encompassed studies by Marzano et al. (2001). The third variable researched was reading strategies. Briefly mentioned in the reading theory section, this section included vocabulary instruction, professional development programs, Common Core Curriculum, and research-based strategies along with their connection to student achievement. The final variable of student achievement included the history of

standardized assessments used in the past as well as the instrument used to measure student achievement in this study. Each one of these variables interconnects with another. The purpose of this study was to determine the difference in student reading comprehension achievement between students instructed using the Frayer Model and students instructed using the Summarizing/Paraphrasing strategy.

Chapter 3: Methodology

Introduction

The purpose of this study was to determine if there was a difference in student reading comprehension achievement between students instructed using the Frayer Model and students instructed using the Summarizing/Paraphrasing strategy, when used with fidelity. Included in this chapter are the identifying of the participants, the population and sample selection, an outline of the research design being used, summarization of instruments used, how the data were collected, and how the data were analyzed.

Participants

The middle school students used in this study were from sixth-, seventh-, and eighth-grade levels. There were intended to be 12 classroom teachers ($n=12$) used in this study who taught students between the ages of 11 and 14 who were in sixth, seventh, and eighth grades. There were intended to be four teachers from each grade level participating in this study. These teachers taught the subjects of language arts, math, social studies, or science. The student and teacher data were both coded and organized in order to have no impact on their personal lives. Prior to beginning the study, permission was received from the principal of the school and the superintendent of the school district (Appendix B).

During the previous school year, 2013-2014, there were 514 students enrolled in the middle school, but only a sample of students were used in the study. The study intended for there to be approximately 300 students ($n=300$) involved in the study as well. By conducting a two-step cluster sampling session, all social studies, math, language arts, and science teacher names were recorded and added to an empty container. Twelve names were selected from the container and this determined which teachers and

classes were used for research. Both male and female teachers were included in the drawing. The teachers ranged from beginning teachers (0-3 years of experience) to career status teachers (4 years of experience or more). There were to be at least four classes in each grade level; four in sixth grade, four in seventh grade, and four in eighth grade. Two classes of students in each grade level were intended to be “Frayer Model” groups, and the two other classes were intended to be “Summarizing/Paraphrasing” groups. Each teacher used only their assigned instructional strategy for the study. Each class was of similar size, between 25 and 30 students. The sample classes consisted of each teacher’s class. Class one was group one and was be instructed by teacher one. Permission to conduct the study was first requested from the principal of the school, the school district, and IRB approval. After written agreement was granted from the district and principal, permission and participation forms were distributed to all students for their parents to sign in order for them to participate in the study (Appendix C). An 85% participation rate for students was sought out by the researcher. The researcher promoted daily reminders for students and parents to return permission and participation forms in order to reach the desired participation rate. If the desired participation rate was not met, the study was completed with the students who received permission to participate. Teachers also signed participation forms agreeing to take part in the study (Appendix D), and the percentage of teachers implementing the strategies with success was also recorded.

Research Design

This study sought to examine the relationships between the constructs of student engagement, reading strategies, and student achievement as measured by the NCEOG Reading Comprehension Test. The quantitative methods included the comparison

between student engagement during Frayer Model instruction and Summarizing/Paraphrasing instruction in relation to the EOG scores; the qualitative methods included the observations of teachers implementing the reading strategies and the level of student engagement. The study showed the differences in engagement for each of the reading strategies and the differences in student performance based on which strategy was implemented in their classroom. The study took place from January 2016 through May 2016, which was during the 2015-2016 school year.

Instruments

There were two instruments of measurement used in the study, one for student achievement and another for student engagement.

Student achievement. The first instrument was the NCEOG Reading Comprehension Test. According to NCDPI (2014a), the purpose of this test was to improve student performance on the knowledge and skills specified in the NC Standard Course of Study (NCSCOS), and hold schools, school systems, and the state accountable for the education of students on the knowledge and skills specified in the NCSCOS. The test emphasizes higher-level thinking skills. (p. 5)

Students are asked to solve problems and determine the strategies that should be used to solve these problems. Sixth-grade students are allotted 100 minutes to complete 65 questions, seventh-grade students are allotted 100 minutes to complete 66 questions, and eighth-grade students are allotted 100 minutes to complete 68 questions. The test was created to assess reading comprehension; however, other subject areas are integrated throughout the test. All items were aligned with the NCSCOS and were written and reviewed by teachers in NC who work with students on a regular basis.

In Tables 5 and 6 are the achievement levels possible on the NCEOG test for

reading, along with the achievement level point ranges (NCDPI, 2014a).

Table 5

NCEOG Achievement Levels

Achievement Levels	Descriptors	Meets On-Grade Level Proficiency Standard	Meets College and Career Readiness Standard
Level 5	Denotes Superior Command of knowledge and skills	Yes	Yes
Level 4	Denotes Solid Command of knowledge and skills	Yes	Yes
Level 3	Denotes Sufficient Command of knowledge and skills	Yes	No
Level 2	Denotes Partial Command of knowledge and skills	No	No
Level 1	Denotes Limited Command of knowledge and skills	No	No

(NCDPI, 2014a).

Table 6

Reading Grades Achievement Level Ranges

Subject	Grade	Level 1	Level 2	Level 3	Level 4	Level 5
English/Language Arts Reading (Starting with 2013-2014 School Year)	6	≤441	442-450	451-453	454-464	≥465
	7	≤444	445-453	454-456	457-468	≥469
	8	≤448	449-457	458-461	462-472	≥473

(NCDPI, 2014a).

As reported by NCDPI (2009) in their technical report, the reliability of the NCEOG test is as follows: “Reliability refers to the consistency of a measure when the

testing procedure is repeated on a population of individuals or groups” (p. 43). Three broad categories of reliability coefficients are recognized as appropriate indices for establishing reliability in tests: (a) coefficients derived from the administration of parallel forms in independent testing sessions (alternate-form coefficients); (b) coefficients obtained by administration of the same instrument on separate occasions (test-retest coefficients); and (c) coefficients based on the relationships among scores derived from individual items or subsets of the items within a test, all data accruing from a single administration of the test (internal consistency coefficients). The internal consistency coefficient is the statistic used to quantify reliability for the NCEOG Reading Comprehension Tests (NCDPI, 2009, p. 43).

As reported by NCDPI (2009), the content validity, instructional validity, and criterion-related validity are as follows:

Evidence of content validity begins with an explicit statement of the constructs or concepts being measured by the proposed test. Interpretation of test scores refers to constructs or concepts the test is proposed to measure. All items developed for the EOG are done so to measure the goals and objectives as specified in the NCSCS with particular focus on assessing students’ ability to process information and engage in higher order thinking. (p. 59)

Content validity is further evidenced through the item development process. Items are also reviewed by additional teachers to ensure alignment to the content standards.

Additionally, items are also approved by internal staff including content test development staff and curriculum representatives prior to placement on a test. The tests are further reviewed by both teachers and internal consultants for content coverage to

ensure that the tests are reflective not just of the curriculum but are also reflective of what is taught in the classroom. As a part of the test development process, NCDPI routinely administers questionnaires to teachers in order to evaluate the validity and appropriateness of the NCEOG Reading Comprehension Tests. At the form review level, teachers are asked to respond to the following questions. In addition to the specific questions below, they are also asked to provide any additional comments they feel are necessary. These comments are reviewed and evaluated during the test development process to ensure the appropriateness of the assembled operational forms. Overall, the comments were positive across grades; however, in instances where concerns were raised, additional scrutiny by test development staff was given to ensure appropriateness.

The process for reviewing comments involves test development content staff and psychometricians wherein every comment is reviewed and every item for which a comment has been made is reviewed: (a) If the content of these forms does not reflect the goals and objectives of the curriculum as outlined on the list of objectives, please explain; (b) If the content of these forms does not reflect the goals and objectives of the curriculum as it is taught in your school or school system, please explain; and (c) If the content of these forms is not balanced in relation to ethnicity, race, sex, socioeconomic status, or limited English proficiency, please explain. Criterion-related validity of a test indicates the effectiveness of a test in predicting an individual's behavior in a specific situation. The criterion for evaluating the performance of a test can be measured at the same time (concurrent validity) or at some later time (predictive validity).

For the NCEOG Reading Comprehension Tests, teacher judgments of student achievement, expected grade, and test score all serve as sources of evidence of concurrent validity. The Pearson correlation coefficient is used to provide a measure of association

between the scale score and those variables listed above. The correlation coefficients for the NCEOG Reading Comprehension Tests range from 0.50 to 0.69, indicating a moderate to strong correlation between scale scores and external variables. NCDPI found moderate to strong correlations between scores in reading and variables such as teacher judgment of student achievement and expected grade. NCDPI also found generally low correlations among these scores and variables external to the test such as gender, limited English proficiency, and disability for Grades 3-8. The correlations between scores and gender or limited English proficient were less extreme than ± 0.10 , and most of the correlations between scores and disability status were less extreme than ± 0.30 . None of these relationships approached the levels recorded for the selected measures of concurrent validity. These generalizations held across the full range of forms administered by the NCDPI for all the grades and subject areas.

Student engagement. The second instrument that was used in this study was the Active Learning Inventory Tool (Appendix A) created by Van Amburgh et al. (2007). “The Active-Learning Inventory Tool is the first tool that utilizes qualitative and quantitative information to capture the amount and type of active learning in the classroom that has been evaluated for validity and reliability” (Van Amburgh et al., 2007, p. 4). This instrument categorizes learning activities into three levels of engagement complexity: low, moderate, and high. This instrument was developed to measure the engagement in large groups of classes (Van Amburgh et al., 2007).

On the Active Learning Inventory Tool (Appendix A), there are a total of 22 types of activities that fall into the category of low complexity, moderate complexity, and high complexity. A designated and trained individual served as a proxy to complete

observations using this tool. The usage of this active learning is based on context, engagement, and reflection which are the three main components that show that learning is happening. The tool was modified in order to provide qualitative data in the areas of faculty approach to the activity, quality of classroom environment during the activity, and overall atmosphere (Van Amburgh et al., 2007). The tool was created through researching articles and other studies on active learning as well as formative classroom assessment materials (Van Amburgh et al., 2007). Through a study in large pharmacy classes at Northeastern University, a valid and reliable tool was developed with 88% reliability. The researchers hope to use this tool in other disciplines and at other universities (Van Amburgh et al., 2007).

Procedures

The study occurred in four stages. In stage one, sampling was conducted to determine the teachers and classes who would be used for the study. In stage two, teachers received their professional development in the reading strategies being used in the study. In stage three, teachers began instruction with the reading strategies, and the observations of the teachers began. Finally, in stage four, the students took the NCEOG Reading Comprehension Test, and their scores were collected by the researcher.

In stage one, permission was gained in order to utilize the Active Learning Inventory (Appendix E) and district permission was obtained to conduct the study (Appendix B). The intended 12 classes of students were selected to participate in this study by convenience using a two-stage cluster sampling method. The teachers who volunteered their classes were used in the study. Each class contained approximately 25 students. There were intended to be a total of 12 teachers involved in the study; four for each grade level. Students from all middle school grade levels were used in the study

when adequate permission was obtained. Four student classes were intended to be selected from each grade level. There were intended to be two Frayer Model groups for each grade level and two Summarizing/Paraphrasing groups for each grade level. The desired sample of students consisted of approximately 360 students. A meeting was scheduled and held for the teachers who were involved in the study so they could be made aware of the purpose and procedures of the study. Teachers also signed their consent forms during this time (Appendix D).

In stage two, a professional development on the Summarization/Paraphrasing strategy and the Frayer Model was held for teachers so they knew how to implement the strategies correctly. The teachers were given the checklist (Appendix F) that was used by the researcher to observe them in order to determine whether or not they had been implementing the strategies correctly. The professional development sessions were held for 1-hour after school on 3 weekdays. The teachers viewed a presentation on each reading strategy. After viewing the presentations, the teachers were provided with reading passages. They were assigned specific sections of the reading passages to summarize utilizing the observation checklist (Appendix F), and then they shared their summarizations with the rest of the group. They then selected relevant vocabulary from their reading passages and completed the Frayer model for one vocabulary term, using the observation checklist (Appendix F) as a guide. The completed Frayer Models were then shared with the group. Corrections or adjustments were given to the teachers when needed to insure that teachers knew how to use the strategies correctly. In addition, teachers were to take a short survey that helped determine whether or not they implemented the strategies with fidelity throughout the course of the study.

In stage three, which started in early January, Information Letters and Consent

Forms for Parent/Guardian Permission for Research with Children (Appendix C), were sent home. Upon their return, teachers began utilizing the reading strategies in their classes. The teachers utilized the reading strategies in their classes twice per week and informed the researcher of the days this usage occurred. The teachers signed written consent to teach using these strategies on the days they identified. The researcher observed the implementation of the reading strategies in the classroom. The observations took place over the course of 5 months during the school year, once per month. Teachers were observed by a proxy with use of the Active Learning Inventory Tool (Appendix A) in January (before reading strategies were used) and again in May to see if there were any changes in the level of student engagement throughout the study.

In stage four, the students took the NCEOG Reading Comprehension Test. It was the instrument that was used to measure student achievement and was administered at the end of the school year around the last week of May 2016. The tests were administered by classroom teachers with the assistance of a proctor. Students in a class received multiple test forms, all with the same level of difficulty, to measure student achievement. Each test had 10 reading passages with three to eight questions per passage. There were a variety of passages that are similar to the reading that was done in the classroom. There are narrative, fiction, drama, and poetry passages that include the subject areas of math, health, social studies, art, and science. The test scores produced quantitative data. At the conclusion of the testing, students took a Student Survey (Appendix G), to give additional feedback on the study.

The Active Learning Inventory Tool (Appendix A) was used to observe the students in January before the study took place and at the end of the school year in May, in order to gauge their level of engagement in class and whether there was any increase or

decrease of engagement with the use of the reading strategies. A proxy utilized the Active Learning Inventory Tool (Appendix A) to observe the students involved in the study. The Active Learning Inventory Tool (Appendix A) produced qualitative data. After all these data were collected, Statistical Package for Social Sciences (SPSS) was used to analyze and interpret the collected data. Scores were to be available to the researcher within 7 days of students completing the test.

Data Collection

NCEOG test data were collected at the end of the school year after the test had been taken by the students and the tests were scored. The test score averages for each class were collected after students took the assessment at the end of the school year. The student achievement data from the NCEOG test were entered in SPSS to detect trends in test scores. The student engagement data were reviewed to see if there was a difference between class averages on the NCEOG test and the level of student engagement with either of the specific reading strategies.

Student data were coded in order to maintain the anonymity of all students and teachers involved. The teachers were coded in the researcher's files as T1, T2, T3 for teachers one, two and three. Student groups were identified by SG1, SG2, SG3 for student groups one, two, and three. The data were recorded and analyzed by the use of this code. The coded data were entered into SPSS in this form.

Data Analysis

The collected data were entered into SPSS for each class of students. The class mean NCEOG Reading Test score for the previous school year was the first piece of information entered. The number of students in each class was also entered into SPSS. The collection and analysis of these data showed whether or not there were any types of

impact on reading comprehension through using the reading strategies of the Frayer Model and Summarization/Paraphrasing. The NCEOG Reading Comprehension scores and the results from the Student Engagement Instrument were identified as dependent variables. The reading strategies used were identified as independent variables or as covariates depending on whether or not teachers followed the checklists (Appendix F) they were provided within this study.

The researcher began the data analysis in the area of student engagement. Students were observed with the Active Learning Inventory Tool (Appendix A) before the study began and the reading strategies were used and then again at the end of the study. A percentage score was calculated for each class during the pretest and the posttest. The class score was recorded as well as the mean EOG Reading scores for each class in each grade level.

By recording student EOG Reading scores in SPSS and calculating the mean for each class/group of students, another correlational analysis was completed for each grade level of students and each of the subgroups, Summarizing/Paraphrasing groups and Frayer Model groups, in order to determine whether or not these reading strategies have a positive or negative impact on EOG Reading Comprehension scores. The results of this analysis were displayed and illustrated by descriptive statistics. The covariant was EOG Reading Comprehension scores from the 2016 school year. The data were analyzed when the sample size was appropriate by demographic indicators such as gender, grade level, and race.

An Observation Checklist (Appendix F) in the form of a checklist was used to determine whether or not teachers for each subgroup were implementing the reading strategies with fidelity and the percentage rate at which the strategies were being

implemented with fidelity on a weekly basis. These results were also displayed and illustrated by descriptive statistics.

All data collected by the researcher were analyzed for trends, themes, similarities, and differences. All results were compared to the data collected on student engagement and student achievement in both subgroups, then they were described and illustrated in Chapter 4.

Limitations

The current limitations in the plan of this study were the sample size of the students, because research is only being performed in a single school. The single school was also smaller than the average size of other middle schools in the district. Teacher fidelity in implementing strategies was another limitation to the study. Improper implementation could have led to inaccurate results. Student truancy could have possibly limited the study. If students were not present when the instructional strategies were taught, they may not have known how to use them properly. Increasing teacher turnover rate in the school could have created holes in instruction and provided less data for the researcher, if teachers left before the study concluded. The last limitation was that 26% of teachers in the school were beginning teachers who had less than 4 years of teaching experience and less experience in implementing strategies.

Summary

In the methodology portion of this study, the participants involved in the study were identified. The instruments of measurement used included the Active Learning Inventory Tool (Appendix A) and the NCEOG Reading Comprehension Test. These instruments measured student engagement and student achievement in reading comprehension. This mixed-methods study was used in attempt to seek whether or not

the usage of reading strategies had an impact on student achievement in reading comprehension and whether the level of student engagement had an impact on reading comprehension.

Chapter 4: Results

The purpose of this study was to determine the difference in student reading comprehension achievement between students instructed using the Frayer Model and students instructed using the Summarizing/Paraphrasing strateg when used with fidelity. Student achievement was measured by the NCEOG Reading Comprehension Test. Student Engagement was measured by the Van Amburgh Active Learning Inventory Tool (Appendix A). This chapter describes the quantitative and qualitative data analysis findings of the study. These results are organized by the research questions outlined in Chapter 2.

Findings

Research Question 1. What differences exist between students instructed using the Frayer Model and students instructed using the Summarization/Paraphrasing Model on reading comprehension in Grades 6, 7, and 8 as measured by the NCEOG Reading Comprehension Test? To answer this question, a summary *t* test for equal variance was used to analyze data, because class averages and standard deviations were used rather than individual student test scores. The *t* test determined whether there was a statistically significant difference between the means of two groups. Below are the results for each grade level. In Table 7, the data for teacher L-1 (Summarization/Paraphrasing) and F-1 (Frayer Model) are displayed. In Table 7, the difference between the means of classes L-1 and F-1 showed that sixth-grade students in class F-1 who were taught with the Frayer Model scored higher on the EOG Reading test than sixth-grade students in class L-1 who were taught with the Summary/Paraphrasing strategy.

Table 7

Sixth-Grade Summary Data Results (L-1, F-1)

	N	Mean	Std. Deviation	Std. Error Mean
L-1	19.000	443.200	7.940	1.822
F-1	27.000	448.200	7.500	1.443

In Table 8 are the results of the independent samples test which displays the level of significance between the scores of the two classes.

Table 8

Sixth-Grade Summary Independent Samples T-Test Results

	Mean Difference	Std. Error Difference	t	df	Sig. (2-tailed)
Equal variances assumed	-5.000	2.301	-2.173	44.000	.035
Equal variances not assumed	-5.000	2.324	-2.151	37.472	.038

Note. Hartley test for equal variance: $F=1.121$, $\text{Sig.}=0.3852$.

The Hartley test results for equal variance were not significant ($F=1.121$ $p=0.3852$), indicating that equal variance can be assumed. The data in Table 8 provided the difference in mean, standard error difference, and the significance score. The results of the summary t test ($t(44)=-2.173$ $p=0.035$) showed that there are significant differences between mean scores from L-1 and F-1 sixth-grade classes. The students in the class of Teacher F-1 scored significantly higher on the EOG Reading test than the students in the class of Teacher L-1.

The test score data for seventh-grade teachers W-1 (Summarization/Paraphrasing) and R-1 (Fray Model) are displayed in Table 9.

Table 9

Seventh-Grade Summary Data Results (W-1, R-1)

	N	Mean	Std. Deviation	Std. Error Mean
W-1	30.000	448.300	6.390	1.167
R-1	29.000	453.100	6.480	1.203

In Table 9, the mean scores for each seventh-grade class were calculated, and the summary *t* test confirmed that the mean scores for Teacher W-1 were lower than mean scores for Teacher F-1. The students who were taught using the Frayer Model (R-1) scored higher on the EOG Reading test than students who were taught using the Summarization/Paraphrasing strategy (W-1). In Table 10, the results of the independent samples test conducted on the seventh-grade data which provided the level of significance between the two sets of scores are displayed.

Table 10

Seventh-Grade Summary Independent Samples Test Results

	Mean Difference	Std. Error Difference	t	df	Sig. (2-tailed)
Equal variances assumed	-4.800	1.676	-2.865	57.000	.006
Equal variances not assumed	-4.800	1.676	-2.864	56.866	.006

Note. Hartley test for equal variance: $F=1.028$, $\text{Sig.}=0.4691$.

The Hartley test results for equal variance were not significant ($F=1.028$ $p=0.4691$), indicating that equal variance can be assumed. The data in Table 10 displayed the mean difference, the standard error difference, and other components that determine the level of significance between the mean test scores. The results of the summary *t* test ($t(57)=-2.865$ $p=0.006$) showed that there were significant differences between mean scores from W-1 and R-1 seventh-grade classes. The data showed that Teacher R-1's class scored significantly higher than Teacher W-1 on the seventh-grade

EOG Reading Test. The students who were taught with the Frayer Model (R-1) scored higher on the test than students taught using the Summarization/Paraphrasing strategy (W-1).

The eighth-grade portion of the study contained more samples than the other grade levels. Instead of two teachers using the two strategies, three teachers taught different strategies. Teacher MC-1 and S-1 taught using the Frayer Model, and Teacher M-1 taught using the Summarization/Paraphrasing strategy. Three different *t* tests were performed in order to compare the mean scores between all eighth-grade teachers involved in the study. In Table 11 are the mean scores for the first two classes tested.

Table 11

Eighth-Grade Summary Test Data – Social Studies and Language Arts (MC-1, M-1)

	N	Mean	Std. Deviation	Std. Error Mean
MC-1	23.000	450.700	9.620	2.006
M-1	23.000	453.700	9.020	1.881

In Table 11, the mean scores for each class were calculated. The class of Teacher M-1 scored higher on the eighth-grade EOG Reading test. Teacher M-1 taught students using the Summarization/Paraphrasing strategy, and their test scores were higher than the scores of students taught with the Frayer Model. In Table 12 are the results from the independent samples test performed on these two classes of data.

Table 12

Eighth-Grade Independent Samples Test Results (MC-1, M-1)

	Mean Difference	Std. Error Difference	t	df	Sig. (2- tailed)
Equal variances assumed	-3.000	2.750	-1.091	44.000	.281
Equal variances not assumed	-3.000	2.750	-1.091	43.819	.281

Note. Hartley test for equal variance: $F=1.137$, $\text{Sig.}=0.3800$.

The Hartley test results for equal variance were not significant ($F=1.137$ $p=0.38$), indicating that equal variance can be assumed. Table 12 displayed the mean difference, standard error difference, and the significance. The results of the summary t test ($t(44)=-1.091$ $p=0.281$) showed that there were no significant differences between mean scores from MC-1 and M-1 eighth-grade classes.

The next group of data displayed is from the classes of Teacher MC-1 and S-1. Teacher MC-1 and Teacher S-1 both taught using the Frayer Model. The results of the t test are in Table 13.

Table 13

Eighth-Grade Summary Data – Social Studies and Language Arts (MC-1, S-1)

	N	Mean	Std. Deviation	Std. Error Mean
MC-1	23.000	450.700	9.620	2.006
S-1	26.000	451.700	10.080	1.977

Displayed in Table 13, the students in class S-1 had the higher mean score on the eighth-grade EOG Reading test scores even though the mean scores are only one point apart. Teacher MC-1 taught the strategy in a social studies class and Teacher S-1 taught the strategy in a language arts class. In Table 14, the significance of the two sets of data are displayed.

Table 14

Eighth-Grade) Independent Samples Test Results (MC-1, S-1)

	Mean Difference	Std. Error Difference	t	df	Sig. (2- tailed)
Equal variances assumed	-1.000	2.825	-.354	47.000	.725
Equal variances not assumed	-1.000	2.816	-.355	46.712	.724

Note. Hartley test for equal variance: $F=1.098$, $\text{Sig.}=0.4130$.

The Hartley test results for equal variance were not significant ($F=1.098$ $p=0.413$), indicating that equal variance can be assumed. In Table 14, the mean difference, standard error difference, and significance are shown. The results of the summary t test ($t(47)=-0.354$ $p=0.725$) show there were no significant differences between mean scores from MC-1 and M-1 eighth-grade classes. The students in both classes had similar success using the Frayer Model.

The next set of eighth-grade data is displayed in Table 15. The t -test results between the students in the class of Teacher M-1 and Teacher S-1 are shown. Teacher M-1 taught students with the Summarization/Paraphrasing strategy, and Teacher S-1 taught students with the Frayer Model.

Table 15

Eighth-Grade Summary Data – Language Arts (M-1, S-1)

	N	Mean	Std. Deviation	Std. Error Mean
M-1	23.000	453.700	9.020	1.881
S-1	26.000	451.700	10.080	1.977

In Table 15, students in the class of Teacher M-1 scored higher on the eighth-grade EOG Reading test. The students in Teacher M-1's class were taught using the Summarization/Paraphrasing strategy, and students in Teacher S-1's class were taught using the Frayer Model. The mean score for Teacher M-1's class is higher than the mean

score of Teacher S-1's class. In Table 16 is the independent samples test performed on the two sets of data.

Table 16

Eighth-Grade Independent Samples Test Results (M-1, S-1)

	Mean Difference	Std. Error Difference	t	df	Sig. (2- tailed)
Equal variances assumed	2.000	2.748	.728	47.000	.470
Equal variances not assumed	2.000	2.729	.733	46.991	.467

Note. Hartley test for equal variance: $F=1.249$, $\text{Sig.}=0.2969$.

The Hartley test results for equal variance were not significant ($F=1.249$ $p=0.2969$), indicating that equal variance can be assumed. The independent samples test provided the mean difference, standard error difference, and the significance, which are displayed in Table 16. The results of the summary t test ($t(47)=0.728$ $p=0.470$) showed that there are no significant differences between mean scores from M-1 and S-1 eighth-grade classes. The students in Teacher M-1's class performed similarly to Teacher S-1's class on the eighth-grade EOG Reading test with the Summarization/Paraphrasing instruction.

Research Question 2. Which literacy strategies do teachers perceive students find to be most engaging during reading instruction, Frayer Model or Summarizing/Paraphrasing as measured by the Active Learning Inventory Tool? In order to gather data on student engagement, the Active Learning Inventory Tool (Appendix A) was used during observations before the strategies were taught by teachers and during instruction to establish a pretest and posttest set of data. Two sixth-grade (English/language arts and science), two seventh-grade (English/language arts and social studies), and three eighth-grade teachers (English/language arts and social studies) taught

the reading strategies in their first-period classes. Below are the individual pre and post results of the Active Learning Inventory Tool (Appendix A) for each teacher.

Teacher L-1 was a sixth-grade science teacher with over 25 years of teaching experience. Teacher F-1 was a sixth-grade language arts teacher who also had over 25 years of teaching experience. These classes were both observed twice, once before the usage of the reading strategies and once during the usage of the strategies. In Table 17 are the percentages of low, moderate, and high complexity items that were observed during the observations. Also displayed is the total percentage of activities observed during the observation of all listed activities on the Active Learning Inventory Tool (Appendix A).

Table 17

Sixth-Grade Student Engagement Data

Teachers	Low Complexity Items	Moderate Complexity Items	High Complexity Items	Total Number and Percentage of Active Learning Activities Used
L-1 (Summarization/Paraphrasing) Observation 1	7/11 (64%)	6/7 (86%)	2/4 (50%)	15/22 (68%)
L-1 (Summarization/Paraphrasing) Observation 2	3/11 (27%)	2/7 (29%)	1/4 (25%)	6/22 (27%)
F-1 (Fraye Model) Observation 1	5/11 (45%)	5/7 (71%)	1/4 (25%)	11/22 (50%)
F-1 (Fraye Model) Observation 2	2/11 (18%)	1/7 (14%)	3/4 (75%)	6/22 (27%)

During the first observation, Teacher L-1 was observed using 64% of low complexity items, 86% of moderate complexity items, and 50% of high complexity items outlined in the Active Learning Inventory Tool (Appendix A). Overall, this teacher was

able to use 68% of all active learning activities listed in the Active Learning Inventory Tool (Appendix A). During the second observation, Teacher L-1 was observed using 27% of low complexity items, 29% of moderate complexity items, and 25% of high complexity items. Overall, during this observation, only 27% of the activities were observed. The observer reported that the students worked independently in the groups, the teacher facilitated the group activity and offered assistance when students were puzzled.

During the first observation, Teacher F-1 used 45% of the low complexity items, 71% of the moderate complexity items, and 25% of the high complexity items. Overall, 50% of the active learning activities were used during that observation. During the second observation, 18% of low complexity items were observed, 14% of moderate complexity items were observed, and 75% of the high complexity items were observed. Overall, only 27% of the active learning activities were used during this observation. The observer response stated that this was a large class and the teacher encouraged students to utilize anchor charts to answer questions. Only a small group of three students were not engaged for a short period of time.

The types of active learning observed included several of the following activities: Question & Answer, One Minute Paper, Think/Pair/Share, Brain Dump, Muddiest Point, Misconception/Preconception, Application Activity, Student Generated Questions, Small Group Presentations/Discussions, Formative Quizzes/Surveys, Computer Based Interaction Systems, Self/Peer Assessment, Small Group Presentations/Discussions, Role Playing Simulations/Games, Categorizing Grid/Pro-Con Grid, Defining Features Matrix, Debates, Peer Teaching, Concept Maps, Cases, Cooperative Cases, Jigsaw, and Cooperative Learning/Problem Based Learning. Items from this list were observed in

two Active Learning Inventory Tool (Appendix A) observations that took place over the course of 35 minutes.

Teacher W-1 was a seventh-grade language arts teacher with 4 years of teaching experience. Teacher R-1 was a seventh-grade language arts teacher who had 11 years of teaching experience. Both teachers' classes were observed twice, once before the usage of the reading strategies and once during the usage of the strategies. In Table 18 are the percentages of low, moderate, and high complexity items that were observed during the observations. Also displayed is the total percentage of activities observed during the observation of all the listed activities on the Active Learning Inventory Tool (Appendix A).

Table 18

Seventh-Grade Student Engagement Data

Teachers	Low Complexity	Moderate Complexity	High Complexity Items	Total Number and Percentage of Active Learning Activities Used
W-1 (Summarizing/Paraphrasing) Observation 1	5/11 (45%)	3/7 (43%)	3/4 (75%)	11/22 (50%)
W-1 (Summarizing/Paraphrasing) Observation 2	4/11 (36%)	1/7 (14%)	1/4 (25%)	6/22 (27%)
R-1 (Frayer Model) Observation 1	4/11 (36%)	3/7 (43%)	2/4 (50%)	9/22 (41%)
R-1 (Frayer Model) Observation 2	1/11 (10%)	1/7 (14%)	1/4 (25%)	3/22 (14%)

Teacher W-1 was observed using 45% of the low complexity items, 43% of the moderate complexity items, and 75% of the high complexity items during the first observation performed on the class. Overall, 50% of the activities outlined in the Active Learning Inventory Tool (Appendix A) were observed. During the observation

performed, 36% of the low complexity items were observed, 14% of the moderate complexity items were observed, and 25% of the high complexity items were observed. Overall, during the second observation, 27% of all active learning activities were observed. Observer responses to the observations stated that the teacher initially led instruction then allowed students to work in cooperative groups. Students were given all materials that were needed, and the teacher circulated through the room to assist groups that needed help. Also, the noise level was low and allowed students to work effectively. The teacher led and modeled the activity for students. The students were engaged in the activity and actively recorded their work in journals. The classroom environment was overall conducive to student learning.

During the first observation for the class of Teacher R-1, 36% of low complexity items were observed, 43% of moderate complexity items were observed, and 50% of high complexity items were observed. Overall, 41% of active learning activities on the Active Learning Inventory Tool (Appendix A) were observed. During the second observation, 10% of the low complexity items were observed, 14% of the moderate complexity items were observed, and 25% of the high complexity items were observed. Overall, 14% of active learning activities from the Active Learning Inventory Tool (Appendix A) were observed. The observer responses stated that the teacher demonstrated and led classroom instruction prior to groups working collaboratively; the classroom was arranged in cooperative learning groups with materials being made easily accessible to students; and the overall environment of the classroom was conducive to learning.

The types of active learning observed included several of the following activities: Question & Answer, One Minute Paper, Think/Pair/Share, Brain Dump, Muddiest Point, Misconception/Preconception, Application Activity, Student Generated Questions, Small

Group Presentations/Discussions, Formative Quizzes/Surveys, Computer Based Interaction Systems, Self/Peer Assessment, Small Group Presentations/Discussions, Role Playing Simulations/Games, Categorizing Grid/Pro-Con Grid, Defining Features Matrix, Debates, Peer Teaching, Concept Maps, Cases, Cooperative Cases, Jigsaw, and Cooperative Learning/Problem Based Learning. Items from this list were observed in two Active Learning Inventory Tool (Appendix A) observations that took place over the course of 35 minutes.

Teacher MC-1 was an eighth-grade Social Studies teacher with 11 years of teaching experience. Teacher M-1 was an eighth-grade English language arts teacher, with more than 20 years of teaching experience. Teacher S-1 was also an eighth-grade English/language arts teacher with 3 years of teaching experience. In Table 19 are the results from their two student engagement observations.

Table 19

Eighth-Grade Student Engagement Data

Teachers	Low Complexity	Moderate Complexity	High Complexity Items	Total Number and Percentage of Active Learning Activities Used
MC-1 (Frayer Model) Observation 1	3/11 (27%)	2/7 (29%)	1/4 (25%)	6/22 (27%)
MC-1 (Frayer Model) Observation 2	1/11 (10%)	1/7 (14%)	2/4 (50%)	4/22 (18%)
M-1 (Summarizing/Paraphrasing) Observation 1	4/11 (36%)	2/7 (29%)	1/4 (25%)	7/22 (32%)
M-1 (Summarizing/Paraphrasing) Observation 2	3/11 (27%)	2/7 (29%)	1/4 (25%)	6/22 (27%)
S-1(Frayer Model) Observation 1	4/11 (36%)	1/7 (14%)	3/4 (75%)	8/22 (36%)
S-1 (Frayer Model) Observation 2	9/11 (81%)	5/7 (71%)	3/4 (75%)	17/22 (77%)

During the first observation for Teacher MC-1, 27% of low complexity items, 29% of moderate complexity items, and 25% of high complexity items were observed. Overall, 27% of all active learning activities from the Active Learning Inventory Tool (Appendix A) were observed. During the second observation, 10% of low complexity items were observed, 14% of moderate complexity items were observed, and 50% of high complexity items were observed. During this observation session, 18% of all active learning activities from the Active Learning Inventory Tool (Appendix A) were observed. The observer responses stated that the teacher facilitated the main activity; students were able to present information with outside staff members present and with additional students actively listening; and the classroom environment was ideal for learning.

During the first observation of Teacher M-1's class, 36% of low complexity items were observed, 29% of moderate complexity items were observed, and 25% of high complexity items were observed. Overall, 32% of all active learning activities were observed during this observation. During the second observation, 27% of low complexity items, 29% of moderate complexity items, and 25% of high complexity items were observed. Of all active learning activities, 27% were observed during this observation. The observer responses stated that the teacher initially led a classroom discussion on the content. After the discussion, students transitioned into the activity with a visual model available for students to reference while completing the activity. The teacher facilitated the learning environment, and students were engaged using skills that were previously taught to complete the activity. The overall classroom environment was conducive to student learning.

During the first observation of Teacher S-1's class, 36% of low complexity items were observed, 14% of moderate complexity items were observed, and 75% of high complexity items were observed. Of all active learning activities outlined in the Active Learning Inventory Tool (Appendix A), 36% of activities were observed. During the second observation, 81% of low complexity items were observed, 71% of moderate complexity items were observed, and 75% of high complexity items were observed. Overall, 77% of all active learning activities described in the Active Learning Inventory Tool (Appendix A) were observed. Observer responses stated that students were engaged and self-directed at a high level. The students were highly involved in a teacher-facilitated environment, and the classroom environment was conducive to learning.

The types of active learning observed included several of the following activities: Question & Answer, One Minute Paper, Think/Pair/Share, Brain Dump, Muddiest Point,

Misconception/Preconception, Application Activity, Student Generated Questions, Small Group Presentations/Discussions, Formative Quizzes/Surveys, Computer Based Interaction Systems, Self/Peer Assessment, Small Group Presentations/Discussions, Role Playing Simulations/Games, Categorizing Grid/Pro-Con Grid, Defining Features Matrix, Debates, Peer Teaching, Concept Maps, Cases, Cooperative Cases, Jigsaw, and Cooperative Learning/Problem Based Learning. Items from this list were observed in two Active Learning Inventory Tool (Appendix A) observations that took place over the course of 35 minutes.

Overall, the observers saw less active learning activities in each class's second observation; however, students still seemed to be engaged in the strategies being taught.

Teacher fidelity. Throughout the study, teachers who were utilizing the reading strategies were observed by a proxy who used a checklist, located in Appendix F, to indicate whether or not teachers were using the strategies with fidelity. The checklist for the Frayer Model contained five indicators that should have been observed if the teacher was using this strategy with fidelity. The checklist for the Summarization/Paraphrasing strategy (Appendix F) contained six indicators the proxy should have observed in order to determine the percentage of the time the teacher taught the strategy with fidelity. The percentage of fidelity was calculated by dividing the amount of indicators observed by the total amount of indicators outlined on the observation checklist (Appendix F). In Table 20, the percentage of fidelity with which teachers taught using the Summarization/Paraphrasing strategy is displayed.

Table 20

Fidelity Percentages for Teachers Implementing Summarization/Paraphrasing

Teachers	Observation 1	Observation 2	Observation 3	Observation 4	Total % of Fidelity
L-1	3 of 6	4 of 6	3 of 6	3 of 6	54%
W-1	6 of 6	4 of 6	6 of 6	6 of 6	92%
M-1	6 of 6	6 of 6	6 of 6	6 of 6	100%
# of Observed Teacher Actions					

Each teacher was observed four separate times using the checklist (Appendix F) for the strategy they were teaching. Teachers L-1, W-1, and M-1 were all teachers who taught the Summarization/Paraphrasing strategy. Illustrated in Table 20, Teacher L-1 did not meet all six indicators in any of the observations performed. The teacher did not ask students to state the main idea, write only enough to convey the main idea, or encourage students to write in their own words during observation 1. In observation 2, Teacher L-1 did not ask students to question what is unclear, clarify those questions and predict what will happen next in the text, or encourage students to write in their own words. In the third observation, Teacher L-1 did not tell students to question what is unclear, clarify those questions, then predict what will happen next in the text; tell students to retell the main idea and important details; or encourage students to write in their own words. In the fourth observation, Teacher L-1 did not convey to students to complete the same tasks as in observation 3. These items that were not observed equated to Teacher L-1 showing 54% fidelity. This shows that this teacher had a lower level of fidelity, because they did not teach the strategies following the indicators with which they were trained. Teacher W-1 met all six indicators in every observation except for the second observation. Teacher W-1 did not tell students to complete the fifth or sixth indicators from the checklist (Appendix F) which were to write only enough to convey the main idea and

encourage students to write in their own words, which equated to a 92% fidelity percentage. This still shows a high percentage of fidelity in strategy usage during the study. Teacher M-1 met all six indicators in every observation performed, which equated to a 100% fidelity percentage and implied an extremely high percentage of fidelity when implementing the strategy.

Table 21 illustrates the percentage of fidelity demonstrated by each teacher using the Frayer Model Strategy.

Table 21

Fidelity Percentages for Teachers Implementing the Frayer Model

Teachers	Observation 1	Observation 2	Observation 3	Observation 4	Total % of Fidelity
F-1	5 of 5	5 of 5	5 of 5	5 of 5	100%
R-1	5 of 5	5 of 5	5 of 5	5 of 5	100%
MC-1	5 of 5	5 of 5	5 of 5	5 of 5	100%
S-1	5 of 5	5 of 5	5 of 5	5 of 5	100%
# of Observed Teacher Actions					

As illustrated in Table 21 every teacher (Teacher F-1, R-1, MC-1, and S-1) who was observed teaching the Frayer Model met each of the five indicators every time they were observed. This equated to a fidelity percentage of 100% and shows that there was an extremely high level of fidelity when teachers taught this strategy during the study. Teachers were able to teach the students to use the strategies correctly.

Student survey data. At the conclusion of the study, all participating students were given a survey to complete, asking their opinion about multiple aspects of the study and strategies that were used in the study. Sixty-one of the 66 (92.4%) students involved in the study completed the survey. Students answered the survey question via Google form which also produced percentage results per survey question. On the following tables are the results of the survey for each survey question.

Table 22

Question 1: What is your grade level?

Grade Level	# of Students Involved In the Study	% of Students Involved Per Grade Level
6	12	19.7%
7	25	41%
8	24	39.3%

According to the data from Table 22, the majority of the students who were involved in the study were in the seventh and eighth grade.

Table 23

Question 2: What is your gender?

Gender	# of Students Involved In the Study	% of Students Involved Per Grade Level
Male	24	39%
Female	37	61%

According to survey data from Table 23, 39% of students (n=24) involved in the study were male and 61% of students (n=37) were female. There were more female participants than male participants.

Table 24

Question 3: What is your ethnicity?

Ethnicity	# of Students Involved In the Study	% of Students Involved Per Grade Level
Hispanic	25	41.7% %
African-American	36	58.3%

Data from Table 24 shows that 41.7% of students (n=25), participating in the study identified with the Hispanic ethnic group and 58.3% of students (n=36) identified with the African-American ethnic group. The majority of the study participants were African-American.

Table 25

Question 4: What is your teacher's name?

Teacher Name	Grade Level	# of Students Involved In the Study	% of Students Involved Per Grade Level
F-1	6	6	9.8%
L-1	6	6	9.8%
R-1	7	13	21.3%
W-1	7	12	19.7%
M-1	8	10	16.4%
S-1	8	9	14.8%
MC-1	8	5	8.2%

Table 25 above outlined the percentage/amount of students in each teacher's class who participated in the study. The teacher names were coded so they would remain anonymous. Teacher F-1 had a total of 27 students in their class, and six students participated in the student survey. This calculates to 22.2% of students from this class taking the student survey. Teacher L-1 had a total of 19 students and also had six students participating in the study. Only 31.5% of this teacher's class took the student survey. The survey response percentages were higher in the seventh-grade students. Teacher R-1's class contained 29 tested students, with 13 of them taking the survey, which calculated to 44.8% of students participating in the student survey. Teacher W-1's class had 30 students, and 12 of the students completed the student survey, which equated to 40% of students taking the student survey. Teacher M-1 was an eighth-grade teacher. This class had 23 students enrolled, and 10 of the students were able to complete the student survey. This calculated to 43.4% of the class taking the survey. Teacher S-1 was an eighth-grade teacher and had nine of 26 enrolled students complete the student survey, which equated to 34.6% of students in that class taking the survey. The last eighth-grade teacher, Teacher MC-1, had five of 23 students take the student survey. This calculated

to 21.7% of students from that class participating in the student survey.

Table 26

Question 5: What strategy did your teacher use with you for the study?

Strategy	# of Students Involved In the Study	% of Students Involved Per Grade Level
Frayer Model	23	37.7%
Summarization/Paraphrasing	27	44.3%
Both	11	18%

From Table 26, 37.7% of students (n=23) reported that their teacher taught them using the Frayer Model, 44.3% (n=27) received instruction using the summarization strategy, and 18% of students (n=11) reported that they received instruction using both of the strategies.

Table 27

Question 6: Did you enjoy using this strategy in class?

	# of Students Involved In the Study	% of Students Involved Per Grade Level
Students Who Enjoyed the Strategy	55	90.2%
Students Who Did Not Enjoy the Strategy	6	9.8%

According the student survey data displayed in Table 27, 90.2% of students (n=55) enjoyed using the strategy that their teacher taught in class. Only 9.8% (n=6) did not enjoy using the reading strategy their teacher used. The majority of the students enjoyed using the reading strategy their teacher used.

Table 28

Question 7: Did you enjoy using the above strategy from question number 5 more than your other instruction?

	# of Students Involved In the Study	% of Students Involved Per Grade Level
Students Who Enjoyed the Strategy vs. Other Instruction	41	67.2%
Students Who Did Not Enjoy the Strategy vs. Other Instruction	20	32.8%

Students participating in the study reported through their survey that 67.20% of students (n=41) enjoyed instruction using the reading strategies more than their teachers' other forms of instruction. The other 32.8% of students (n=20) said they enjoyed their teachers' initial methods of teaching rather than the reading strategies of the Frayer Model and Summarization Strategy. The majority of student participants enjoyed using the reading strategies more than their teachers' traditional methods of instruction. Table 28 displayed these findings.

Table 29

Question 8: Did the strategy help you with reading or understanding what you read?

	# of Students Involved In the Study	% of Students Involved Per Grade Level
Students Who Thought Strategies Were Helpful	57	93.4%
Students Who thought Strategies Were Not Helpful	4	6.6%

When students were asked about whether or not the strategy their teachers taught them assisted them with their reading or understanding what they read, 93.4% of students (n=57) said that the strategy helped them, and only 6.6% of students (n=4) said the

strategies did not help. A large percentage of the students felt that these reading strategies were helpful. Table 29 illustrating the data is displayed above.

Table 30

Question 9: Do you think that your teacher felt comfortable teaching the strategy to you and your class?

	# of Students Involved In the Study	% of Students Involved Per Grade Level
Students Who Felt Their Teachers Were Comfortable	61	100%
Students Who Did Not Feel Their Teacher Was Comfortable	0	0%

According to survey data, 100% of students (n=61) involved in the study felt their teacher was comfortable teaching the strategy to students in their class. All students who took the survey felt their teacher was comfortable teaching the reading strategy they used for instruction. This information was displayed in Table 30.

Table 31

Question 10: Did you find the strategy useful when you were trying to understand what words meant?

	# of Students Involved In the Study	% of Students Involved Per Grade Level
Students Who Thought Strategies Were Useful When Understanding Words	51	83.6%
Students Who thought Strategies Were Not Useful When Understanding Words	10	16.4%

According to student survey data displayed in Table 31, 83.6% of students (n=51) felt the reading strategy they were taught was useful when they were trying to understand the meaning of words, and 16.4% of students (n=10) participating in the study found that

the strategies were not useful to them.

Table 32

Question 11: Do you feel that the strategy used by your teacher will be useful in your future education?

	# of Students Involved In the Study	% of Students Involved Per Grade Level
Students Who Thought Strategies Were Useful in Future Education	57	93.4%
Students Who thought Strategies Were Not Useful in Future Education	4	6.6%

The final question on the survey asked students if they thought the reading strategy they were taught by their teacher would be useful in their future education.

According to the data findings displayed in Table 32 above, the majority of students felt that the strategies would be useful to them in their future education.

Summary

Chapter 4 provided information that answered the research questions outlined above in the beginning of the chapter. It provided quantitative data which are provided by the analysis of the test scores; and the analysis has also provided qualitative data which are provided by the student engagement data, teacher fidelity data, and student survey data. The analysis of student achievement data showed that students in the sixth and seventh grade performed better on the EOG Reading tests when they were instructed with the Frayer Model versus the students who were instructed with the Summarization/Paraphrasing Strategy. The eighth-grade students were more successful on the test when they were instructed with the Summarization/Paraphrasing Strategy even though there were no significant differences in student achievement scores. In the area of student

engagement, the majority students seemed more engaged in class when the teacher taught their own way versus using the instructional strategies outlined in the study. Most teachers had a high level of fidelity when teaching the instructional strategies to their students. Also, students thought their teachers were comfortable teaching the strategies, thought the strategies were helpful with learning vocabulary and were useful for their future education, and enjoyed them more than their teachers' usual instruction.

Chapter 5: Discussion, Recommendations, and Limitations

The purpose of this study was to determine the difference in student reading comprehension achievement between students instructed using the Frayer Model and students instructed using the Summarizing/Paraphrasing strategy when used with fidelity and to examine the level of student engagement while these strategies were being used. Student achievement was measured by the NCEOG Reading Comprehension Test. Student engagement was measured by the Van Amburgh Active Learning Inventory Tool (Appendix A). This chapter provides answers to the research questions presented, discusses information derived from the data collected in Chapter 4, and suggests recommendations for future related study.

Discussion

This chapter uses the data from Chapter 4 to address and answer the following research questions.

1. What differences exist between students instructed using the Frayer Model and students instructed using the Summarization/Paraphrasing Model on reading comprehension in Grades 6, 7, and 8 as measured by the NCEOG Reading Comprehension Test?
2. Which literacy strategies do teachers perceive students find to be most engaging during reading instruction, Frayer Model or Summarizing/Paraphrasing as measured by the Active Learning Inventory Tool (Appendix A)?

Differences between students instructed with the Frayer Model and Summarization/Paraphrasing strategy. The first research question only examined the mean differences of sixth-, seventh-, and eighth-grade NCEOG Reading Comprehension

scores for students who were instructed with the Frayer Model or the Summarization Strategy. The results from the summary t test performed for each grade level are displayed in Tables 7-16 in Chapter 4. For sixth-grade testing data with a mean difference of -5.00, the t -test results $t(57)=-2.0173$, $p=.035$ indicate that Teacher L-1's class (Summary Model) had a significantly lower mean than the mean of Teacher F-1's class (Frayer Model). This implies that students in the sixth grade scored higher on the NCEOG Reading Comprehension Test when they were taught using the Frayer Model strategy.

For seventh-grade test data with a mean difference of -4.80, the t -test results $t(57)=-2.865$, $p=.006$ indicated that Teacher W-1's class (Summary Model) had a significantly lower mean than Teacher R-1's class (Frayer Model). It can be inferred from these data that students in the seventh grade who were instructed using the Frayer Model scored higher on the NCEOG Reading Comprehension Test. According to Farstrup et al. (2002), in comprehensive instruction, students are able to use multiple types of strategies simultaneously instead of just using them one at a time. The Frayer Model is an example of successful comprehensive instruction in sixth- and seventh-grade students.

For eighth-grade test data, there were three teachers using the reading strategies instead of two like the other grade levels. Summary t tests were performed showing the difference in means between each teacher's classes (M-C1 vs. M-1, MC-1 vs. S-1, and M-1 vs. S-1). When the t test was performed between MC-1's class mean (Frayer Model in social studies setting) and M-1's class mean (Summary Model in language arts setting), the mean difference was -3.00. The t -test results $t(44)=-1.091$, $p=.281$ indicate there is no significant difference between the mean scores of these classes.

The summary *t* test performed between classes MC-1 and S-1 showed a mean difference of -1.00. The *t*-test results $t(47)=-.354, p=.725$ indicate there is no significant difference between MC-1's (Frayer Model in social studies setting) and S-1's class mean (Frayer Model in language arts setting).

The final set of data that had a *t* test performed on it was class M-1 (Summary Model) and S-1 (Frayer Model). The mean difference between these two classes was -2.00. The *t*-test results $t(47)=.728, p=.470$ indicate there is no significant difference between the mean score of the two classes. These data imply there were no strong impacts on test scores when students were instructed with the Frayer Model or the Summarization/Paraphrasing strategy for students in the eighth grade. According to Horn and Feng (2012) and the study they conducted, Frayer Model's concept analysis diagrams, definition organizers, and semantic maps all show positive results with students in reading; however, this was not true with the eighth-grade students in this study.

Students in sixth- and seventh-grade classes where the Frayer Model was used scored higher than those instructed using the Summarization/Paraphrasing strategy. In the case that existed in the eighth grade that compared two classes using the Frayer Model but one being in a language arts setting and the other in a social studies setting, there was still no significant difference between the mean scores of the two classes.

Which strategy is most engaging to students? This research question was designed to determine which reading strategy, the Frayer Model or Summarization/Paraphrasing strategy, was more engaging for students. Student engagement was determined by the Active Learning Inventory Tool (Appendix A) which was created by Van Amburgh et al. (2007). Student classes were observed using the Active Learning

Inventory Tool (Appendix A) on two occasions: once before instruction using the reading strategies and once during instruction with the reading strategies. For each class, a percentage of active learning activities used during each observation was calculated. This calculation determined whether students were more engaged during the observation before the use of the reading strategies or the observation during instruction with the reading strategies and which strategy produced the largest percentage of engagement.

The sixth-grade student engagement data are displayed in Chapter 4. Teacher L-1 used 68% of the active learning activities during the first observation performed before instruction with the Summarization/Paraphrasing strategy began. During the second observation, only 27% of the active learning activities were used. This is a 41% difference of active learning activities use. Teacher F-1 used 50% of the active learning activities from the Active Learning Inventory Tool (Appendix A) during the first observation. During the second observation, with Frayer Model instruction, only 27% of the Active Learning Inventory Tool (Appendix A) activities were observed. This is 23% decrease in the use of the items. These figures showed that there was the same percentage of engagement during instruction with the reading strategies in the sixth-grade students, even though Teacher F-1's class, under the instruction of the Frayer Model, performed higher on the NCEOG Reading Comprehension Test. Engagement is a major factor that impacts achievement and, when maximized, can improve student achievement (Dotterer & Lowe, 2011). Because of these decreases in engagement during the usage of the strategies, student achievement may not have been maximized in these classrooms. From these data, it can be inferred that students were less engaged during instruction with the reading strategies from the study and more engaged when being taught with their teacher's original form of instruction.

The seventh-grade student engagement data are displayed in Chapter 4. During Teacher W-1's first observation, before usage of the Summarization/Paraphrasing strategy, 50% of the active learning activities were observed. During the second observation, during instruction with the usage of the Summarization/Paraphrasing strategy, only 27% of the Active Learning Inventory Tool (Appendix A) activities were used. There was a 23% decrease in the use of the active learning activities. Teacher R-1 was observed using 41% of the active learning activities during the first observation. During the second observation, during Frayer Model instruction, only 14% of active learning activities were observed. This was a 27% decrease in usage of active learning activities. Classrooms that utilize active learning increase student learning including learning information while applying it (Van Amburgh et al., 2007), even if student achievement scores do not increase greatly. In the seventh-grade students, the percentage of engagement was higher during instruction with the Summarization/Paraphrasing strategy, even though the class taught using the Frayer Model scored higher on NCEOG Reading Comprehension Test. This implies that students were less engaged during instruction with the reading strategies than they were with their teacher's initial form of instruction.

The eighth-grade student engagement data are displayed in Table 19. During Teacher MC-1's first observation, without usage of the reading strategy, 27% of active learning activities were observed being used. During the second observation, with Frayer Model instruction, only 18% of active learning activities were observed. This was a 9% decrease in the amount of active learning activities used. During the first observation of Teacher M-1, 32% of active learning activities were observed being used. During the second observation, using Summarization/Paraphrasing strategy instruction, only 27% of

the active learning activities were used. This showed a 5% decrease in use of active learning activities between the two observations. During Teacher S-1's first observation, 36% of active learning activities were observed. During the second observation instructed using the Frayer Model, 77% of active learning activities were observed. This was a 41% increase in the usage of active learning activities. Teachers can further student engagement in reading when they are utilizing and teaching students reading strategies (Guthrie 2001), which may have been what happened with Teacher S-1. With the eighth-grade students, there were no significant differences in the test scores of the students instructed with these reading strategies (Tables 12, 14, and 16). A similar study was conducted by Horn and Feng (2012) where similar student achievement outcomes were present, and there were no significant increases in test scores. When comparing the student engagement data of Teachers MC-1 and M-1, Summarization/Paraphrasing strategy instruction taught by Teacher M-1 had a higher percentage of active learning activity usage. When comparing student engagement data between Teacher MC-1 and S-1, Teacher S-1 used a higher percentage of active learning activities even though both teachers were utilizing the same reading strategy of the Frayer Model. When comparing the student engagement data of Teacher M-1 and S-1, Teacher S-1, who utilized the Frayer Model, had a higher percentage of active learning activity usage. In order to assist students in developing reading, systematic instruction and a step-by-step procedure is needed (Lesaux, 2012), which is what teachers in the study attempted to do during this study.

In viewing all student engagement results for sixth-, seventh-, and eighth-grades, students were not engaged as highly while being taught with the reading strategies as they were while being taught with their teachers' other forms of instruction. According to

Van Amburgh et al. (2007), students who are engaged retain more information and have an increased level of learning. The engagement results agree with this statement.

Engagement has a strong relationship with student achievement in reading (Guthrie, 2001). This statement is true and agreed with the data in this study; however, level of engagement for the Summarization/Paraphrasing strategy was higher than the Frayer Model and the level of student achievement was higher in students taught using the Frayer Model.

Also in the area of student engagement, the majority of the students involved in the study were able to participate in a survey after the study was complete. The results of this survey are displayed in Tables 22-32. The first several questions asked demographic information such as grade level, who their teacher was, their ethnicity, and the strategy their teacher used during the study. The other questions were more specific to the study. In Question 6 on the survey, 90.2% of students answered that they enjoyed using the strategy in class; in Question 7, 67.2% of students answered that they enjoyed the Frayer Model and Summarization/Paraphrasing strategy more than their other instruction; and in Question 11, 93.4% of students indicated they felt the strategies would be useful in their future education. This information gave some insight into student opinions of the strategies.

In Tables 20 and 21, a level of implementation fidelity was calculated for each teacher implementing the reading strategies. The teachers who taught using the Summarization/Paraphrasing strategy had different levels of fidelity. Teacher L-1 had a fidelity level of 54% which determined that this teacher did not use the strategy with fidelity. This could have caused a negative impact on student test scores. Teacher W-1 also taught with the Summarization/Paraphrasing strategy and had a fidelity percentage

of 92% which is a high level of fidelity. The last teacher who taught the Summarization/Paraphrasing strategy was Teacher M-1, who had the highest level of fidelity which was 100%. This means that all observation indicators for fidelity, outlined in Appendix A, were met every time this teacher was observed. As shown in Table 21, all teachers who taught using the Frayer Model, taught with 100% fidelity. Each time these teachers were observed, they met all indicators outlined in Appendix A.

Conclusions

The data obtained in this study had a variety of different findings. In the area of student achievement, students in the sixth and seventh grade taught with the Frayer Model scored higher on the NCEOG Reading Comprehension Test than students taught using the Summarization/Paraphrasing strategy. Contrary to the test scores, sixth- and seventh-grade students who were taught with the Summarization/Paraphrasing strategy showed a higher level of engagement during the observations with the Active Learning Inventory Tool (Appendix A). The eighth-grade students did not show a significant difference in test scores between the three teachers who taught the two strategies. One eighth-grade class (Teacher S-1's class) showed a higher level of engagement while using the Frayer Model; however, the class mean score was similar to the other classes' test scores. The strategies only displayed a significant difference between test scores when they were used with the sixth- and seventh-grade students. The Frayer Model was designed as graphic organizer used to develop concepts and build vocabulary (Monroe & Pendergrass, 1997). The summarization strategy prompted students to ask and answer more general questions such as "who or what is the paragraph about," "what is happening in the paragraph," and "create a summary sentence in your own words using less than 10 words" (Stone et al. (2008) p. 90), to understand the text being read. The Frayer Model

builds and develops vocabulary (Monroe & Pendergrass, 1997) and can be used in a class setting or individually, whereas the Summarization/Paraphrasing strategy is used to gain understanding of what is read and is more beneficial in an individual or small group setting (Stone et al., 2008). Depending on how the teacher utilized the strategy in class instruction could have been the determining factor of why students in the sixth and seventh grade instructed with the Frayer Model performed significantly higher on the test than the sixth- and seventh-grade students who were instructed using the Summarization/Paraphrasing strategy. The eighth-grade students showed no significant differences in test scores between the types of strategies used for instruction. This could mean that eighth-grade students needed usage of the Frayer Model in prior grade levels, that they needed to be instructed individually or in small groups with the Summarization/Paraphrasing strategy, or that these reading strategies are not as successful with this age group of students and another strategy should be researched for their instruction.

When looking at student levels of engagement, the data showed that students were overall less engaged during instruction using the reading strategies. Dotterer and Lowe (2011) determined that maximizing engagement can improve the level of student achievement. Students were more engaged during their teachers' traditional form of instruction. When asked about enjoying the strategies, students said they enjoyed the strategies more than they enjoyed other instruction; but according to the observations taken using the Active Learning Inventory Tool (Appendix A), students were less engaged during the time when teachers taught using the reading strategies. Studies show that students who are engaged have an increased level of learning (Van Amburgh et al., 2007); however, this study did not show the same findings.

Another variable explored in this study was the level of teacher fidelity when teachers were implementing the reading strategies. A fidelity percentage was calculated for each teacher, described in Chapter 4. Teachers who instructed using the Frayer Model (Teachers F-1, R-1, MC-1, and S-1) met every criterion on the checklist outlined in Appendix F during every observation performed. These teachers had a 100% fidelity rate. Teachers who instructed using the Summarization/Paraphrasing strategy (Teachers L-1, W-1, and M-1) had varying fidelity levels. Teacher L-1 had a fidelity percentage of 54%, which means that they only met about half of the criterion described on the strategy implementation checklist in Appendix F. This could have negatively impacted how well students understood or used the strategy. Teacher W-1 had a fidelity percentage of 92%. The data showed that this teacher met all criteria on the strategy implementation checklist (Appendix F) during all observations but one. Teacher W-1 is still considered to have instructed with a high level of fidelity. Teacher M-1 had a fidelity percentage of 100%, which means that this teacher met every criterion on the strategy implementation checklist (Appendix F) during every observation. Overall, teacher fidelity was high when implementing the reading strategies, with the exception of Teacher L-1.

Recommendations

In reviewing student achievement and student engagement data, there were two recommendations that could be useful to the school of study in developing reading comprehension in its students. According to Guthrie (2001), teachers can create engaging classroom environments when they provide students with goals in their reading, provide them with real-world connections in reading, and provide them with materials that are interesting and have relevance to them. Setting reading level goals, by Lexile level, could encourage and assist in developing reading comprehension. Another

recommendation would be to have all teachers be informally observed using the Active Learning Inventory Tool (Appendix A). According to Van Amburgh et al. (2007), classrooms that utilize active learning increase student learning and allow students to become “self-directed” learners. By participating in these observations, teachers can reflect upon their own levels of student engagement in their class and begin utilizing active learning activities in their classes to improve student achievement. Maximizing school engagement can improve a student’s level of student achievement (Dotterer & Lowe, 2011).

Recommendations for Further Study

One recommendation for further study is looking into teacher training on student relationships in order to increase student levels of engagement. Student engagement involves the material being learned, the instructor, and their fellow students. The relationships teachers have with their students play a large role in the level of student engagement a student possesses (Appleton et al., 2008; Dotterer & Lowe, 2011). Providing teachers with training on building positive relationships with students can increase student engagement; and when student engagement is maximized, student levels of achievement can improve (Dotterer & Lowe, 2011). Categories of negative school characteristics include high student/teacher ratio, few caring relationships between students and staff members, and weak adult authority (Appleton et al., 2008). Creating a program to combat these negative characteristics, could possibly assist in increasing student engagement and student achievement. Another recommendation for further study would be to interview teachers at the conclusion of the study. These interviews could produce valuable feedback on how effective teachers felt the strategies were, their opinions on the student level of engagement, and their experiences while implementing

the strategies. The last recommendation for further study would be to look into the correlation of student engagement to the teacher's years of experience. Newer teachers often receive more training in instruction and are more open to trying new strategies in the classroom, while more experienced teachers receive less training and often use the strategies with which they are already most comfortable.

Limitations

In reviewing this study, there are five limitations that the researcher felt could have impacted the outcome of the study. These limitations included student sample size, district permission to use individual test scores, sole strategy instruction when being involved in the study for teachers, not surveying teachers about their experience in participating in the study, and the number of observations conducted for student engagement.

The sample size for this study was based on the amount of students who returned parent consent forms to participate in the study. In total, 66 of 515 students who were enrolled at the school returned consent forms at the time the study was performed, which is 12.8% of the student population. For a better representation of data, a larger sample of students could have changed the results or outcomes of this study. The next limitation to the study was the inability to use student individualized testing data. The individual test scores could have made the student achievement results more specific to the students who were participating in the study. The individual impact on test scores, or lack thereof, could have been determined if the individual test scores were released to the researcher for the study. The third limitation stemmed from the student survey data. In Question 5, the survey asks students which strategy their teacher used to instruct them for the purpose of the study. Student responses showed that 18% of students (n=11) thought their teacher

taught both strategies. This presented a concern in whether the impact determined by the data was caused by the combination of strategies used or just the individual strategy being used by the teacher. This discrepancy also made the researcher question whether or not students were confused about what their teacher was instructing them. Another limitation was not surveying teachers about their experience with the study. Surveying teachers could have provided crucial feedback about teaching the strategies, the training they received, and their opinions of student level engagement. The final limitation of this study addresses the number of times that teachers were observed with the Active Learning Inventory Tool (Appendix A). Teachers were observed once before the reading strategies were taught and once during reading strategy instruction. Conducting additional observations before and during strategy instruction could allow the student engagement tool to produce more accurate results for the student levels of engagement. The researcher recommends addressing these limitations as recommendations for future research in this subject.

Summary

The purpose of this research was to determine if a difference exists in student reading comprehension achievement between students instructed using the Frayer Model and students instructed using the Summarizing/Paraphrasing strategy when used with fidelity and which reading strategy students found to be more engaging between the Frayer Model and the Summarization/Paraphrasing strategy. The data revealed that sixth- and seventh-grade students who were taught using the Frayer Model were more successful on the EOG Reading test than the students who were taught using the Summarization/Paraphrasing strategy. These students also had a higher level of engagement when being observed during instruction with the Summarization/

Paraphrasing strategy, indicating that the strategy that produced the higher test scores was not most engaging to students in these grade levels. The student achievement scores and student engagement levels for students in the eighth grade were very similar and did not determine definite results of impact from the reading strategies. Expanding the sample size, utilizing individual test scores, making sure teachers are solely using the reading strategies that are a part of the study, and surveying teachers on their experiences with the study may assist with further investigation in this area of research. The results of this study add to the current research and body of knowledge in student engagement and reading strategy instruction used with students.

References

- Allen, J. (2007). Frayer model. Retrieved from <http://www.readingeducator.com/strategies/frayer.htm>
- Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools, 45*(5), 369-386.
- Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the student engagement instrument. *Journal of School Psychology, 44*(5), 427-445. doi:10.1016/j.jsp.2006.04.002
- Artis, A. B. (2008). Improving students' reading comprehension with the SQ3R method. *Journal of Marketing Education*. Retrieved from <http://jmd.sagepub.com/content/30/2/130>
- Babbitt, P. (2002). *Scaffolding: Strategies for improving reading comprehension*. Retrieved from http://www.phschool.com/eteach/language_arts/2002_12/essay.html
- Bakken, J. P., Mastropieri, M. A., & Scruggs, T. E. (1997). Reading comprehension of expository science material and students with learning disabilities: A comparison of strategies. *The Journal of Special Education, 31*(3), 300-324.
- Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science and Technical Subjects Appendix A (2011). Retrieved from http://www.corestandards.org/assets/Appendix_A.pdf
- Cusano, C. (2008). Improving reading comprehension through the use of leveled readers (Order No. 1450603). Available from ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection. (304836091). Retrieved from <http://ezproxy.gardner-webb.edu/login?url=http://search.proquest.com.ezproxy.gardner-webb.edu/docview/304836091?accountid=11041>
- Davis, H., & Summers, J. (2012). What does it mean for students to be engaged? In *An interpersonal approach to classroom management: Strategies for improving student engagement*. Thousand Oaks, CA: Corwin Press/A Joint Publication.
- Dotterer, A. M., & Lowe, K. (2011). Classroom context, school engagement, and academic achievement in early adolescence. *Journal of Youth and Adolescence, 40*(12), 1649-1660.
- Driscoll, D. (1995). Welcome to the Purdue OWL. Retrieved September 6, 2015, from <https://owl.english.purdue.edu/owl/resource/551/01>

- Farr, R. (1970, December). *Measuring reading comprehension: An historical perspective*. Twentieth Yearbook of the National Reading Conference, Inc., Marquette University, Center for Reading Services, Milwaukee, WI (In press).
- Farstrup, A., Duke, N., & Pearson, P. (2002). Effective practices for developing reading comprehension. In *What research has to say about reading instruction* (3rd ed., pp. 205-236). Newark, DE: International Reading Association.
- Fisher, D., & Frey, N. (2008). *Better learning through structured teaching: A framework for the gradual release of responsibility*. Alexandria, VA: ASCD.
- Fraser, L. (1996). *Making your mark* (5th ed.). Retrieved from <http://www.at-bc.ca/Doc/Kwantlen%204R.pdf>
- Fredricks, J., McColskey, W., Meli, J., Mordica, J., Montrosse, B., and Mooney, K. (2011). Measuring student engagement in upper elementary through high school: A description of 21 instruments. (Issues & Answers Report, REL 2011–No. 098). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from <http://ies.ed.gov/ncee/edlabs>
- Gibson, K. D. (2009). *Teachers' perceptions of strategy based reading instruction for reading comprehension*. (Master's thesis). Retrieved from ERIC. (ED505543).
- Griffin, L. A. (2010). *Improving reading comprehension instruction: a case study of a professional development initiative* (Doctoral dissertation, Rutgers University-Graduate School-New Brunswick). Retrieved from <https://rucore.libraries.rutgers.edu/rutgers-lib/30069/>
- Guthrie, J. T. (2001). Contexts for engagement and motivation in reading. *Reading Online*, 4(8).
- Horn, M., & Feng, J. (2012, April). *Effect of focused vocabulary instruction on 7th graders' reading comprehension*. 2012 Chinese American Educational Research and Development Association Annual International Conference, Vancouver, British Columbia, Canada.
- The Johnson Center for Child Health and Development. (2015). What is a standardized test? Retrieved June 26, 2015, from http://www.johnson-center.org/downloads/pdfs/What_is_a_Standardized_Test.pdf
- Kist, W. (2013). New literacies and the common core. *Educational Leadership: Technology-Rich Learning*, 70(6), 38-43.
- Leithwood, K., Harris, A., & Hopkins, D. (2008). Seven strong claims about successful school leadership. *School Leadership and Management*, 28(1), 27-42.

- Lesaux, N. (2012). Reading and reading instruction for children from low-income and non-English-speaking households. *The Future of Children*, 22(2), 73-88.
- Liben, D., & Liben, M. (2012). The common core standards: Starting now. *Educational Leadership: Common Core: Now What*, 70(4), 24-27.
- Luke, S. D. (2006). The power of strategy instruction. *Evidence for Education*, 1(1). Retrieved from <http://nichcy.org/research/ee/learning-strategies>
- Marshall, P. (2008). The importance of reading comprehension. Retrieved from <http://www.k12reader.com/the-importance-of-reading-comprehension/>
- Marzano, R. J., Pickering, D., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: ASCD.
- McCallum, R. S., Krohn, K. R., Skinner, C. H., Hilton-Prillhart, A., Hopkins, M., Waller, S., & Polite, F. (2010). Improving reading comprehension of at-risk high-school students: The art of reading program. *Psychology in the Schools*, 48(1), 78-86.
- McConachie, S., Hall, M., Resnick, L., Ravi, A., Bill, V., Bintz, J., & Taylor, J. (2006). Task, text, and talk: Literacy for all subjects. *Educational Leadership*, 64(2), 8-14. Retrieved July 12, 2015, from <http://www.ascd.org/publications/educational-leadership/oct06/vol64/num02/Task,-Text,-and-Talk@-Literacy-for-All-Subjects.aspx>
- MetaMetrics. (2015). What is a Lexile measure? Retrieved from <http://www.lexile.com/about-lexile/lexile-overview/>
- Misulis, K. E. (2009). Promoting learning through content literacy instruction. *American Secondary Education*, 37(3), 10-19.
- Monroe, E. E., & Pendergrass, M. R. (1997). Effects on Mathematical Vocabulary Instruction on Fourth Grade Students. *Reading Improvement*, 34(3), 120.
- Napper, A. M. (2007). *A model for improving reading and literacy skills among middle school students* (Doctoral dissertation, Walden University). Retrieved from <http://search.proquest.com/openview/4d5d9836f974d0f8fbc79bb5a056c3df/1?pq-origsite=gscholar&cbl=18750&diss=y>
- North Carolina Department of Public Instruction. (2003). Making the grade. Retrieved from <http://www.ncpublicschools.org/docs/parents/resources/makingthegrade/2003fall.pdf>

- North Carolina Department of Public Instruction. (2009). North Carolina end of grades test: Reading comprehension and math: Technical report #1. Retrieved from <http://www.ncpublicschools.org/docs/accountability/NC%20End%20of%20Grade%20Tests.pdf>
- North Carolina Department of Public Instruction. (2014a). North Carolina end-of-grades-reading comprehension test (grades 3-8). Retrieved from <http://www.ncpublicschools.org/accountability/testing/eog/>
- North Carolina Department of Public Instruction. (2014b). North Carolina school reports cards 2012-2013 district snapshot. Retrieved from <http://www.ncreportcards.org/src/schDetails.jsp?pYear=2012-2013&pLEACode=320&pSchCode=338>
- North Carolina Teacher Working Conditions Survey Research Brief. (2014). Retrieved March 25, 2015, from <http://www.ncteachingconditions.org/results/report/152/62866>
- Ocasio, T. L. (2006). *A comparison of two instructional programs to develop strategies to improve reading comprehension*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3209082)
- Ontario Ministry of Education. (2006). *The Ontario curriculum grades 1-8: Language* (rev. ed., p. 1; Ed. & Trans.). Toronto: The Ministry.
- Rausch-Aviles, A. L. (2011). *The effects of guided reading and word-mapping on the vocabulary, comprehension and fluency of struggling adolescent readers*. Philadelphia, PA: Temple University.
- Reddell, S. (2010). High stakes testing: Our children at risk. Retrieved from <https://eric.ed.gov/?id=ED513338>
- Romance, N. R., & Vitale, M. R. (2011). *An integrated interdisciplinary model for accelerating student achievement in science and reading comprehension across grades 3-8: Implications for research and practice*. (Master's thesis). Retrieved from ERIC. (ED517988).
- Sloan, W. (2010). Coming to terms with common core standards. *ACSD: Info Brief*, 16(4). Retrieved from <http://www.ascd.org/publications/newsletters/policy-priorities/vol16/issue4/full/Coming-to-Terms-with-Common-Core-Standards.aspx>
- Stone, R. H., Boon, R. T., Fore III, C., Bender, W. N., & Spencer, V. G. (2008). Use of text maps to improve the reading comprehension skills among students in high school with emotional and behavioral disorders. *Behavioral Disorders*, 33(2), 87-98.

- Thames, D. G., Reeves, C., Kazelskis, R., York, K., Boling, C., Newell, K., & Wang, Y. (2008). Reading comprehension: effects of individualized, integrated language arts as a reading approach with struggling readers. *Reading Psychology*, 29(1), 86-115.
- Torgesen, J., Houston, D., Rissman, L., & Kosanovich, M. (2007). Teaching all students to read in elementary school: A guide for principals. *Center on Instruction*. Retrieved from ERIC (ED521606).
- Trask, C. P., & LaGrange, G. (2011). Raising achievement of special education students through vocabulary instruction. Retrieved from http://scholar.googleusercontent.com/scholar?q=cache:hZwPH-K0zmYJ:scholar.google.com/&hl=en&as_sdt=0,34
- United States Department of Education. (2001). No Child Left Behind. Retrieved June 26, 2015, from <http://www2.ed.gov/nclb/landing.jhtml>
- Van Amburgh, J. A., Devlin, J. W., Kirwin, J. L., & Qualters, D. M. (2007). A tool for measuring active learning in the classroom. *American Journal of Pharmaceutical Education*, 71(5), 85.
- Wasik, B. A. (2010). What teachers can do to promote preschoolers' vocabulary development: Strategies from an effective language and literacy professional development coaching model. *The Reading Teacher*, 63(8), 621-633.
- Watson, S. M. R., Gable, R. A., Gear, S. B., & Hughes, K. C. (2012). Evidence-based strategies for improving the reading comprehension of secondary students: implications for students with learning disabilities. *Learning Disabilities Research & Practice*, 27(2), 79-89.
- Webster, J. (2014). Text mapping to build skills for understanding text. Retrieved June 26, 2015, from <http://special.ed.about.com/od/InclusionSupport/ss/Text-Mapping-As-A-Strategy.htm#step-heading>
- West Virginia Department of Education. (n.d.). Frayer model. Retrieved from <http://wvde.state.wv.us/strategybank/FrayerModel.html>
- What Works Clearinghouse. (2012). *Peer assisted learning/literacy strategies*. Retrieved from <http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=364>
- Williams, D. L. (2010). *Which literacy interventions work for adolescents that continue to struggle with reading in high school and how will they be provided?* (Unpublished master's thesis). Retrieved from ERIC. (ED522013).

Appendix A

Active Learning Inventory Tool

Active Learning Inventory Tool © Van Amburgh, Delvin, Kirwin, and Qualters

Complexity Level	Code	Activity Description
Low Complexity	A*	<p><i>Question & Answer:</i> Students orally respond to a question, comment, etc. either voluntarily or by cold-calling.</p> <p>*A1 and A2 denote simple knowledge/comprehension questions (recall) and generally are asked by instructor but limited or no time is provide for the student to process/respond. A1 denotes students responded to question / A2 denotes students were asked to respond AND given time but did not respond – will track A1 and A2 for numbers but not time as conducted in less than 1 minute. A3 denote a higher -order question, where students are provided time (>1 min) to process then respond. This does not include rhetorical questions.</p>
	B	<p><i>One-minute paper / Focused Listing / One Sentence Summary:</i></p> <p>Short writing task designed to allow students to focus attention on a single important term, name or concept from a particular lesson / session</p>
	C	<p><i>Think/Pair/Share:</i> Short, individual written response to a prompt/question; then instructed to share and discuss briefly with partner; then asked to share with larger group</p>
	D	<p><i>Brain Dump / Free Write:</i> Short write in which students write down everything they know about an announced topic.</p>
	E	<p><i>Muddiest Point:</i> At some point during or after an in-class presentation, students write a quick response to the prompt, “What was the muddiest point in _____?”</p>
	F	<p><i>Misconception / Preconception Check:</i> Simple technique for gathering information on what students perceive they already know</p>
	G	<p><i>Application Activity:</i> Written activity in which students apply 1-2 principles and concepts to real life situation</p>
	H	<p><i>Student-Generated Questions:</i> Students create questions for quizzes or exams that are crafted to capture central elements of the course</p>
	I	<p><i>Formative Quizzes / Surveys (Background Knowledge Probe):</i> Ungraded quizzes / surveys to determine comprehension</p>
	J	<p><i>Computer Based Interaction Systems: (Personal response system)</i> Students participate in the lecture by responding to questions / statements via computers / wireless technology.</p>
	K	<p><i>Self/Peer Formative Assessment:</i> Activities that require students to assess performance against applicable criteria; extend to offer specific suggestions for improvement</p>

Moderate Complexity	L	<i>Small Group Presentations / Discussions:</i> Presentations/discussions of course material–led by __ Faculty vs. __ Student
	M	<i>Role Playing / Simulations / Games:</i> Students and/or faculty performing specific roles for demonstration purposes Simulations / games include guiding principles, specific rules and structured relationships
	N	<i>Categorizing Grid / Pro-Con Grid:</i> Students are presented with 2-3 important categories (superordinate concepts) along with a scrambled subordinate terms, images, equations or other items that belong in one or another of the superordinate categories.
	O	<i>Defining Features Matrix / Memory Matrix:</i> Students categorize concepts presented according to presence (+) / absence (-) of defining features
	P	<i>Debates:</i> Small or large group structured exploration of central concepts, data, beliefs, values
	Q	<i>Peer Teaching:</i> Students teaching each other basic and/or intermediate levels of course materials or needed skills
	R	<i>Concept Maps:</i> Drawings or diagrams that show the mental connections that students make between a major concept presented and other concepts they have learned
High Complexity	S	<i>Cases:</i> Scenarios that require students to integrate their skills to solve problems that relate to course material
	T	<i>Cooperative Cases:</i> Scenario-based problem-solving activity using small groups to tackle specific questions/issues from larger list
	U	<i>Jigsaw:</i> Team-based: each member becomes subject matter expert in 1 of 4 areas selected from current course material. Each member teaches their subject matter.
	V	<i>Cooperative Learning / Problem Based Learning:</i> Students work together to learn course knowledge and to develop course skills.

Faculty gender:

__ Male __Female

Age range:

__Non-Tenure __ Tenure

Years of Teaching:

__0-1 __2-5 __6-10

__11-15 __16-20 __>20

Course:

Discipline:

Time of day:

Number of students:

Type/Location of room:

Question and Answer	A1:	A2:	A3:
---------------------	-----	-----	-----

(Total)									
	AL 1	AL 2	AL 3	AL 4	AL 5	AL 6	AL 7	AL 8	AL 9
Code									
Activity Description									
Complexity									
Time start									
Time end									
Total time (minutes)									

AL Quantitative Summary		Reviewer Response
Item I: Total # times AL used:		Please provide specific feedback on the following: (1) Faculty approach in activity (2) Quality of classroom environment during the activity (3) Overall atmosphere
Item II: # Different types of AL used:		
Item III: # Low complexity / total:		
Item IV: # Moderate complexity / total:		
Item V: # High complexity / total:		
Item VI: Total time spent for all AL activities: (<i>sum total time for all activities</i>)		
Item VII: Average time per AL activity: (<i>total time/total # times AL used</i>)		

Select Appropriate "A":	Description of the question asked:
__A1 __A2 __A3	

Appendix B
Research Approval Form

March 24, 2016

Dear Ms. Reilly:

recognizes the benefits of participating in relevant, well-designed research studies proposed by qualified individuals. Approval for conducting such studies is based primarily on the extent to which substantial benefits can be shown for and its mission of educating students. The purpose of this letter is to notify you of the **approval** of your proposed research study, 'The Impact of Summarization/Paraphrasing Strategy, Frayer Model, and Student Engagement on Reading Comprehension by the Research Review Committee based on the following conditions, as agreed upon by the researchers and

Attached to this email is the Data Use Agreement (DUA) form. Please review the Data Use Agreement and sign to indicate your agreement with the terms of the Data Use Agreement. Return the original copy to our office in person/mail, or a scanned copy via email to:

Amy E. Davis

Email:

Once your signed Data Use Agreement form is received, your next steps will involve providing the school(s) with a *Statement of Agreement* (SOA) and an *Onsite Research Monitor Agreement* (ORMA) form. You will be provided with these forms once the Data Use Agreement paperwork is submitted. All paperwork must be submitted before you are able to contact the school(s) or departments.

Please be reminded that approval from our office **does not require any school, principal, staff member or student to participate.** Principals, staff and/or students may **decline to participate for any reason or discontinue participation at any time.**

If you have any questions, feel free to contact me at or at extension

Congratulations on the approval of your proposed research study! We look forward to assisting you throughout your approved research partnership with

Sincerely,

Amy E. Davis

Appendix C

Information Letter and Consent Form for Parents or Guardians
Permission for Research with Children

1/15/16

Dear **Parent(s) or Guardian(s)**:

I am writing to ask your permission for your child to participate in a Gardner Webb University research project on The Impact of Summarization/Paraphrasing Strategy, Frayer Model, and Student Engagement on Reading Comprehension. This project will be conducted at _____ Middle School over the next few months. I am interested in identifying helpful reading strategies that students may use in order to increase their reading EOG scores. This project may also help us understand more about children's engagement when using literacy strategies in the classroom.

The project in which your child has been invited to participate is expected to be an informative experience and will require no time out of class. However, the decision about participation is yours. To help you in this decision, a brief description of the project is provided below.

This study consists of four stages:

Stage 1 - Population selection will occur, as well as consent to participate by teachers and parents/students. Also, students will be observed using the Active Learning Inventory Tool, which measures student engagement in class.

Stage 2 - Professional development session will be held for teachers on the two instructional strategies (Frayer Model and Summarization/Paraphrasing).

Stage 3 - The instructional strategies will begin being implemented in the classroom and taught to the students. Also, observations of teachers implementing the strategies will begin, and students will be observed with the Active Learning Inventory Tool to determine levels of engagement.

Stage 4 - Students will then take NCEOG Reading Comprehension Test for the final part of data collection. Students will be asked to complete a confidential survey at the conclusion of the study.

All children's performances are considered confidential and individual children's results will not be shared with school staff. However, the results of the entire study will be published in my dissertation. Only children in grades 6-8, who have parental permission, and who themselves agree to participate, will be involved in the study. Also, children or parents may withdraw their permission at any time during the study without penalty by indicating this decision to the researcher. There are no known or anticipated risks to participation in this study.

I would like to assure you that this study has been reviewed and approved by the Institutional Review Board at Gardner-Webb University. In addition, it has the support of

the principal at your child's school. However, the final decision about the participation is yours. Should you have any concerns or comments resulting from your child's participation in this study, please contact **Yolanda J. Reilly at () - or by email at .**

I would appreciate it if you would permit your child to participate in this project, as we believe it will contribute to furthering our knowledge of useful reading/literacy skills in the classroom. Please complete the attached permission form, whether or not you give permission for your child to participate, and return it to the school by **February 28th, 2016.**

If you have any questions about the study, or if you would like additional information to assist you in reaching a decision, please feel free to contact me **Yolanda J. Reilly at () - or by email at .** Thank you in advance for your interest and support of this project.

Sincerely,

**Yolanda J. Reilly
Doctoral Candidate
Gardner-Webb University**

Consent Form – Child

I have read the information letter concerning the research project entitled The Impact of Summarization/Paraphrasing Strategy, Frayer Model, and Student Engagement on Reading Comprehension conducted by **Yolanda J. Reilly** of the Department of Education at Gardner-Webb University. I have had the opportunity to ask questions and receive any additional details I wanted about the study.

I acknowledge that all information gathered on this project will be used for research purposes only and will be considered confidential. I am aware that permission may be withdrawn at any time without penalty by advising the researchers.

I realize that this project has been reviewed by and approved by the Institutional Review Board at Gardner-Webb University, and that I may contact this office if I have any comments or concerns about my son or daughter's involvement in the study.

If I have any questions about the study I can feel free to call the researcher **Yolanda J. Reilly** at () - or by email at .

☐

Yes – I would like my child to participate in this study

☐

No – I would not like my child to participate in this study.

Child's Name (**please print**) _____

Child's Birth Date _____ Gender of Child _____ Male _____ Female

Parent or Guardian Signature _____ Date _____

Appendix D

Teacher Consent Form

Teacher Consent Form

The Impact of the Summarization /Paraphrasing Strategy, Frayer Model, and Student Engagement on Reading Comprehension

The purpose of this study will be to determine the difference in student reading comprehension achievement between students instructed using the Frayer Model and students instructed using the Summarizing/Paraphrasing strategy, at Middle School through the 2015-2016 school year. The decision to participate or not is solely up to you, and you may withdrawal at any time.

This study consists of four stages:

Stage 1 - Population selection will occur, as well as consent to participate by teachers. Also, students will take the Active Learning Inventory Tool.

Stage 2 - Professional development session will be held for teachers on the two instructional strategies

Stage 3 - The instructional strategies will begin being implemented in the classroom and taught to the students. Also, observations of teachers implementing the strategies will begin.

Stage 4 - Students will take the Active Learning Inventory Tool and NCEOG Reading Comprehension test, for the final part of data collection.

Please feel free to ask questions at any time during this study. Once all data is collected and analyzed, a copy of the study's findings will be provided to the school and the district. Again, all individuals will remain anonymous, and there are no known risks associated with your participation in this study.

Your participation is greatly appreciated. Please sign the consent form below which illustrates you have full knowledge of the nature and purpose of this research study.

Signature

Date

Yolanda J. Reilly, Doctoral Student, Gardner-Webb University

Appendix E

Active Learning Inventory Tool Permission

5/9/2017

Re: Van Amburgh Active Learning Inventory Tool

...

Re: Van Amburgh Active Learning Inventory Tool

YR

Yolanda Reilly

Wed 8/12/2015, 10:47 AM

Van Amburgh, Jenny



Reply all | v

Sent Items

Thank you so much!!

From: Van Amburgh, Jenny**Sent:** Wednesday, August 12, 2015 8:27 AM**To:** Yolanda Reilly**Subject:** Re: Van Amburgh Active Learning Inventory Tool

Dear Yolanda,

You have permission with appropriate attribution and I'd love to learn about your results.

Best,
Jenny

Sent from my iPhone

On Aug 11, 2015, at 12:28 PM, Yolanda Reilly

wrote:

Good Afternoon Dr. Van Amburgh,

My name is Yolanda Reilly and I am a doctoral student at Gardner-Webb University. I am in the process of writing my dissertation proposal and would like to use your Active Learning Inventory Tool in my study. My study seeks to find the level of student engagement when using specific reading strategies in the classroom, and whether the use of these specific strategies have an impact on student End-of-Grade test scores. In this email, I would like to gain your permission to use this tool in my study.

Thank you for your time,

Yolanda J. Reilly

0 of 0

Appendix F

Observation Checklist for Implementation of the Frayer Model and Summarization Strategy

Teacher Name:

Frayer Model:

Teacher Action	Observed (O)	Not Observed (NO)
Teacher identifies the key term/terms being used for the model and has students write the selected word		
Teacher has students write the characteristics of the selected word		
Teacher explains what examples and non-examples are and has students write examples and non-examples of the word		
Teacher has students write a definition of the word in their own words		
Teacher has students check the meaning of the word with the dictionary definition.		

Summarization:

Teacher Action	Observed (O)	Not Observed (NO)
Teacher provides a set of rules for creating a summary		
Teacher asks students to question what is unclear, clarify those questions, and then predict what will happen next in the text		
Teacher tells students to state the main idea		
Teacher tells students to retell the main idea and important details		
Teacher tells students to write only enough to convey the main idea		
Teacher encourages students to write in their own words		

Appendix G

Student Survey Questions

(The Impact of the Summarization /Paraphrasing Strategy, Frayer Model, and Student Engagement on Reading Comprehension)

Student Survey

What is your grade level?

a. 6th

b. 7th

c. 8th

2. What is your gender?

a. Male

b. Female

3. What is your ethnicity?

a. African American

b. Caucasian

c. Hispanic

d. Asian

e. Other: _____

4. What is your teacher's name?

a. F-1

b. L-1

c. R-1

d. W-1

e. M-1

f. MC-1

g. S-1

5. Which strategy did your teacher use with you for the study?

a. Summarization

b. Frayer Model

c. Summarization and Frayer Model

6. Did you enjoy using this strategy in class?

a. Yes

b. No

7. Did you enjoy using the above strategy from question number 5, more than your other instruction?

a. Yes

b. No

8. Did the strategy help you with reading or understanding what you read?

a. Yes

b. No

9. Do you think that your teacher felt comfortable teaching the strategy to you and your class?

a. Yes

b. No

10. Did you find the strategy useful when you are trying to understand what words mean?

a. Yes

b. No

11. Do you feel that the strategy used by your teacher will be useful in your future education?

a. Yes

b. No