HIGH SCHOOL SCIENCE AND SOCIAL STUDIES TEACHERS' SELF-EFFICACY REGARDING LITERACY INSTRUCTION: A TRANSCENDENTAL PHENOMENOLOGICAL STUDY

by

Jennifer L. Ryan

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

The purpose of this transcendental phenomenological study was to explore high school teachers' self-efficacy regarding the incorporation of literacy instruction in high school science and social studies classes in a rural, public school district. In this qualitative research study, self-efficacy was generally defined as the teachers' belief in how well they succeed at the task of including literacy instruction into their content area lessons. Albert Bandura's (1997) self-efficacy theory and Shulman's (1986) pedagogical content knowledge (PCK) theory guided this study as it explored the teachers' beliefs in their teaching abilities. Literacy instruction was defined as explicit instruction in word study, fluency, vocabulary, comprehension, and motivation techniques. The study used a self-efficacy questionnaire to explore the teachers' beliefs about their ability to include literacy strategies in their content area subjects. The study also included in-depth personal interviews with teachers and a review of participants' lesson reflection journals. Because the study was based on a phenomenological design, the information was analyzed for significant statements that are then turned into themes. From the themes, an essence of the phenomenon was described.

Keywords: content area literacy, disciplinary literacy, literacy instruction, pedagogical content knowledge, self-efficacy theory.

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List of Abbreviations

Common Core State Standards (CCSS)

Elementary and Secondary Act of 1965 (ESEA)

English Language Learners (ELL)

Every Student Succeeds Act of 2015 (ESSA)

General Education Development (GED)

National Assessment of Educational Progress (NAEP)

No Child Left Behind (NCLB)

Pedagogical Content Knowledge (PCK)

Professional Development (PD)

Standards of Learning (SOL)

Teacher Self-Efficacy (TSE)

Teacher Self-Efficacy in Language Instruction (TSELI)

Virginia Department of Education (VDOE)

CHAPTER ONE: INTRODUCTION

Overview

The Virginia Department of Education (VDOE) created the Virginia State Literacy Plan in 2011 advocating for literacy instruction in all content areas. In order to ensure students are retaining the information, content area teachers need to teach content but must also teach the students to comprehend text. In addition to the Virginia State Literacy Plan, the Every Student Succeeds Act of 2015 (ESSA) addressed literacy instruction in the nation's public schools. According to Dennis (2016), "ESSA (2015) calls for 'comprehensive literacy instruction' that includes an emphasis on continuous professional learning for teachers" (p. 396). These current state and government policies demonstrate a commitment to effective literacy instruction.

Based on the policies discussed above, literacy instruction should take place in all content area classes. Bandura (1997) noted that if teachers believe they have a high sense of self-efficacy, they are more likely to include new teaching strategies. Even if teachers do not view themselves as knowledgeable in literacy instruction strategies, they will be more likely to find effective methods if they have a high sense of self-efficacy as teachers. Tokuhama-Espinosa (2011) said that teacher self-efficacy increases with experience and then there is a "spiral effect" that occurs between teachers and students (p. 151). According to Tokuhama-Espinosa (2011), students feel more confident about teachers who are confident in themselves. This confidence "motivates the teacher to believe in him- or herself and inspires the students in both the teachers' ability to teach and [the students'] ability to learn" (Tokuhama-Espinosa, 2011, p. 152). Students are more likely to succeed in classes whose teachers are confident in their teaching abilities (Bandura, 1997). This chapter discusses the current state of literacy among students. With these literacy challenges, all content area teachers should include literacy instruction in their

classrooms. The chapter includes the problem statement and purpose of the research.

Background

The background section will review the historical, social, and theoretical principles regarding literacy instruction, specifically in the area of science and social studies courses.

Historical Background

The United States Elementary and Secondary Education Act of 1965 (ESEA) created standards that public schools had to implement to receive federal funding. Through ESEA, public schools are held accountable for providing quality education to all students. The most recent reauthorization of ESEA is known as Every Student Succeeds Act (ESSA, 2015). The ESSA (2015) requires a comprehensive literacy program for all public school students. Prior to ESSA's (2015) literacy requirement the VDOE developed a state literacy plan in 2011 (VDOE, 2011). The Virginia State Literacy Plan (VDOE, 2011) requires all content area teachers to include literacy instruction.

Virginia's State Literacy Plan (VDOE, 2011) was developed after the National Assessment of Educational Progress (NAEP) reported that Virginia students did not enter high school with the necessary literacy skills to be successful (VDOE, 2011). In 2015, Virginia's graduating 12th graders' reading scores were lower than the 2013 assessment scores (The Nation's Report Card, 2015a). According to the Nation's Report Card of 2017, eighth grade students from Virginia increased in their reading skills by only one point since the 2015 report (The Nation's Report Card, 2017). If graduating Virginia students are lacking in literacy skills, they may not be career or college ready after high school. The VDOE (2018a) has collaborated with the State Council of Higher Education and the Virginia Community College System to develop performance expectations for high school graduates, so they will be "successful in

freshmen-level college courses or career training." If current high school students are not significantly improving in literacy skills, they will be less likely to proficiently read and comprehend the more complicated texts and state-mandated end-of-the-course assessments. After graduation, if these literacy skills are not improved, they will be less prepared for college courses or career training.

Often explicit literacy instruction stops by the sixth grade even though a majority of the students are inadequately prepared to tackle high school texts (Lenski, 2011). Without explicit literacy instruction in high school, there are fewer ways for students to improve their reading. To address struggling readers at high school level, the Virginia State Literacy Plan (VDOE, 2011) directed schools to develop literacy programs in all content areas.

Social Background

To increase reading skills among Virginia students, effective literacy instruction should take place in public schools. Effective literacy instruction will most likely ensue when teachers are knowledgeable about research-based reading strategies. However, many high school teachers do not believe they are trained to effectively incorporate reading strategies (Carney & Indrisano, 2013; Dobbs, Ippolito, & Charner-Laird, 2016; Meyer, 2013; Roman, Jones, Basaraba, & Hironaka, 2016; Wendt, 2013). Because teachers are not confident in their abilities, they may be less likely to teach reading skills (Carney & Indrisano, 2013; Dobbs et al., 2016; Nixon, Saunders, & Fishback, 2012; Roman et al., 2016; Wendt, 2013). Not teaching literacy skills may result in a stagnant or decreasing reading level for students. Daisey (2012) has stated that it was "rare for content area teachers to implement reading in the classroom" (p. 214). Without continued effort to increase or maintain literacy skills, students may not be able to perform adequately in college or career.

Students have a variety of reading opportunities in the classroom: course textbooks, supplemental texts, teacher-developed and/ or teacher-selected assessments, and state-mandated assessments. Berkeley, King-Sears, Vilbas, and Conklin (2016) stated that teachers "do not explicitly teach students how to read their textbooks" (p. 265). Often textbooks are written at above grade level readability (Berkeley et al., 2016), so students may benefit if literacy strategies are taught to support their learning. With research indicating that content area teachers do not implement literacy instruction and that little reading takes place in high school, students' reading skills will be less likely to improve (Brozo, Moorman, Meyer, & Stewart, 2013; Carney & Indrisano, 2013; Lenski, 2011). To decrease the literacy gap, content area teachers should include literacy instruction in their high school classes.

Depending on the content area, different literacy strategies may be more effective in one discipline than another discipline (Goldman, 2012; Lenski, 2011; Meyer, 2013; Nixon et al., 2012). Teachers are expected to teach the content, and in the VA State Literacy Plan (VDOE, 2011), they are now expected to include literacy instruction.

Theoretical Background

There has been little research on teachers' knowledge base regarding literacy instruction (Goldman, 2012; Guzzetti & Bang, 2011). Specifically, Nixon, Saunders, and Fishback (2012) have stated that science reading strategies need to be researched. High school texts are often more difficult for students to comprehend (Berkeley et al., 2016), yet students are not receiving explicit reading instruction (Lenski, 2011; Marchand-Martella, Martella, Modderman, Petersen, & Pan, 2013). In Virginia, the Standards of Learning (SOL) determine the content that Virginia science and social studies teachers must cover in a year. Students are assessed on that content through end-of-course assessments. With the focus on content mastery, teachers may

concentrate less on literacy instruction to ensure enough time to cover the required content (Goldman, 2012; McCormick & Segal, 2016; Wendt, 2013). Content mastery may be achieved without focusing on increasing or maintaining reading levels, so teachers may not include explicit literacy instruction.

The lack of literacy skills affects students not only in high school, but also as they prepare for career or college. According to Marchand-Martella et al. (2013), 32% of high school graduates in the United States were not prepared for college English, and 40% of high school graduates did not have the literacy skills needed by employers. Hooley and Thorpe (2017) reported that "the latest results on 12th grade reading proficiency from National Assessment of Educational Progress (NAEP) deemed only 37% of students proficient readers (The Nation's Report Card, 2015)" (p. 1216). Because increasing literacy skills is so important for students beyond high school, effective literacy instruction should occur in all content area classrooms.

Bandura's self-efficacy theory (1997) argues that teachers with a high sense of self-efficacy are more likely to undertake challenging tasks. Shulman's (1986) pedagogical content knowledge (PCK) theory states that many teachers are not only knowledgeable in their content matter, but they are also knowledgeable in pedagogical and curricular matters. Literacy instruction is more likely to occur in content area teachers' classes if they have a high sense of self-efficacy regarding their success and if they utilize their pedagogical and curricular knowledge.

Situation to Self

As an avid reader and a high school English teacher, I was motivated to conduct this research because of the value I place on literacy and my concern for high school students who are struggling to read at grade level. I recognized the importance of students receiving explicit

reading instruction throughout high school and in all content areas. If students received explicit instruction in all content areas, the appropriate skills would be reinforced throughout the day, and these would be more likely to be retained by the students. Students engage in higher-level thinking when they are shown ways to link ideas and information through interdisciplinary instruction (Hill, 2014). Vocabulary instruction is improved in the same manner; it is more effective if students have "repeated exposure in several contexts" (Gillis, 2014, p. 281). Many times I have heard high school teachers express frustration because there were struggling readers in their classroom. Many of these teachers complained that they were not "reading teachers," so they did not know how to help the struggling readers. Some of these teachers did not believe it was their responsibility to assist the students with literacy instruction. Teachers who do not believe they are qualified to include literacy instruction may be less likely to attempt it in their classrooms (Hooley & Thorpe, 2017; Wilson, 2011). Because of the required end-of-the-course assessments, the difficulty of content area texts, and the reality of struggling readers in all classrooms, content area teachers need to teach literacy strategies regardless of personal feelings. In addition, the ESSA (2015) and the VA State Literacy Plan (2011) require it.

I approached this research study from a social constructivist paradigm because teachers create their own reality regarding their beliefs in the importance of literacy and their beliefs about how effectively they include literacy instruction in their classroom. The social constructivist paradigm related to Vygostky's work (1987) that as people interact with one another their beliefs are influenced. People build their knowledge base from their interactions with others. Teachers use a variety of methods when they instruct; however, methods that are effective for one teacher may not be effective for another. Teachers construct their own beliefs about how effective they are in the classroom. These beliefs may be developed through

contextual and environmental factors. Creswell (2013) stated, "In other words, [participant's views of the situation] are not simply imprinted on individuals but are formed through the interaction with others (hence social constructivism) and through historical and cultural norms that operate within individuals' lives" (p. 25). The social constructivist framework is appropriate for this research since it "[leads] the researcher to look for the complexity of views rather than narrow the meanings into a few categories or ideas" (Creswell, 2013, p. 24). Given that the research was conducted looking at multiple realities, the research was approached from an ontological assumption that there are different perspectives among people who may be experiencing a seemingly similar phenomenon (Creswell, 2013).

Problem Statement

Two-thirds of 8-12th grade students enter United States high schools not reading at grade level (Marchand-Martella et al., 2013). Based on the NAEP of 2015, only 37% of 12th grade students were labeled as proficient readers (Hooley & Thorpe, 2017). Both the ESSA (2015) and the VA State Literacy Plan (VDOE, 2011) require literacy instruction in all content areas; however, teachers may not believe they are equipped to teach literacy strategies (Carney & Indrisano, 2013; Dobbs et al., 2016; Nixon, Saunders, & Fishback, 2012; Roman et al., 2016; Wendt, 2013). Therefore, the problem for this study was how teachers' sense of self-efficacy regarding literacy instruction impacted their inclusion of literacy instruction strategies in high school science and social studies classes. Since many high school students have low reading levels, this challenges the students to proficiently read and comprehend grade level and/ or higher-level texts and corresponding assessments. Berkeley et al. (2016) explained that the textbooks are "written at readability levels far above the grade level for which they are used" (p. 248). Because of the number of students who are struggling to read, all content area teachers

need to be proficient as literacy teachers to ensure student success (Marchand-Martella et al., 2013). After the VDOE (2011) reported that eighth grade reading scores had not statistically improved since 2003, the state developed a literacy plan to require all content area classes to include literacy instruction. Based on The Nation's Report Card (2017), Virginia's eighth grade reading scores have only increased by one point since 2015.

According to the research, science and social studies teachers may not consider themselves adequately prepared to incorporate effective literacy strategies, so teachers provide little or inadequate literacy instruction as students navigate these higher-level, content-specific texts (Brozo et al., 2013; Carney & Indrisano, 2013; Nixon et al., 2012; Meyer, 2013; Shanahan, Shanahan, & Misischia, 2011; Wendt, 2013). To date, there has been little research on the actual experiences of content area high school teachers when they included literacy strategies in their classroom (Brozo et al., 2013; Nixon et al., 2012). Since studies implied that science and social studies teachers utilized few or inadequate literacy strategies, this study explores high school science and social studies teachers' sense of self-efficacy as they incorporated literacy strategies in their content area classrooms (Brozo et al., 2013; Daisey, 2012; Meyer, 2013).

Purpose Statement

The purpose of this transcendental phenomenological study is to explore teachers' sense of self-efficacy regarding the incorporation of literacy instruction in high school science and social studies classes in a rural public school district in Virginia. The science classes that were the focus of the study were Earth Science, Biology, and/or Chemistry. The history classes included were World Geography, World History, and/or U.S. and Virginia History. These specific courses were chosen since these classes were most often required in order to receive a diploma (VDOE, 2018c). The setting was chosen because there has been little research

conducted in a rural setting (Azano, 2015; Bailey, 2013; Lester, 2012; Ortlieb, 2013; Stockard, 2011). Stockard (2011) stated that "reflecting the general body of education research all but one of these studies occurred in urban settings" (p. 3). Ortlieb (2013) explained how urban schools receive more funding than rural schools, so rural schools have less funding for programs targeted to increase literacy skills. In this study, self-efficacy was defined as teachers' beliefs in how well they succeeded at a task. For this study, the task was the inclusion of literacy instruction. Literacy instruction was defined as explicit instruction in word study, fluency, vocabulary, comprehension, and motivation techniques (Marchand-Martella et al., 2013). One theory guiding this study was Albert Bandura's (1997) self-efficacy theory as it provided a framework for exploring teachers' beliefs in their abilities. The second theory guiding this study was Shulman's (1986) pedagogical content knowledge theory that addresses teachers' merging of teaching pedagogy and content knowledge in their lessons.

Significance of the Study

This study is theoretically significant because teachers' perceived sense of ability determined whether they include new teaching strategies (Bandura, 1997). Teachers' sense of ability may also affect how successful they are at implementing teaching strategies (Chestnut & Burley, 2015; Klassen & Tze, 2014; Veldman, Admiraal, Mainhard, Wubbels, & van Tartwijk, 2016). For some teachers, the introduction of literacy instruction will be new to them. Since teachers must meet the state testing requirements, they must use best practices that will benefit their students. In addition, Virginia Standards of Learning were developed to prepare students for college or career after graduation, so teachers should prepare students for their future endeavors (VDOE, 2018a). Effective literacy instruction may increase students' reading skills, so graduates will be college or career ready. The perceptions content area teachers have

regarding their level of competence in literacy instruction may determine the type of literacy strategies used. Also, teachers' perceptions of competence may affect how often they incorporate the strategies. Because the study accepts that there are multiple realities, the study has the potential to meet the needs of a variety of teachers in different situations. Abernathy-Dyer, Ortlieb, and Cheek (2013) stated, "Teacher beliefs in effectiveness consistently predict desired student outcomes" (p. 3). Based on Bandura's (1997) self-efficacy theory, teachers who perceive themselves as effective instructors should have better outcomes regarding their literacy instruction. Contemporary research continues to support that when teachers have a high sense of self-efficacy they work harder to be more successful in the classroom, thus positively affecting student achievement (Chestnut & Burley, 2015; Klassen & Tze, 2014; Veldman et al., 2016). According to Tokuhama-Espinosa (2011), the more efficacious teachers believe they impact how students view the teachers themselves. If students believed the teachers were effective, then the students performed better as well.

Empirically, the study is significant since it adds to the literature on how teachers who are not traditionally considered literacy teachers assess their ability to include literacy instruction in the classroom. It is important to have teachers reflect on their efficacy since it determines whether they are likely to include new teaching techniques and motivate the students to adopt them as well (Bandura, 1997). Warren-Kring and Warren (2013) stated that "a noted obstacle to accomplishing [increased attention to literacy instruction in the classroom] has been the attitudes of content area teachers toward implementing literacy strategies within the secondary classroom" (p. 75). This study explores the self-efficacy attitudes of content area teachers toward literacy instruction in their classrooms. There has been limited research on literacy instruction within the sciences (Nixon et al., 2012) and literacy instruction in social studies (Bulgren, Graner, &

Deshler, 2013), and this study addressed the gap in the professional literature. Goldman (2012) and Meyer (2013) agreed there needed to be additional research addressing how literacy needs are being met in content area courses. Since the study explored the teachers' experiences about including literacy instruction, it provided information for others.

The practical significance of the study was that current or future science and social studies teachers may use the literacy strategies discussed from this study for their own classrooms. Through the study, teachers may discuss the successes and challenges they have experienced with various literacy strategies that they have employed. Virginia's content area teachers must prepare their students using the same Standards of Learning (SOL) and state-mandated end-of-the-course assessments. In addition to the end-of-the-course assessments, the classroom texts and teacher-developed or teacher-selected assessments may require proficient reading skills. This study explored the content area teachers' sense of self-efficacy regarding literacy instruction they included in their classrooms. From this study, ideas for professional development can be obtained (Goldman, 2012). According to Greenleaf, Litman, and Marple (2018), there have been few studies to assess professional development that supports literacy instruction. Additionally, school systems can use this study to develop further understanding of literacy instruction that other teachers believe have been beneficial to the students.

Research Questions

The research questions for this study were guided by the problem and purpose statements and supported through the literature review (Meyer, 2013; Orr, Kukner, & Timmons, 2014). The research questions were as follows:

Central Question

What does it mean to include literacy instruction for high school science and social studies teachers in high school?

The definition of literacy instruction was derived from Martella-Marchand et al. (2013), and it was defined as explicit instruction in word study, fluency, vocabulary, comprehension, and motivation techniques. With researchers claiming that many teachers were unfamiliar on how to include literacy instruction (Brozo et al., 2013; Hooley & Thorpe, 2017, Nixon et al., 2012; Shanahan & Shanahan, 2012; Wendt, 2013), this question allowed the participants to provide their own definitions and descriptions of literacy instruction and strategies in the classroom.

Sub-Questions

SQ1: What are high school science and social studies teachers' perceptions regarding their ability to adequately meet the literacy needs of their students?

Bandura stated that

> teachers who believe strongly in their ability to promote learning create mastery experiences for their students, but those beset by self-doubts about their instructional efficacy construct classroom environments that are likely to undermine students' judgments of their abilities and their cognitive development. (1997, p. 241).

Based on Bandura's theory (1997), it may be beneficial to understand how teachers feel about their abilities since student achievement may be linked to these perceptions. Carney and Indrisano (2013) concurred that it was important to discover how teachers viewed their level of competence regarding subject matter, pedagogical knowledge, and curricular needs.

SQ2: What challenges do high school science and social studies teachers face when addressing the literacy needs of their students?

Research indicated that science and social studies teachers found the inadequate reading levels of their students as a challenge for them when reading more difficult texts (Brozo et al., 2013; Vaughn & Wanzek, 2014). Research further suggested that students with disabilities may struggle with reading more than general education students (Wei, Blackorby, & Schiller, 2011). Since more students with disabilities are taught within general education classes, content area teachers should be prepared to meet literacy needs of all students (Vaughn & Wanzek, 2014). As students who are English Language Learners (ELL) increase, teachers will need to address literacy issues and discover literacy strategies that benefit these students. The percentage of students who are ELL and attending public schools increased by 1.4% from 2000 to 2015 (National Center for Education Statistics, 2018). Additional literacy strategies should be included for all students who are not reading on grade level (Fang, 2012). This question addressed what the teachers believed were their students' challenges.

SQ3: How do high school science and social studies teachers determine appropriate literacy strategies for their content area and their objectives?

There are several strategies teachers may use to include literacy instruction in their classroom. Teachers may choose general strategies or discipline specific strategies (Faggella-Luby, Graner, Deshler, & Drew, 2012). This research question provided insight regarding how teachers chose literacy strategies to best serve their content area's learning objectives.

SQ4: What professional development opportunities or support are content area teachers receiving in order to implement literacy skills in their content areas?

To improve literacy instruction in content area classes, science and social studies teachers may need professional development (PD) to learn effective literacy strategies (Greenleaf, Litman, & Marple, 2018). Science teachers may be reluctant to include literacy strategies

because they regard science instruction as a "hands-on subject," so they are less likely to focus on its language (Roman et al., 2016, p. 123). For social studies teachers, Dobbs et al. (2016) stated that pre-service social studies teachers may be trained in general literacy strategies but not discipline-specific strategies. Both subjects may benefit from professional development since science and social studies teachers are reluctant to include literacy instruction in their subject areas (Dobbs et al., 2016; Roman et al., 2016).

Definitions

1. *Academic Literacy*- According to Marchand- Martella et al. (2013), academic literacy is "the kind of reading proficiency needed to draw meaning from advanced narrative text and content-area text" (p. 162).
2. *Adolescent Literacy*- Explicit literacy instruction that occurred during the 4th- 12th grades will be referred to in the present study as adolescent literacy (Marchand-Martella et al., 2013).
3. *Content Area Literacy*- According to Orr et al. (2014), "Content area literacy is the ability to acquire understanding of, and think critically about, new content the discipline using reading, writing and multiple other forms of representation, content specific literacy skills and attitudes, and prior knowledge" (p. 93).
4. *Disciplinary Literacy*- Shanahan and Shanahan (2012) stated, "Disciplinary literacy emphasizes the unique tools that the experts in a discipline use to engage in the work of that discipline" (p. 8).
5. *General Education*- The Virginia Department of Education (2019) referred to general education as "K-12 instruction that meets the commonwealth's Standards of Learning and prepares children for elementary, secondary and postsecondary success."

6. *Literacy* - Literacy, according to Carney and Indrisano (2013), is defined "as a complex process by which individuals learn to use language (reading, writing, speaking, and listening) to communicate and to achieve their objectives" (p. 40).
7. *Pedagogical Content Knowledge (PCK)* - Developed by Shulman (1986), PCK is a theoretical framework that connects "subject matter content knowledge, pedagogical content knowledge, and curricular knowledge" (p. 9).
8. *Perceived Self-efficacy*- Bandura (1997) defined perceived self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3).

Summary

Students have not been prepared to meet the reading demands at the high school, career, or college level (Lenski, 2011; Wendt, 2013); therefore, literacy instruction needs to occur in all high school content area classes (ESSA, 2015; Marchand-Martella et al., 2013; Orr et al., 2014; VDOE, 2011). Many content area teachers may find including literacy instruction difficult because they may not believe they are adequately trained to incorporate literacy instruction into their classes (Brozo et al., 2013; Daisey, 2012; Hooley & Thorpe, 2017; Meyer, 2013). Through this study, content area teachers' experiences with literacy instruction in their classrooms was explored. This study utilized Bandura's (1997) self-efficacy theory and Shulman's (1986) pedagogical content knowledge to explore teachers' literacy instruction experiences. Currently, there has been little research within science and social studies high school courses on the incorporation of literacy instruction (Bulgren et al., 2013; Guzzetti & Bang, 2011). Therefore, this study added to the body of literature regarding teachers' self-efficacy when including literacy instruction in science and social studies high school courses.

CHAPTER TWO: LITERATURE REVIEW

Overview

As Virginia's reading scores have demonstrated no significant improvement since 2003, the VDOE approved the VA Strategic Literacy Plan in 2010 that requires all content area teachers to include literacy instruction in their classrooms (VDOE, 2011). The VA State Literacy Plan (VDOE, 2011) does not delineate how literacy instruction should take place or how schools should assess whether literacy instruction has taken place in the classroom. According to Meyer (2013) and Hooley and Thorpe (2017), content area teachers seldom believe they are prepared to include literacy instruction in their classrooms, yet Virginia teachers are required to do so. Because Virginia has not developed specific guidelines for the VA State Literacy Plan (VDOE, 2011), discussion among these content area teachers was one way to determine whether literacy instruction has taken place and whether these teachers believe their strategies are successful.

Many students begin high school without being proficient readers. In 2015, The Nation's Report Card stated that only "34 percent of eighth-grade students perform at or above the *Proficient* level in NAEP reading." Based on The Nation's Report Card 2017 data, eighth-grade reading scores increased by one point since the 2015 assessment (The Nation's Report Card, 2017). As students begin their high school career, they are expected to read texts and assessments that may require proficient or above-proficient reading skills. Fang and Schleppegrell (2010) have stated that eight million students between the fourth and 12th grades struggle to comprehend texts in academic content areas. If teachers want their students to comprehend texts and assessments, then they should include literacy instruction in their classes.

The purpose of this literature review is to synthesize previous findings on the topics of literacy and literacy instruction in science and social studies courses. While reviewing the literature, gaps in the current research were discovered. This chapter discusses the theoretical framework for the study, literacy concerns for high school students, types of literacy instruction, teachers' experiences with literacy instruction, and the literacy needs of students.

Theoretical Framework

Developing a theoretical framework for this study was necessary to narrow the focus of the research, in order to formulate a central question and the subsequent sub-questions. The theoretical framework outlines the way the study was approached, and in this case, it was by following Bandura's (1997) self-efficacy theory and Shulman's (1986) pedagogical content knowledge theory. There is an assumption that teachers' self-efficacy influences the quality of their instruction and that teachers will be cognizant of both effective pedagogy and content knowledge when developing lessons (Holzberger, Philipp, & Kramer, 2014; Ryan, Kuusinene, & Bedoya-Skoog, 2015; Zee & Koomen, 2016).

Bandura's self-efficacy theory (1997) and Shulman's (1986) pedagogical content knowledge theory guided this research. Self-efficacy is the perception people have about their ability to succeed at a task. In the case of this research, the task was including literacy instruction in content area teaching. Given that the VA Strategic Literacy Plan (VDOE, 2011) does not have specific guidelines or strategies on how to include literacy instruction, it is expected that teachers will develop and implement these strategies on their own. Some school systems may provide professional development and/or develop a literacy plan for their school system; however, it is still the teachers' responsibility to implement the literacy plan. According to Bandura's self-efficacy theory (1997), teachers who perceive their competency as high are

more likely to implement new teaching techniques and be successful with them. Expanding upon Bandura's (1997) work, Zee and Koomen (2016) have concluded that "personal self-efficacy beliefs seem to be the most important cause of human behavior" (p. 984). People's self-efficacy beliefs may influence how they approach problems that arise, and these beliefs may increase their willingness to engage in problem-solving (Zee & Koomen, 2016). Teachers with a high sense of self-efficacy will most likely continue to develop instructional strategies in their classrooms, instead of accepting a lesson's (or student's) failure and moving on with the curriculum. Therefore, teachers who perceive themselves as highly competent tend to have students who are more apt to succeed, because these teachers believe they can find a solution to help students learn (Bandura, 1997).

Because content area teachers may not be adequately trained to instruct students in literacy skills, they may be less likely to include literacy instruction in their classes (Brozo et al., 2013; Daisey, 2012; Hannant & Jetnikoff, 2015; Hooley & Thorpe, 2017; Meyer, 2013; Swanson et al., 2016). Bandura (1997) has stated that:

> … teachers' perceived efficacy will determine if they choose to pursue, how much effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing environmental demands, and the level of accomplishments they realize (p. 3).

Literacy instruction may be included based on how teachers rate their abilities as effective teachers. Also, teachers' perceptions of their abilities and experiences may influence how often they seek new literacy strategies and reflect on the effectiveness of the ones they have used.

With the challenges teachers face due to the decreased reading proficiency of students, teachers who perceive themselves as highly competent may be better able to improve students' academic performances (Bandura, 1997; Kilday, Lenser, & Miller, 2016). According to Bandura (1997), "Teachers who have a high sense of instructional efficacy devote more classroom time to academic activities, provide students who encounter difficulties with guidance they need to succeed, and praise their accomplishments" (p. 241). Teachers who view themselves as highly effective believe all students are teachable, even the more challenging students (Bandura, 1997). Based on this belief, these teachers may be more successful with the development and implementation of literacy instruction in the classroom.

Another guiding theoretical framework is Shulman's (1986) pedagogical content knowledge. There are three categories that Shulman (1986) has defined as constituting a teacher's PCK: subject matter content knowledge, pedagogical content knowledge, and curricular knowledge (Shulman, 1986). The PCK theoretical framework relates to the research because in order to include content area literacy instruction, teachers need to have a high level of self-efficacy in content knowledge, pedagogy, and curricular knowledge. Subject matter content knowledge "refers to the depth of understanding teachers have of their subject matter, such as mathematics, in its organization" (Orr et al., 2014, p. 94). Content area teachers are most often experts in their content areas, but they may not consider themselves experts in literacy instruction. Teachers' pedagogical content knowledge and curricular knowledge will best shape how they address their students' literacy needs.

Pedagogical content knowledge refers to the understanding of effective teaching practices (Orr et al., 2014). Even though science and social studies teachers are not specifically literacy teachers, their pedagogical content knowledge will affect what literacy strategies they use to

reach their goals. Shulman (1986) believed that part of teachers' pedagogical content knowledge is their ability to understand "what makes the learning of specific topics easy or difficult" for various students (p. 9). Because content area teachers are experts in their content, they are best able to determine what type of literacy instruction works with their course or with their student population. If teachers perceive themselves as successful teachers, according to Bandura's self-efficacy theory (1997), they are more likely to research literacy techniques and modify lessons until they are successful.

Teachers' curricular knowledge may affect their inclusion of literacy instruction. Orr et al. (2014) have stated, "Curricular knowledge is knowledge of the curriculum program's specific expectations for learners in each subject area and prosperous levels, and the variety of possible curriculum materials that can be used to teaching and learning of the subject area" (p. 94). To be successful content area and literacy teachers, not only do teachers need to understand their subject matter, but they also need to know what other curriculum materials and strategies to use to improve students' reading proficiency (Carney & Indrisano, 2013; Orr et al., 2014; Shulman, 1987). For students to successfully read the curriculum materials, including the end-of-the-course assessment, they will need techniques to increase their literacy skills.

Related Literature

This section reviews the current literature on literacy and the literacy needs of students. The Every Student Succeeds Act replaced the No Child Left Behind Act (NCLB) on December 10, 2015. The ESSA reauthorized the Elementary and Secondary Act of 1965. According to Darrow (2016), "ESEA is the primary federal law that authorizes federal spending to support K-12 schooling and represents the nation's commitment to equal education opportunity for all students, regardless of race, ethnicity, disability, English proficiency, or income" (p. 41). The

ESSA (2015) continued the NCLB focus on the annual assessment of students in core subject areas. Students will still be required to pass assessments "in reading or language arts, math, and science from Grades 3 to 8 and once in high school" (Darrow, 2016, p. 42). Two thirds of United States students were not reading at grade level in the 8th-12th grades (Marchard-Martella et al., 2013), so students who are struggling readers may find these assessments challenging to pass. High school students continue to have literacy needs, since there has been no increase in 12th grade reading scores since 2013 (The Nation's Report Card, 2015), and there has only been a one point increase in eighth grade reading scores from 2015 to 2017 (The Nation's Report Card, 2017).

In addition to enabling students to pass core subject tests, the ESSA's (2015) primary goal is for students to be successful after they graduate from high school. It is unlikely that students who are unable to complete college or be prepared for a career will earn a livable wage after high school (Darrow, 2016). Darrow (2016) has stated that Bromberg and Theokas' (2016) research "revealed that 47%, or nearly half, of American high school graduates complete neither a college- nor career-ready course of study" (p. 42). he ESSA (2015) addresses the need for more high school students to be college or career ready after graduation.

For students to be college or career ready after high school, schools need to continue to focus on improving students' literacy rates. Twelfth-grade reading proficiency results indicate that "only 37% of students [are] proficient level readers" (Hooley & Thorpe, 2017, p. 1216). The ESSA (2015) specifically discusses the need for and importance of literacy instruction to improve graduating students' success post high school. If graduates are to be successful in the workforce or in post-secondary education, they need to have higher-level literacy skills. Because of these expectations, explicit literacy instruction should continue throughout high school.

Literacy

Literacy, the ability to read and write, may be measured in terms of three levels or tiers. According to Taylor and Kilpin (2013), the three levels are basic, intermediate, and disciplinary. Students who are literate on the basic level, or the first tier, have basic decoding skills (making meaning from words and sentences) and "knowledge of high-frequency words" (Taylor & Kilpin, 2013. p. 131). Students who are at the intermediate level, or middle tier, are able to perform literacy "skills common to many tasks, including generic comprehension strategies, common word meanings, and basic fluency" (Taylor & Kilpin, 2013, p. 131). The highest level of literacy means that students use "skills [specialized] to disciplinary domains and specific subjects such as History, Science and Mathematics" (Taylor & Kilpin, 2013, p. 131). The concern for today's high school students is that "recent studies have shown that many students, especially those with learning disabilities, have remained below the threshold of basic literacy skills" (Wendt, 2013, p. 39). Students who have basic literacy skills will be less likely to succeed in post-secondary work (Bain, 2012). Not all students will reach the same level of literacy at the same time, and literacy techniques that may be useful for one child may not be useful for another. According to Sprenger (2013), "A child's ability to read is greatly influenced by his or her language development" (p. 13). Language development begins at birth and is influenced by genetics as well as the child's environment.

Literacy is influenced by phonemic and phonological awareness. Once students have phonemic and phonological awareness, they can work toward becoming fluent readers. Sprenger (2013) has defined fluent reading as "fast, smooth, effortless, and automatic reading of text, whether silent or out loud, with attention focused on the meaning of the text" (p. 117). Without fluency, it is more difficult for students to comprehend texts. If students do not comprehend

what they are reading, then they cannot learn the material independently. Literacy requires multiple components, and in order to be proficient, students need to be skilled in all of them. With statistics stating that "fewer than a third [of adolescent students] meet National Assessment of Education Progress (NAEP) standards for reading 'proficiency' and less than five percent can read at an advanced level" (Bain, 2012, p. 516), there is a need for teachers to supplement literacy instruction at the high school level.

Literacy Concerns for High School Students

As students enter high school, the demand for proficient reading skills increases. Meyer (2013) has stated that "today's adolescent learners are expected to read and write at higher levels than their predecessors" (p. 56). However, research has indicated that high school students are not able to read proficiently, and in some cases, not even at grade level (Fang, 2012; Marchand-Martella et al., 2013; Shanahan & Shanahan, 2012). The readability of high school texts is often written above grade level (Berkeley et al., 2016). It will be more difficult for students to manage their high school curriculum without adequate reading skills. In addition, students struggling with reading may have more difficulty in college and in work situations.

Another literacy concern for high school students is the amount of time they spend reading independently. Lenski (2011) has stated that high school students are not required to read often in their classes. If the students do not practice reading, they will not become better readers (Wei, Blackorby, & Schiller, 2011). Wei et al. (2011) have explained that there is "evidence of the Matthew Effect of reading achievement, wherein skilled readers gain reading skills much faster than poor readers and the gap between them gets progressively larger over time" (p. 91). If teachers shy away from having students read, the literacy gap continues to grow. Reading skills may increase if teachers implement literacy instruction techniques and

increase the amount of time spent reading in their classrooms. The state-mandated assessments are one reason teachers should be concerned about students' reading skills. There are reading elements in all content area assessments. In most assessments, there are reading passages and then questions with multiple-choice answers. In these instances, adequate literacy proficiency benefits the test takers. Even in assessments without multiple reading passages, students will have to proficiently read the challenging questions and answer choices to determine the correct answer. Without constant literacy practice, students will not improve their reading skills.

In order to increase students' willingness to read independently, Hall and Comperature (2014) have recommended that teachers discuss the concept of reading identities with their students. There are three types of reading identities that students use to define themselves: the good reader, the average reader, and the poor reader. Hall and Comperature (2014) stated, "Students' reading identities influence the decisions they make with texts" (p. 84). For this reason, it is unlikely that students who identify as poor readers will attempt to read challenging texts; therefore, teachers need to help students redefine their reading identity.

To help challenge students' reading identities, Hall and Comperature (2014) have suggested that teachers create a classroom climate where students feel safe to take reading risks. Struggling readers will not practice reading, because they may worry about how their peers will view them. If struggling readers see themselves as poor readers, they are unlikely to improve as readers (Hall & Comperature, 2014). To develop this classroom climate, teachers should model that all readers, even good readers, will struggle at times. Hall and Comperature (2014) have contended that students who recognize that reading ability is fluid are more open to reading challenging texts. This applies to poor readers as well; if they accept the fluidity of reading ability, they too will be open to reading more challenging texts (Hall & Comperature, 2014).

Students' reading identities are important to understand if teachers want students to read potentially challenging texts in the different content areas.

In high school, the content area texts may adopt different reading strategies for each content area. In order to understand the material, high school students need explicit reading instruction in that content area (Nixon et al., 2012). Lenksi (2011) stated, "The literacy demands of texts change through the grades and become significantly longer and more complex" (p. 278). High school texts may have more difficult vocabulary than previous texts and the structure of the text may be more complex (Lenski, 2011). Because of these differences, high school students may find the comprehension of these texts more challenging, thus increasing the need for literacy instruction. Students need to be trained in strategies that will assist them with reading comprehension, especially as independent readers.

Another literacy concern is that high school teachers "spend very little time teaching [students] how to read and write in their disciplines" (Bain, 2012, p. 517). Bain (2012) has further stated: "Research and policy studies hold that most students rarely get serious, sustained, intentional, and overt reading or writing instruction beyond seventh grade, let alone literacy instruction tied to the domains which secondary students must read and write" (p. 517). If students are not able or willing to develop their own literacy skills, they may not receive explicit literacy instruction from their teachers to increase their literacy skills.

Without adequate reading skills, high school students will find reading in college also difficult. Students will be less prepared to complete post-secondary education because of their lack of reading skills (Lenski, 2011; Wendt, 2013). Meyer (2013) has stated that "only one third of college professors responded that most students arrive with the necessary literacy skills for their discipline" (p. 56). High school graduates who are unable to meet the reading needs in

post-secondary classes may decide not to pursue a higher degree, or they may be required to take remedial courses until they are reading proficiently. To ensure that students will be better prepared for post-secondary work, high school students must have many opportunities to read and receive explicit literacy instruction when necessary.

High school students who plan to work after college may find their lack of reading skills to be detrimental to their employment options as well. Meyer (2013) has stated "the literacy skills demands for a career in today's job market have substantially increased (ACT, 2010; Carnegie Council, 2010; National Commission on Writing, 2003, 2004)" (p. 56). The fastest-growing professions have the greatest literacy demands, whereas the professions with lower literacy demands are declining (Levy & Murnane, 2005). All high school students need to work toward becoming proficient readers, regardless of their desire for post-secondary education. To be employable, reading proficiency is more important in today's job market. Teachers have the opportunity to provide literacy instruction to develop better readers, thereby benefiting the students even after they graduate.

Literacy Instruction

In the 21st century, there are many types of literacies, such as digital, computer, information, technological, political, cultural, multicultural, and visual literacy (Garcia, 2013). For the purpose of this study, adolescent literacy "is focused reading instruction for students in grades 4 through 12" (Marchand-Martella et al., 2013). With more than 8,000,000 adolescent students reading below grade, there is a need for increased interest in adolescent literacy (Bain, 2012). In order to increase literacy skills, teachers may include the following instructional techniques: word study, fluency, vocabulary, reading comprehension, and motivation.

Word study. One component of literacy instruction is the inclusion of word study in the classroom. Marchand-Martella et al. (2013) have defined word study as "instruction that focuses on reading at the word level" (p. 167). Marchand-Martella et al. (2013) stated, "By identifying words based on component elements that share certain commonalities such as the prefixes un-, non-, and dis-, students can learn groups of word shifts that no longer necessitate the memorization of individual words and meanings" (p. 167). Teachers can teach students that they can determine the meaning of an unknown word by looking at its affixes, roots, and bases (Fisher & Frey, 2014b). If students are aware of the meanings of affixes, roots, and bases, then they are more likely to be able to define a word. Therefore, incorporating word study into the classroom curriculum may aid with vocabulary instruction without requiring students to learn vocabulary in isolation. Templeton et al. (2015) stated, "Over 60 percent of all of the words in the English language contain Latin or Greek affixes and/or roots. Over 90 percent of discipline-specific words contain Latin or Greek affixes and/or roots" (p. 10). Because there are unique affixes, roots, and bases that are most often used in science and social studies vocabulary, teachers may want to provide instruction on these specific morphemes to increase students' ability to define words independently.

Science and social studies teachers may increase students' vocabulary knowledge with the inclusion of word study, particularly if teachers focus on Latin and Greek affixes and roots. According to Stebick and Nichols (2014), "Morphological awareness has been identified as a key strategy to foster independent word learning, particularly for the academic vocabulary adolescents encounter in secondary texts" (p. 40). Word study is essential for students to better understand and independently read their discipline-specific texts and end-of-the-course assessments (Vintinner, Harmon, Wood, & Stover, 2015). Once students know the meanings of

common suffixes, affixes, and root words, they can apply these meanings to new vocabulary words, thus increasing their vocabulary and understanding.

Fluency. Students are fluent readers when they can make meaning from the words they see in texts. Sprenger (2013) has stated: "Fluent reading is often defined as fast, smooth, effortless, and automatic reading of text, whether silent or out loud with attention found on meaning of the text" (p. 117). Fluent readers read text smoothly. This is an important aspect of reading comprehension, because if "reading becomes laborious and slow, the comprehension of the text declines" (Mraz et al., 2013, p. 164). In order to increase fluency, students need to read independently more frequently to build the skills needed (Esteves & Whitten, 2011; Sprenger, 2013). Unfortunately, students who are not confident about their reading are unlikely to practice reading, thus leading to continued deficits in fluency and comprehension (Mraz et al., 2013). The Matthew Effect refers to the concept of "the rich get richer, the poor get poorer" with regard to reading (Mraz et al., 2013, p. 167). However, by high school, students are not required to read as much (Daisey, 2012), and if they have low reading confidence, they are unlikely to engage in reading for pleasure. Hooley, Tysseling, and Ryan (2013) have stated that "how students feel about their own skills and proficiencies in an academic area is related to their achievement in that area" (pp. 322-323). If students think poorly of their reading experiences, they are less likely to work toward bridging the gap that develops between proficient and less proficient readers.

To increase fluency, teachers may include repeated oral readings (Mraz et al., 2013). This practice involves students reading a passage repeatedly until they develop better sight word recognition that leads to better fluency. Mraz et al. (2013) have stated that one concern about repeated oral readings was that "many low-performing students do not like it and avoid it as much as possible" (p. 167). In addition to the repeated oral reading strategy to increase fluency,

teachers may provide independent reading time to encourage reading to increase fluency and comprehension (Allington, 2011). Providing independent silent reading time daily allows students to practice reading. Independent reading time allows students to self-select their books and have some ownership over their own learning. According to Esteves and Whitten (2011), "Readers who feel ownership of what they read tend to persist for longer periods of time, pay closer attention to the text, and have a better attitude" (p. 23). By allowing independent reading time, students will receive the extensive practice they need to improve fluency and reading comprehension skills. For students to receive the extensive practice to improve fluency and comprehensive skills, literacy instruction should take place in all their content area courses, not just during one particular block of time or in a specific discipline. True ownership of these skills may manifest if these are reinforced throughout the day, multiple times.

Vocabulary. Vocabulary instruction is another component of literacy instruction (Stebick & Nichols, 2014). Including vocabulary instruction in classrooms is crucial, since students begin school with different levels of vocabulary knowledge (Sprenger, 2013). Not only will vocabulary instruction benefit students' understanding of the content, but it will also improve the students' reading abilities. For instance, vocabulary instruction may increase students' fluency rates (Rupley, Nichols, Mraz, & Blair, 2012), thereby leading to better comprehension. Reading comprehension is increased through stronger vocabulary knowledge (Berkeley et al., 2016; Fisher & Frey, 2014a). Templeton et al. (2015) have stated that "vocabulary knowledge is the single best indicator of students' reading ability, comprehension, and familiarity with academic discourse" (p. 3). The challenge with vocabulary instruction is choosing the words to teach and an effective manner to teach them.

Vocabulary words are often separated into three tiers of difficulty. According to Sprenger (2013), "Tier 1 consists of basic words that rarely require direct instruction and typically do not have multiple meanings" (p. 136). Most students come to class with the ability to decode tier 1 words (Marchand-Martella et al., 2013). Sprenger (2013) continued, "Tier 2 contains high-frequency words that occur across a variety of domains and play a large role in the vocabulary of mature language users" (p. 136). Tier 2 words "are likely to occur across all subject areas because they are high-utility words" (Templeton et al., 2015, p. 6). For science and social studies classes, teachers may be more interested in domain-specific words, or tier 3 words, for vocabulary instruction. Marchand-Martella et al. (2013) and Sprenger (2013) have suggested that both tier 2 and tier 3 words be included in explicit vocabulary instruction. Fisher and Frey (2014b) have stated that "an average of only 1.4% of social studies, mathematics, science, and arts instructional time was devoted to vocabulary development" (p. 595). Based on this statistic, vocabulary instruction is an area that needs more attention in the science and social studies classroom.

Reading comprehension. Word study, fluency, and vocabulary instruction are important skills for students to use as they work toward reading comprehension. To improve reading achievement, there are comprehension strategies that are effective, such as "activating prior knowledge; self-monitoring comprehension during reading; creating graphic organizers to structure notes on texts, questioning what is being read; understanding narrative and expository text structures; and using cooperative learning to increase engagement" (Williams & Ortleib, 2014, p. 85). Comprehension strategies may help students make better sense of new material. To be most effective, these strategies need to be modeled by the teacher and reinforced through multiple activities (William & Ortlieb, 2014).

Close reading will help students self-monitor comprehension and increase their reading abilities. Fisher and Frey (2014a) have defined close reading as "guided instruction" (p. 148). Close reading may include repeated reading of a text. Students read the same selection "several times, often with different purposes or to respond to different questions" (Fisher & Frey, 2014a, p. 148). Close reading also includes students annotating the text. Annotation may include students underlining the main ideas and new vocabulary (Fisher & Frey, 2014a). Students may write on the text questions to ask or highlight areas for class discussion. Fisher and Frey (2014a) have recommended to teachers that they (or the students) develop text-dependent questions. Questions should be designed to refer the students back to the original text. Fisher and Frey (2014a) have stated that "too many questions are text independent and take students too quickly away from the text" (p. 140). Sending students back to the text to search for answers will have them rereading the same material, and leading them to think critically about the text.

The lack of prior knowledge is another area that affects students' proficiency in reading comprehension (Marchand-Martella et al., 2013; Sprenger, 2013). Sprenger (2013) has stated that "we all derive meaning based on our own prior and background knowledge" (p. 146). Because students all come from unique backgrounds, they enter the classroom with different levels of prior knowledge (Sprenger, 2013); therefore, teachers must go beyond teaching word study, fluency, and vocabulary, by including activities to build on prior knowledge. Even though it appears that building on and activating prior knowledge benefits students' reading comprehension, this may not happen in all classrooms or in every lesson. Daisey (2012) has stated that "teachers spend less than 15% of instruction time on building and activating prior knowledge" (p. 215). Without appropriate prior knowledge, reading comprehension may be affected.

There are several techniques teachers may use to help students activate their prior knowledge in order to increase reading comprehension. Sprenger (2013) has proposed that at the beginning of a lesson teachers state the purpose of teaching the material. Once the purpose is stated, teachers provide students with techniques to help them visualize new concepts, make predictions from the text, ask questions, and make connections to the text (Sprenger, 2013). Moje and Speyer (2014) have suggested that teachers develop a problem for students to focus on, as a way to establish the purpose of a unit. According to Moje and Speyer (2014), problem framing works most effectively with science and social studies units.

Motivation. It is challenging to motivate students to achieve literacy skills in content area subjects (Daisey, 2012), especially if students have been unsuccessful in the past. Considering the Matthew Effect that states that poor readers will not attempt reading as much as more able readers, thus remaining poor readers (Wei et al., 2011; Williams & Ortlieb, 2014), motivating students to read is all the more important. There are two types of motivation: intrinsic and extrinsic (Applegate & Applegate, 2010). Intrinsic motivation refers to students being internally motivated to succeed at a task because they find it interesting and/or relevant. Extrinsic motivation refers to providing an incentive to the student to succeed at a task. According to Rush and Reynolds (2014), students who are intrinsically motivated are more likely to use literacy skills than students who are extrinsically motivated to do so.

In order to increase intrinsic motivation, students need to see the importance of a text and how it is valuable to their lives (Billman & Pearson, 2013; Rush & Reynolds, 2014). To ensure students will engage with the text, teachers need to communicate to the students why the material is important. Telling students that the material is important because they will be tested on it does not appear to be a strong motivator (Billman & Pearson, 2013). Another intrinsic motivator is to

provide the students with a choice (Billman & Pearson, 2013; Marchand-Martella et al., 2013; Rush & Reynolds, 2014). The difficulty lies in the fact that most of the material students are obliged to learn is based on pre-determined standards. As a result, students may see little value in the material, and they may not have much, if any, choice in materials. Regardless of the teachers' abilities to motivate students to read, teachers can ensure that students learn the value of reading by modeling it and including it in class activities (Billman & Pearson, 2013).

There are obstacles that affect a student's motivation to read**.** Students' motivation to read can be affected by age and gender. As students age, their interest in reading decreases (Applegate & Applegate, 2010; Wolters et al., 2013). Even if students were engaged readers when they were younger, they may become reluctant readers as they become older. Students' gender can also affect their interest in reading (Smith, Smith, Gilmore, & Jameson, 2012). Typically, boys are more reluctant readers than girls (Applegate & Applegate, 2010; Cantrell, Rintamaa, Anderman, & Anderman, 2018).

Research suggests that girls are more likely to enjoy reading and practice reading. Marinak and Gambrell (2010) have stated that, in reading, "the typical boy in the United States lags a year and one half behind the typical girl" (p. 129). Girls tend to have higher intrinsic and extrinsic motivational factors to keep them engaged in reading (Applegate & Applegate, 2010; Marinak & Gambrell, 2010). Even though extrinsic motivation is not an effective form of motivation, girls tend to have higher levels of it than boys do (Wolters et al., 2013). Overall, girls' reading achievement scores were higher than those of boys (Bouchamma, Poulin, Basque, & Ruel, 2013). The higher reading achievement scores may be related to girls reading more than boys do; because girls read more, they become better readers. Because boys are more reluctant to read than girls are, educators should use motivational strategies designed to increase reading

in boys. As stated previously, allowing student choice and ensuring the availability of relevant books of interest may help engage readers of both genders.

Regardless of gender, the older the age of the students, the less likely they are to like reading (Applegate & Applegate, 2010; Wolters et al., 2013). The effect of age was worse for boys than girls (Wolters et al., 2013). As boys age, they lose the motivation to read. Marinak and Gambrell (2010) have stated that by fourth grade there was a decline in academic and recreational reading attitude. Because age correlates to the decrease in reading, high school educators need to focus more on strategies to engage reluctant readers. The same motivators used to engage students based on gender apply to age, namely student choice and relevance.

Types of Literacy Strategies

There are different strategies that teachers can use as they include literacy instruction in their classrooms. General reading strategies are generic enough that they may be used in any discipline. Discipline-specific strategies are geared toward the content area and may not work universally.

General Reading Strategies. General reading strategies are those that may be used across all content areas, and may be referred to as generic reading strategies or content area literacy strategies. Faggella-Luby, Graner, Deshler, and Drew (2012) have stated, "General strategy instruction seeks to uncover and teach strategies, routines, skills, language, and practices that can be applied universally to content area learning and are by definition generalizable to other domains" (p. 69). Using general reading strategies across all disciplines may be effective because it allows all teachers who engage in literacy instruction to model the same techniques (Carney & Indrisano, 2013). With the repeated use of these general reading strategies in all content area classes, students are more likely to utilize them when reading difficult texts

independently, because the strategies become so familiar. If students are provided with multiple strategies for different content areas, struggling readers may experience difficulty separating which strategy works best with which content area.

For struggling readers, general reading strategies are more useful than following a discipline-specific literacy approach (Faggella-Luby, Graner, Deshler, & Drew, 2012; Fang & Coatoam, 2013). Faggella-Luby et al. (2012) have stated that although discipline-specific literacy was "a powerful idea to improve depth of content area knowledge, [it could not] replace general strategy instruction for adolescent learners who struggle with reading and writing" (p. 70). A discipline-specific literacy approach expects students to read above a basic or intermediate level (Faggella-Luby et al., 2012). According to Faggella-Luby et al. (2012), two thirds of fourth to eighth grade students are reading at basic level, so the majority of students would benefit from a general reading strategies approach. The Nation's Report Card (2017) reported that fourth-grade reading levels were not significantly different from those of 2015, while eighth-grade reading scores had increased by one point since the 2015 assessment. To continue to increase reading scores, students will benefit from effective literacy instruction in all content areas.

A general reading strategies approach is effective if the subject areas exhibit textual similarities. Shanahan and Shanahan (2012) have explained as follows: "The major premise of content area reading proponents has been that the cognitive requirements of learning and interpreting any kind of text are pretty much the same, no matter what the subject matter" (p. 8). Based on the assumption that there are similarities between all texts, general reading strategies can be successful for students in all content area classes. Some general reading strategies that were found adequate for all content areas are pre-reading, during reading, and after-reading

activities (Daisey, 2012). Graphic organizers that are not unique to a discipline, such as concept mapping or comparing/contrasting charts, represent another general reading strategy (Hynd-Shanahan, 2013). Faggella-Luby et al. (2012) have stated that general reading strategies could include "visualization, self-questioning, comprehension, monitoring, [and] summarizing" (p. 77). General reading strategies can be used in all content areas to support literacy instruction.

Discipline-Specific Literacy. The concept behind discipline-specific literacy is that all content areas require unique literacy strategies when approaching the text (Brozo et al., 2013; Fang, & Schleppregrell, 2010; Meyer, 2013; Shanahan & Shanahan, 2012). Students need to be taught specific ways to engage with text that is unique to a specific subject area. General reading strategies will not benefit students who are faced with more complex texts as they enter high school (Brozo et al., 2013; Fang & Schleppregrell, 2012). Since high school texts are more difficult to comprehend, students need discipline-specific literacy instruction (Zygouris-Coe, 2012). Brozo et al. (2013) have stated that students should be taught to "read, write, and think like an expert" (p. 355). Generic content area literacy strategies will not provide students with techniques to develop a deeper understanding of the text.

Using a discipline-specific literacy approach suggests that teachers recognize that there are specific differences in the content areas' texts and text structures. Discipline-specific literacy allows students to "think more effectively in a discipline-specific manner [that] could guide such students to go beyond a superficial understanding and to grasp deeper and more sophisticated ideas" (Shanahan & Shanahan, 2012). Teachers engaging in discipline-specific literacy instruction focus on teaching content-specific vocabulary, as well as explaining the grammar and language patterns used most often in the content area texts (Shanahan & Shanahan, 2012). Shanahan and Shanahan (2012) have recommended studying text structure to develop a deeper

understanding of the text. For instance, in a history course, considering the author's purpose is more important than in a science course; therefore, the disciplines need unique reading strategies instead of generic ones. Supporters of a discipline-specific approach believe that general reading strategies will not prepare students for future jobs or higher levels of education.

Teachers' Apprehensions Regarding the Inclusion of Literacy Instruction

According to research, the majority of literacy instruction takes place during the elementary and middle school years (Bain, 2012; Lenski, 2011). Elementary school teachers are expected to teach reading, and it is presumed that they have been trained to do so. According to Solis, Vaughn, and Scammacca (2015), the elementary school years demonstrate the largest annual growth in students' reading abilities. The literacy skills learned in elementary school are used in middle school as well. However, the skills learned in elementary school may not be adequate for middle and high school reading needs (Swanson et al., 2016).

By the time students enter middle school, the teachers' roles often shift. In elementary school, teachers are "teaching children to read and access print information," but by middle school, teachers are "emphasizing content delivery" (Swanson et al., 2017, p. 37). Swanson et al. (2017) have stated that teachers who view themselves as deliverers of content "[are] often unable or unwilling to provide reading instruction" (p. 37). The belief among these teachers is that reading instruction should take place in the English language classroom or with reading specialists (Swanson et al., 2017). The literacy skills taught in the English language classroom are specific to the English discipline; therefore, the skills learned in English may not be adequate to meet the specialized literacy needs for other content areas (Graham, Kerkhoff, & Spires, 2016). In addition, if reading instruction only takes place in English language classrooms, this prevents students from having other reading opportunities and instruction. Students need to read

more to become better readers (Cantrell et al., 2018). For middle school students who receive additional reading support outside the English language classroom, the effects of the interventions used are "often small or nonexistent" (Troyer, 2017, p. 21). Troyer (2017) stated, "Two thirds of American eighth graders cannot read and comprehend text at a proficient level (National Center for Education, 2015)" (p. 21). By high school, students demonstrate the least growth in terms of their reading abilities (Solis et al., 2015). For high school teachers, including literacy instruction in the classroom may be a daunting task, since they may feel inadequately trained.

High school teachers may feel unprepared to meet the literacy needs of their students (Dobbs et al., 2016; Hannant & Jetnikoff, 2015; Hooley & Thorpe, 2017; Wilson, 2011). Shanahan, Shanahan, and Misischia (2011) have explained that secondary teacher education programs do not provide enough instruction on how to promote content area reading in the classroom. In college, the focus for secondary teachers was on preparing them to be highly qualified in their content area. If reading instruction was not their content area, then the teachers did not receive training in explicit reading strategies. Meyer (2013) has stated that "teacher educators must revisit the ways in which we prepare middle and high school teachers to develop adolescent literacy skills" (p. 69). If high school students are not coming to teachers' classes with grade level reading skills (Fang, 2012), then teachers, regardless of their content areas, need to include literacy instruction. Because of this need, teacher preparation programs should include more literacy instruction for all content areas at every grade level.

To compensate for students' lack of reading proficiency, as well as the teachers' own apprehension regarding literacy instruction, teachers may discover that they require their students to read less and use texts less often (Lenski, 2011). McCormick and Segal (2016) have written

that science teachers often "[choose] to teach the content without reading" as a way to compensate for a classroom of reluctant readers (p. 42). There is little benefit for the student if this happens. Without practice, the students are less likely to become better readers (Smith et al., 2012; Wei et al., 2011). Instead of having students read the material themselves, teachers tell the students what they need to know (Shanahan et al., 2011). The result is that teachers are able to cover their content objectives, yet no literacy instruction for the students takes place. By not including literacy activities, teachers may be doing more harm to struggling readers, because they are not given an opportunity to practice reading (Wei et al., 2011). Shanahan et al. (2011) have stated, "Literacy avoidance in content area classes is at odds with student learning needs and the reality of the subject matters" (p. 395). If teachers do not require students to read, then students cannot increase their reading proficiency.

Often teachers ignore literacy instruction because of the pressure to cover all, or as many of, the content area standards before their states administer the end-of-the-course assessments. This pressure may cause teachers to choose content over the inclusion of literacy instruction (Goldman, 2012; McCormick & Segal, 2016). Another factor that may cause some high school teachers to avoid literacy instruction is that they may not believe it is their responsibility (Wilson, 2011). There is an assumption that English or language arts teachers should be responsible for literacy instruction, and/or there is an assumption that high school students should be at grade level. Dennis (2016) has discussed eight practices that increase the effectiveness of literacy instruction. One of the eight practices is the incorporation of reading and writing within the science and social studies curricula (Dennis, 2016). The ESSA's (2015) inclusion of literacy instruction in all content areas supports this practice. Beyond high school

literacy, if teachers want to aid students' ability to be college and/or career ready after secondary school, teachers should incorporate literacy instruction in all content areas.

Literacy Strategies for Science Courses

High school science students have specific literacy needs. To date, there has been little research regarding the inclusion of literacy instruction in science courses (Nixon et al., 2012). In the past, it has been assumed that secondary students had mastered literacy skills by high school, but current research indicates that this is not true for the majority of students (Taylor & Kiplin, 2013). Guzzetti and Bang (2011) have stated that the language component of science has been overlooked in favor of a more mathematical approach to science. McCormick and Segal (2016) have reported that adopting an inquiry-based approach to science "does benefit academically challenged students;" however, when students do not have to read science texts, this "denies these students the means of learning how to read it" (p. 42). The language component is important because scientists are required to "use language to scaffold their deductive and inductive reasoning, form hypotheses, make generalizations, identify exceptions, connect evidence to propositions, classify, relate, organize, plan, and persuade" (Guzzetti & Bang, 2011, p. 45). In view of the importance of language in science and the lack of literacy skills among many high school students, science teachers should include literacy instruction in their classes.

To improve literacy skills in science, teachers should include explicit word study and vocabulary instruction. Because science texts include more technical vocabulary, science teachers may need to incorporate different vocabulary instruction strategies into their classrooms (McCormick & Segal, 2016; Shanahan et al., 2011). Shanahan and Shanahan (2012) have stated, "Generic content area reading activities that encourage students to organize words, to use mnemonics, and to rehearse or repeatedly match words with their meanings can be effective

study aids with science words, but they would be insufficient" (p. 9). Often the vocabulary is unique to the discipline, so students are hearing and/or reading it for the first time. Successful vocabulary instruction teaches new words "in a meaningful context, associate new words with related words, repeat new words often, and offer opportunities for active engagement with words" (Bromley, 2014, p. 123). Defining vocabulary in isolation may not benefit students, because they will be less likely to apply the vocabulary authentically.

Given that science vocabulary uses many Greek and Latin morphemes, it may be beneficial for science teachers to include morpheme lessons in their vocabulary instruction (Shanahan & Shanahan, 2012). Bromley (2014) has stated that "students can infer meanings of 60% of the multisyllabic words they meet by analyzing word parts" (p. 130). Instruction on Greek and Latin morphemes may allow students to manage texts that are more complex independently. Vocabulary knowledge affects reading comprehension; consequently, explicit instruction in word study and vocabulary will benefit comprehension skills (Bromley, 2014).

Besides word study and vocabulary, teaching students reading strategies can improve their comprehension skills. A general reading strategy is a KWL chart ("what I think I know, what I want to know, and what I learned") (Guzzetti & Bang, 2011). A KWL chart assesses students' prior knowledge, and then encourages students to develop a personal connection with an interest in the subject. Finally, the KWL chart assesses what students have learned for the post-reading activity (Guzzetti & Bang, 2011). This reading strategy has the potential to work for other content area courses. Roman et al. (2016) have suggested graphic organizers to aid comprehension skills. Students spend most of their time analyzing "juicy segments" of the text (Roman et al., 2016, p. 125). Graphic organizers help students "analyze science texts as semantic units rather than solely focusing on vocabulary or syntactic challenges" (Roman et al.,

2016, p. 128). Other generic comprehension strategies include self-questioning, summarizing, inferencing, self-monitoring, connection, and additional analysis strategies (Shanahan, 2014).

However, if teachers take a discipline-specific approach to literacy, the reading strategies employed would be more discipline specific. Shanahan (2014) has stated that literacy instruction in science is unique because scientists use two kinds of reading. One type of reading that scientists engage in is reading for learning, if they do not have prior knowledge of a subject (Shanahan, 2014). When reading for learning, scientists do not take a critical approach to reading; their focus is to build knowledge on a subject. Critical reading takes place when scientists have sufficient prior knowledge. According to Shanahan (2014), students should initially engage in "learning-focused reading" until they have gained satisfactory prior knowledge (p. 183). Once prior knowledge has been expanded, students will begin reading texts critically, as they consider the source of information, the context of the text, and the corroboration of the text.

It is important to teach students to approach texts critically. Science texts are written to provide "an authoritative account of things" (Shanahan et al., 2011, p. 399). Because of the authoritative tone, students may be taught not to question the author's purpose and potential biases, as they would in a different content area. To encourage critical thinking, Shanahan (2014) has suggested that teachers use multiple texts in science courses. One suggestion is to pair a textbook selection with an article from a popular science magazine (Shanahan, 2014). When using multiple texts, students can discuss the source of the text, the context of the text, and corroborate the information. Teachers should include close reading activities, such as repeated reading, annotation, and text-dependent questions. This deeper study may increase the students' knowledge of the topic and may improve their literacy skills. Another strategy to make difficult

text more manageable is to chunk the text. McCormick and Segal (2016) stated, "Breaking the text into chunks makes it seem more accessible than one long passage" (p. 43). Science students will still be required to read the text, but it will be presented in a manner that may not be as intimidating.

Literacy Strategies for Social Studies Courses

Much like in the case of science, there has been little research on literacy instruction in the social studies classroom (Bulgren et al., 2013). However, social studies courses are more often viewed as a language-based discipline (Achugar & Carpenter, 2012). In social studies classes, students may be "working with primary sources, doing multiple readings (information, perspective, context), constructing arguments to support interpretations" (Achugar & Carpenter, 2012, p. 263). Because many high school students cannot read at grade level, social studies teachers should use explicit literacy strategies, so that students can comprehend complex texts (Fang, 2012; Shanahan & Shanahan, 2014).

To increase literacy, teachers need to train students to become critical readers of historical texts. According to Shanahan and Shanahan (2014), high school social studies teachers' most important job is to develop self-sufficient learners who will derive their own meaning from texts. To encourage critical thinking, teachers may provide multiple texts on one subject. The texts chosen can contradict one another, and students can practice deriving their own meaning (Shanahan & Shanahan, 2014). Sourcing, contextualizing, and corroborating texts are important skills for social studies teachers to impart to students, so they can become more critical readers (Shanahan, 2014). Through sourcing, students learn about the author/authors who wrote a text (Shanahan & Shanahan, 2014). Contextualizing refers to students considering the time period. Shanahan and Shanahan (2014) have suggested using a strategy called

SOAPStone (source, occasion, audience, purpose, subject, and tone) to help students focus on sourcing and contextualizing. Corroboration refers to students comparing and contrasting the evidence presented in different texts (Shanahan & Shanahan, 2014). In addition, students can review the historical frameworks, such as the "political, economic, social, or legal tactics" (Shanahan & Shanahan, 2014, p. 243), of the time period being studied. Students may also evaluate the chronology of events as they consider whether there are parts that appear to be missing (Shanahan & Shanahan, 2014). These strategies may engage students and encourage critical thinking regarding historical texts. Bulgren et al. (2013) have referred to "teach[ing] students *both* the conceptual knowledge *and* habits of thinking in their discipline" as teaching "on the diagonal" (p. 20). The benefit of teaching "on the diagonal" is that students acquire "critical content and habits for successfully learning that content" (Bulgren et al., 2013, p. 20). By creating these habits, students may go on to become independent, critically thinking learners in future social studies courses or in other disciplines.

Unlike science texts, history texts focus on the "actions and events, verbal and mental processes, and descriptions and background information" (Shanahan et al., 2011, p. 399). As a result, approaching history texts is different from approaching science texts. An author's purpose may be important to discuss in a history course. Also, in history, the accuracy and importance of events are often open to interpretation based on the students' cultures, so the texts will not be approached as authoritatively accurate, as may be the case with a science text (Shanahan & Shanahan, 2012). In addition, literacy instruction in social studies may include a variety of non-traditional texts. For instance, social studies texts may include "photographs, maps, videos, music, monuments, and other man-made cultural artifacts" (Wilson, 2011, p. 440).

Consequently, there needs to be specific instruction regarding these items that may not be necessary in other subjects.

Similar to the literacy needs in science, social studies students may require in-depth vocabulary instruction that is more discipline specific. Unlike science vocabulary, studying Greek or Latin morphemes may not be as helpful in a social studies class (Shanahan & Shanahan, 2012). Pre-teaching of vocabulary will benefit struggling readers because "vocabulary is fundamental to reading comprehension" (Berkeley et al., 2016, p. 264). Not all students will come into the classroom with the same vocabulary skills.

Another consideration is how the language used in social studies may often have denotative and connotative meanings. Vocabulary used in social studies texts may carry "ideological baggage" (Shanahan & Shanahan, 2014, p. 238). The terms used by different authors may have a connotative meaning that changes the tone of the text and may influence readers. In social studies, vocabulary may be difficult for students, because the terms are metaphorical and not literal (Shanahan & Shanahan, 2012). Not only may historical documents use "legalese," language that is unique to legal documents, but also vocabulary and writing style change over the years, making comprehension more difficult (Shanahan & Shanahan, 2014, p. 239). For students to improve their literacy with regard to historical texts, attention needs to be paid to reading comprehension strategies and vocabulary.

Literacy Considerations for Students with Learning Disabilities

Content area teachers are faced with including literacy instruction not only for students labeled as general education students, but also for students who receive special education services. Students with learning disabilities are seldom educated in self-contained classes; they are more often taught within general education classes (Vaughn & Wanzek, 2014). Roberts,

Leko, and Wilkerson (2013) have explained: "Since the 1997 amendments to IDEA (1997), which mandate students with disabilities have access to the general education curriculum, teachers have been under increased pressure to provide instruction in academic and functional content" (p. 311). Content area teachers should seek literacy strategies that will be successful for every type of student: (a) the general education student who is reading at or above grade level, (b) the general education student who is a struggling reader, (c) students with learning disabilities who may not have a deficit in reading, and (d) students with learning disabilities who may have a deficit in reading.

Much like general education students, students with learning disabilities seldom receive explicit reading instruction after their elementary and middle school years (Vaughn & Wanzek, 2014). Even if students with learning disabilities are scheduled for a resource class, this does not mean that they receive additional explicit reading instruction. Students with learning disabilities will need literacy instruction from content area teachers as much as the general education student. According to The Nation's Report Card (2017), nationally the reading scores for students with disabilities increased by two points since 2015. In Virginia, there was a one point increase in reading scores for students with disabilities since 2015 (The Nation's Report Card, 2017). Some literacy strategies are better suited to students with disabilities. Bulgren et al. (2013) have stated, "Students with [learning disabilities] may lack skills for processing and organizing information, making references, understanding relationships, and distinguishing main ideas from details" (p. 18). This adds another challenge for content area teachers as they include literacy instruction into their lessons. Teachers may have to match the literacy strategies to the students' ability levels or learning styles.

If students have a reading disability, research has indicated that general reading strategies would be more effective than a discipline-specific literacy approach (Faggella-Luby et al., 2012). Multiple reading strategies should be taught, instead of relying on one type of strategy (O'Connor et al., 2017). To improve reading comprehension for students with disabilities, teaching vocabulary is important (O'Connor et al., 2017). Other reading comprehension techniques are to teach students to "[identify] main ideas, [organize] information by comparing and contrasting people and events, and [identify] cause and effect relations" (O'Connor et al., 2017, p. 174). To see the connections between concepts, Roman et al. (2016) have discussed the effectiveness of graphic organizers. McCormick and Segal (2016) have suggested chunking information for students with learning disabilities, so the text is in "manageable pieces" (p. 43). Most students with disabilities will be required to pass similar end-of-the-course assessments as general education students (Darrow, 2016), so the need for literacy instruction is equally important for students with disabilities and general education students.

Literacy Considerations for English Language Learners

Students who are English language learners (ELLs) may need explicit literacy instruction to support their ability to read in English. The number of students between the ages of 5 and 12 who are ELLs has risen "from 4.7 to 11.2 million between 1989 and 2009, or from 10% to 21% of the population in this age range" (Lee & Buxton, 2013, pp. 110-111). If students who are ELLs do not receive literacy support, an achievement gap may develop. Nationally, there has been a three-point increase in reading scores for students who are ELLs from 2015 (The Nation's Report Card, 2017). According to The Nation's Report Card (2017), there has been a decrease in the eighth-grade Virginia reading scores for students who are labeled ELLs from the 2015 statistics. Barr, Eslami, and Joshi (2012) have explained that "the majority of struggling ELL

have inadequate literacy skills" (p. 106). Therefore, teachers of ELL students will need to provide explicit literacy instruction. Lee and Buxton (2013) have stated that "a majority of teachers working with ELL believe that they are not adequately prepared to meet their students' content-specific learning needs" (p. 11). As the number of students who are ELLs increases, many teachers may require additional professional development when working with ELL students to improve their literacy skills.

Literacy instruction for students who are ELLs is similar to that for traditional students; however, there may be more scaffolding involved (Barr et al., 2012). According to Rubenstein-Avila and Leckie (2014), "Highlighting vocabulary, language patterns, and text structures, in addition to incorporating reading strategies and opportunities to discuss texts and concepts, is the type of scaffolding that can result in academic success for ELLs" (p. 24). Barr et al. (2012) have recommended explicit vocabulary instruction as one way to increase comprehension skills among ELL students. Some ELL students may need vocabulary instruction that begins with phonemic awareness and phonics instruction (Barr et al., 2012). Given that vocabulary knowledge has been linked to increased reading comprehension skills (Bromley, 2014), students who are ELLs will need vocabulary instruction as well as reading comprehension strategies.

To improve literacy, teachers should determine the necessary interventions to help ELL students. Rubenstein-Avila and Leckie (2014) have recommended close reading strategies, such as repeated readings and annotation of text, as a way to increase the reading ability of students who are ELLs. Barr et al. (2012) have suggested comprehension strategies such as "prediction of outcomes, summarizing, clarification, questioning, and visualization" (p. 109). In addition, Rubenstein-Avila and Leckie (2014) have stated that teachers should provide ELL students with more class time to have content-area discussions. Rubenstein-Avila and Leckie (2014) have

explained “the majority of talk in ELL and low-achieving students' classrooms comes from the teachers” (p. 27). Students who are ELLs need to develop their own understanding of the content and the language that goes with it if they are to improve their reading ability.

Literacy Considerations for Rural Students

Azano (2015) has stated that there has been little research pertaining to rural areas. Rural schools make up over half of U.S. school districts, but tend to be underrepresented in research studies (Azano, 2015). Many of these districts are “underfunded and underresourced” (Azano, 2015, p. 267). These two issues create unique challenges in rural schools that differ from schools in urban areas. It is difficult for rural schools to recruit and retain highly qualified teachers (Azano, 2015; Dulgerian, 2016). Rural school systems need to compete with salaries and benefits offered in suburban and urban areas. As Azano (2015) has explained, a rural area's “lack [of] amenities” (p. 268) may dissuade teachers from teaching in these locations. Dulgerian (2016) has stated that prospective teachers may not consider working in rural areas, because of the lack of housing and employment options for the prospective teachers' partners or spouses. In addition, if the rural area school system is underresourced, rural teachers may find themselves teaching multiple subjects, thus making the school system a less attractive option for potential employees (Dulgerian, 2016). Rural area teachers face different challenges from suburban and urban teachers. As a result, research in this area may provide information on how better to serve this unique student population.

Rural area children are more economically disadvantaged than children in urban and suburban schools are. Dulgerian (2016) has stated that “about one-fourth of children living in rural areas are poor, compared to one-fifth of children living in urban areas” (p. 113). Azano (2015) has noted that rural stereotypes also affect rural area schools, since the students may be

viewed as “lazy and stupid” (p. 268). If these students struggle academically, it may be viewed as an inherent behavioral condition rather than a flaw in the educational system. For instance, it is more difficult to receive Title I and Title II funding for rural schools, so these schools may not receive the support that urban schools receive, leading to an educational disadvantage (Dulgerian, 2016).

Title I funding is distributed based on the population and poverty of the students, and rural schools often do not have such large populations as urban schools; therefore, they do not receive as much funding. Dulgerian (2016) has stated that there are “25.5% of children in rural areas who live in poverty” (p. 116). When the NCLB was replaced by the ESSA (2015), the Title I funding formula did not change, but it did change the Title II funding formula. Dulgerian (2016) has stated that the change in Title II funding did not “make a significant impact on rural schools' funding” (p. 130). For this reason, rural schools may continue to lack resources when they do not receive additional funding. With a lack of funding, it may be more difficult for rural schools to address the literacy needs of students.

Summary

As more students struggle to achieve reading proficiency, high school content area teachers are challenged with the task of including literacy instruction in their lessons (ESSA, 2015; VDOE, 2011). High school content area teachers may not feel prepared to teach literacy in their classrooms, because they have not received post-secondary instruction or professional development in literacy (Carney & Indrisano, 2013; Hooley & Thorpe, 2017; Meyer, 2013; Wendt, 2013). In addition, high school content area teachers may be hesitant to include literacy instruction, because they have content area standards to cover that leads them to focus more on

developing content knowledge than on developing literacy skills (Goldman, 2012; McCormick & Segal, 2016; Wendt, 2013).

Content area teachers need to choose literacy strategies that they believe are most effective for their content and students. The way content area teachers approach the texts and use literacy strategies may differ from one content area to the other (Goldman, 2012; Lenski, 2011; Meyer, 2013; Nixon et al., 2012). There are general content area literacy strategies that can be used for all disciplines, but there are also discipline-specific strategies to consider. Content area teachers have students in their classes representing all different reading levels. Literacy instruction should take place in all content area classes because the more reading practice students receive, the better readers they become (Sprenger, 2013).

Most literacy research occurs at the elementary school level instead of the high school level (Wendt, 2013). This study focuses on literacy instruction at the high school level, thus addressing a significant gap in the professional literature. In addition, most literacy research is conducted in an urban setting (Azano, 2015; Bailey, 2013; Lester, 2012; Ortlieb, 2013; Stockard, 2011), but this study conducted research in a rural setting; therefore, it addresses another gap in the literature. Because little research has been conducted on literacy instruction in science and social studies courses, this study addresses this gap in the literature (Bulgren et al., 2013; Nixon et al., 2012). Finally, this study adds to the current literature as it explores how high school science and social studies teachers' sense of self-efficacy regarding the inclusion of literacy instruction affects their use of reading strategies in their rural classrooms.

CHAPTER THREE: METHODS

Overview

State and national legislation directs public schools to have an effective literacy plan in place (ESSA, 2015; VA State Literacy Plan, 2011). Based on the VA State Literacy Plan (2011), it has become the responsibility of all content area teachers to provide literacy instruction in their classrooms. With the challenging vocabulary and above grade level texts often used in science and social studies courses, specialized literacy instruction benefits the students (Berkeley et al., 2016). Because explicit reading instruction most often stops after the sixth grade, content area teachers must develop reading strategies, so that students can read and comprehend more challenging texts (Lenski, 2011). In many cases, high school science and social studies teachers do not believe they are prepared to teach reading skills (Carney & Indrisano, 2013; Hooley & Thorpe, 2017; Meyer, 2013, Wendt, 2013). Regardless of teachers' hesitance about the instruction of reading, teachers are required to include literacy instruction in all content areas.

The purpose of this transcendental phenomenological study is to explore teachers' sense of self-efficacy regarding the incorporation of literacy instruction in high school science and social studies classes in a rural public school district in Virginia. This chapter discusses the research design, research questions, setting, participants, research procedures, data collection, and data analysis.

Design

Because many high school students are struggling to read at grade level, literacy instruction has become the responsibility of all teachers (ESSA, 2015; VDOE, 2011). To learn how content area teachers experience the requirement to include literacy instruction in their classrooms, the phenomenological design was appropriate for this study.

Moustakas' (1994) version of transcendental phenomenology was based on Husserl's work (1931/2014). Moustakas (1994) explained that Husserl (1931/2014) believed there needed to be "subjective openness" when using transcendental phenomenology (p. 25). In this study, participants were asked to openly discuss their perceptions of literacy instruction and its effectiveness in their classrooms. To understand another person's point of view, the researchers were asked to transcend their own beliefs. In terms of this research study, I acknowledged that I had my own personal biases regarding literacy instruction in science and social studies classrooms, but ultimately, the participants' reoccurring thematic responses provided their truths, regardless of my own biases. Husserl (1931/2014) referred to this as *epoche*. Researchers continually reflect on the biases they may have toward a phenomenon to ascertain if a "sharp contrast exists between facts and essences, between the real and non-real" (Husserl, 1931/2014, as cited in Moustakas, 1994, p. 27). In other words, people's experiences and how they interpret these create reality. As I reviewed the participants' responses, their experiences regarding literacy instruction and their sense of self-efficacy became more evident. Experiences may appear one way to one person, but may appear in a different way to another person. From these responses, I was able to deduce the participants' lived experiences regarding literacy instruction and self-efficacy to determine the phenomenon: how teachers' sense of self-efficacy affects their literacy instruction. Following Husserl's (1931/2014) work, all perspectives are valuable and need to be examined to develop a full understanding of a phenomenon. Husserl (1931/2014) referred to the process as "ideation," which occurs when there is a "transformation of individual or empirical experience into essential insights" (Moustakas, 1994, p. 25). Researchers can only discover the essence, or true meaning, of a phenomenon if all meanings are synthesized. In this

research, the goal is to describe the essence of high school teachers' sense of self-efficacy regarding literacy instruction in their content area classrooms.

During the research process, Moustakas' (1994) procedural steps for transcendental phenomenology were followed. Because I wanted to understand the lived experiences of science and social studies teachers as they included literacy instruction into their content areas, a phenomenological research design was chosen. Phenomenology is an appropriate design choice, since I am searching for a "common meaning for several individuals of their lived experiences of a concept or phenomenon" (Creswell, 2013, p. 76). I interviewed science and social studies teachers about how they incorporated literacy instruction into their classrooms and then asked them to assess how they viewed the effectiveness of their approaches. Because I reflected on my own biases regarding the topic before I collected data, the research design was transcendental. Moustakas (1994) has referred to taking away one's personal judgments, so the researcher can be more open to other people's perceptions of reality as epoche or bracketing. Following my personal reflection and bracketing my beliefs, I collected data from my participants.

From the data collected from the Teacher Sense of Efficacy for Literacy Instruction (TSELI) questionnaires, one-on-one interviews, and lesson reflection journals, I created textural descriptions explaining "what" is being perceived by the participants. Husserl (1931/2014) has referred to these perceptions as the *noema*. One way to bracket biases during interviews is to acknowledge that it is possible that I might have chosen questions that led participants to certain responses (Chan, Fung & Chin, 2013). To discourage this bias, I developed my guiding questions before the interviews, to limit the possibility of leading questions. However, during reflexive thinking, as I reviewed the data from the interviews, I acknowledged that question bias might have occurred (Chan et al., 2013). Phenomenological reduction begins as researchers

analyze the data into "meanings or meaning units" (Moustakas, 1994, p. 118). By continuing to bracket my own suppositions while reviewing the data, I discovered what was perceived by the participants as they included literacy instruction in their content area classrooms. Not only did I use reflexive thinking, but I also kept reflective journals, so I could contemplate my biases.

After phenomenological reduction, imaginative variation begins. Husserl (1913/2014) has referred to imaginative variation as looking for the "underlying meaning" or *noesis* of the phenomenon (Moustakas, 1994, p. 29). The noesis consists of structural descriptions about "how" the perceptions emerged. From the data, I determined "significant statements" that represent "how the participants experienced the phenomenon" (Creswell, 2013, p. 82). The final step for transcendental phenomenology consists of synthesizing the textural and structural themes to determine and describe the essence of the phenomenon. Once the thematic commonalities were discovered, I condensed the "individual experiences with a phenomenon to a description of the universal essence" (Creswell, 2013, p. 76) regarding the self-efficacy content area teachers have with regard to teaching literacy in their content area classrooms.

Research Questions

The following were the research questions that guided this study:

Central Question

What does it mean for high school science and social studies teachers to include literacy instruction in their classrooms?

Sub-Questions

SQ1: What are high school science and social studies teachers' perceptions regarding their ability to adequately meet the literacy needs of their students?

SQ2: What challenges have high school science and social studies teachers faced when addressing the literacy needs of their students?

SQ3: How do high school science and social studies teachers determine appropriate literacy strategies for their content areas and their objectives?

SQ4: What professional development opportunities or support are content area teachers receiving in order to implement literacy skills in their content areas?

Setting

To learn about the literacy instruction experiences from a number of participants, this research was conducted at multiple sites in high schools in rural southeast Virginia. There were four high schools within the county. A superintendent led the school division and reported to a board of supervisors and an elected school board. Each high school had its own principal, who reported to the superintendent. The rural setting was chosen because there has been less research conducted in such settings (Azano, 2015; Bailey, 2014; Lester, 2012; Ortlieb, 2013; Stockard, 2011). Researching the literacy component in a rural school was important, since as "a result of diverting funds away from smaller rural academic establishments, rural schools continue to fall short of national expectations set by [NCLB]" (Ortlieb, 2013, p. 199). Ortlieb (2013) stated, "The most persistent problems of illiteracy can be found in the regional area of the South, Southwest, and Appalachia (Flora, 1992)" (p. 199). For the 2018-2019 school year, the district's high schools had 3,706 students (VDOE, 2018b). The school district is referred to by the pseudonym, Southeast Public School System. There are four high schools in the Southeast Public School System: A High School, B High School, C High School, and D High School (pseudonyms). The students at Southeast Public School System are 77.4% white, 15.3% Hispanic, 3.4% two or more races, 2.0% African-American, 1.4% Asian, and 0.4% American

Indian (VDOE, 2018b). Students with disabilities comprise 9.8% of the students, and 10.4% of the students are English language learners (VDOE, 2018b). I chose to focus on the high school level since most information about literacy instruction has been gathered at the elementary school level (Goldman, 2012; Morrison et al., 2011). The setting was chosen for its geographic proximity to the researcher. However, all Virginia teachers must follow the same Standards of Learning and adhere to the VA State Literacy Plan (VDOE, 2011), regardless of their location in the state, so literacy instruction should take place at all high schools, not just at the research sites. In addition, the ESSA (2015) requires literacy strategies in all content areas.

Participants

To be included in this study, the participants had to be certified high school science and social studies teachers. I used purposeful criterion sampling to ensure that the participants had experienced a similar phenomenon (Creswell, 2013). With literacy instruction being a focus of the ESSA (2015) and the VA State Literacy Plan (VDOE, 2011), science and social studies teachers are expected to include literacy instruction in their classrooms, thus experiencing a similar phenomenon. The science courses that were reviewed were Earth Science, Biology, and/or Chemistry, since these courses are most often required of high school students (VDOE, 2018a). In social studies, World Geography, World History, and/or U.S. and Virginia History courses were used, because they are most often required of high school students (VDOE, 2018a).

The targeted sample size was 12 to 15 participants. I continued to interview participants until thematic saturation had been reached; however, no fewer than 10 participants were included in the study, even if data saturation was achieved with fewer than 10. In addition, using 12 to 15 participants increased the number of textural descriptions to be used for data.

Table 1: Participants' Data

Participants' Data

Name	Years of Experience	Content Area(s)
Beth	35	US & VA History
Carson	3	Chemistry
Devin	1	Biology & Earth Science
Janice	11	Biology
Jon	14	World Geography & World History
Kristy	20	US & VA History
Louis	27	Biology & Earth Science
Madison	10	World Geography
Monica	15	Chemistry & Earth Science
Natalie	5	US & VA History & World Geography
Sean	35	Earth Science
Tamara	8	Chemistry

Procedures

First, I obtained approval from the Institutional Review Board (IRB) for the study before any data were collected (see Appendix A). Second, a letter was sent to the Southeast Public School System to obtain consent to use school email to contact potential participants and to conduct the research (see Appendix B). I obtained consent from all participants (see Appendix C). The present study incorporates three data sources to triangulate the emerging themes: The Teacher Sense of Efficacy for Literacy Instruction (TSELI) questionnaire (see Appendix D), semi-structured, one-on-one interviews (see Appendix E), and a lesson reflection journal (see

Appendix F).

Initially, I asked participants through email communication to participate in the study (see Appendix G). Once teachers agreed to be part of the study, I requested that they complete the electronic informed consent. After receiving consent, the participants completed the TSELI questionnaire through SurveyMonkey™ to gauge themes emerging from the participants' responses. I contacted the participants to arrange times for one-on-one interviews. To ensure the accuracy of my recorded data, I audio-recorded the interviews. The participants' lesson reflection journals constituted a third form of collected data.

In the lesson reflection journals, the participants were asked to reflect on the literacy strategies that they utilized in the classroom. Participants were asked to supply the teacher-developed or teacher-selected documents that they used when delivering the lesson(s) that they reflected. Participants transmitted these lesson reflection journals by email or provided them to me at the time of their interviews, and I subsequently analyzed the journals.

Once the questionnaires, interviews, and lesson reflection journals had been collected, the data were analyzed for commonalities among the emerging themes. The themes were separated into similar clusters. As the data were analyzed, the description of the experiences, or textural experiences, was defined. In addition, the participants' structural descriptions were examined, focusing on "how [the participants] experienced [the phenomena] in terms of the conditions, situations, or context" (Creswell, 2013, p. 80). The textural and structural descriptions were synthesized to gain an understanding of the essence of the experiences. In other words, how did teachers feel about their ability to include literacy strategies into their instruction? Specifically, how effective did they believe they were in including literacy instruction?

The Researcher's Role

I was the primary researcher for the study; therefore, I developed the research plan, created the semi-structured interview questions, interviewed the participants, and analyzed the TSELI questionnaire, the interview responses, and the participants' lesson reflection journals. As the primary researcher, I transcribed the interviews and analyzed the data for "narrow units of analysis" and then "broader units" (Creswell, 2013, p. 79). I synthesized the information into common themes.

As the primary researcher, I acknowledged that I might have some biases or assumptions about the setting, participants, and/or study topic. I have a connection to the Southeast Public School System because I work for the school district. Even though I do not teach in the science or social studies departments, I might know the participants as current or former colleagues. Because I had worked at two of the school district's high schools, I might have had more familiarity with the participants than if I had only worked at one high school or outside the district. Because I might have worked with the participants, I am cognizant that there might have been some biases toward the participants. The biases might have arisen from being acquainted with participants from my current or former school, or they might have arisen based on any information that I have heard about the participants, either professionally or personally. For instance, if I had heard that a specific teacher was a great teacher, I might have expected certain responses from that teacher. If those responses did not fit with my preconceived notions, this might have the potential to affect my data analysis. Due to the potential for bias, I intentionally used bracketing to improve the neutrality of the analysis. To improve neutrality, I focused on the data. Prior knowledge about a participant did not affect the data I had collected. If I had prior knowledge about a participant, I journaled about any preconceived notions I had about the

participant, so that I would be more aware about what needed to be bracketed. What the participants reported should be the only focus of the research, not any assumptions I might have had.

I brought assumptions to the research study. One assumption I had concerned what I thought made a good or poor literacy instruction strategy. Some examples of what I regarded as good literacy instruction strategies are graphic organizers, chunking material, and pre-teaching vocabulary. Some examples of what I regarded as poor literacy instruction strategies are copying definitions from a glossary/dictionary and fill-in-the-blank notes. Because I had defined examples of good and poor literacy strategies, I might have judged a participant as a good or poor teacher (in regards to literacy inclusion) depending on their interview answers and the lesson reflections they provided me with for analysis. I had to bracket these assumptions. The participants had to explain to me whether they believed they were effective at literacy inclusion; my beliefs in the participants' effectiveness were not what was being studied. Through reflexive journaling, I tracked my feelings toward the participants' instructional strategies to acknowledge potential bias. Ultimately, it is the participants' beliefs in their effectiveness that is relevant in this research, not my beliefs.

My final assumptions were that content area teachers believed they were inadequately prepared to incorporate literacy strategies in their classrooms and were frustrated with the students who were not reading on grade level. My assumption was that being inadequately prepared to use literacy instruction would mean that teachers would not include this in their classes, or they would not include strategies that I had defined as effective. Frustration with students not reading on grade level would result in teachers blaming the students and being less willing to provide literacy instruction. The data collected would help me bracket this

assumption. I might have assumed that teachers were not likely to include literacy strategies, but as the participants provided their lesson reflections, this assumption was disproved. Through reflexive journaling, I acknowledged if any assumptions arose.

Data Collection

Data collection began with the Teacher Sense of Efficacy for Literacy Instruction (TSELI) questionnaire administered through SurveyMonkey™. In-depth, one-on-one interviews were conducted that included a series of open-ended questions. The interviews were audio-recorded and transcribed. Lesson reflection journals were requested and then analyzed for thematic commonalities. Participants were allowed to review the analysis to ensure that the findings were an accurate reflection of their beliefs through member checking (Creswell, 2013).

The Teacher Sense of Efficacy for Literacy Instruction Questionnaire

Data collection began with the participants completing an electronic version of the Teacher Sense of Efficacy for Literacy Instruction questionnaire (Tschannen-Moran & Johnson, 2011). The questionnaire is freely available on Tschannen-Moran's website (http://wmpeople.wm.edu/site/page/mxtsch/researchtools). The participants received the questionnaires electronically and were asked to complete them by a specific date. The TSELI "measure[s] the teachers' sense of efficacy for instruction" (Tschannen-Moran & Johnson, 2011). The questionnaire addresses how prepared the participants believed they were to include literacy instruction in their classrooms (Carney & Indrisano, 2013; Meyer, 2013; Tschannen-Moran & Johnson, 2011; Wendt, 2013). Tschannen-Moran and Johnson (2011) have stated: "A pool of thirty-three items specific to various aspects of literacy instruction were constructed by the researchers drawing on the NCTE/IRA (1996) *Standards for the English Language Arts* and the IRA (2004) *Standards for Reading Professionals*" (p. 754). Tshannen-Moran and Johnson

(2011) developed items that rate teacher self-efficacy in literacy instruction in the following areas:

… the ability to use word study, decoding, and comprehension strategies, modeling effective strategies, integrating instruction across the language arts, grouping practices, the use of a wide variety of genres, meeting the needs of both high-ability and struggling readers, and the ability to motivate students to value reading (p. 754).

In order to determine content validity, the TSELI (see Appendix D) "was submitted to a panel of four experts in the field of reading and literacy instruction" (Tshannen-Moran & Johnson, 2011, p. 754). In addition, the TSELI was "field tested with eleven graduate students in literacy instruction to assess the clarity of wording of the items and instruction, appropriateness of the response scale, and ease of administration" (p. 754). The TSELI employs a Likert scale that "uses a unipolar response scale on a 9-point continuum" (Tshannen-Moran & Johnson, 2011, p. 754). The TSELI responses were coded for thematic similarities and used as textural and structural data.

Interviews

Data collection included in-depth, semi-structured individual interviews. Creswell (2013) stated, "For a phenomenological study, the process of collecting information involves primarily in-depth interviews" (p. 161). The open-ended interview questions asked participants about their self-efficacy beliefs regarding literacy instruction in their content area classrooms (see Appendix E). The questions were created after a careful review of the literature and guided by the problem statement (Guzzetti & Bang, 2011; Meyer, 2013). The same interview protocol and base interview questions were used for each participant. As suggested by Creswell (2013), the interviews included open-ended guiding questions. The interviews were audio-recorded to

increase accuracy and minor notes were taken during the interviews. Follow-up interviews took place if additional information was needed.

Standardized Open-Ended Interview Questions

1. Why did you decide to enter the teaching profession?
2. How did you choose the discipline that you teach?
3. Why did you decide to teach at the high school level?
4. How do you describe the reading needs of your general education students?
5. How do you describe the reading needs of your students identified with a learning disability or as English language learners?
6. How do you define literacy instruction?
7. How often do you include explicit literacy instruction in the classroom?
8. How would you explain your level of comfort with including literacy instruction in your content area?
9. How do you select the texts you use in the classroom?
10. What strategies do you use for literacy instruction?
11. How were you trained in regard to teaching reading in your content area?
12. What post-college training, such as additional college courses or professional development, have you had and/or materials have you used to help you develop literacy strategies?
13. What are some areas you would like to develop with literacy instruction?
14. What do you believe are your strengths with regard to literacy instruction?
15. How do you assess the success of the reading strategies used?

16. If you decide a reading strategy is not the most successful, how do you develop and/or decide upon future strategies to use?
17. How do you motivate students to use reading strategies?

The purpose of questions 1 to 3 was to begin the interview by gathering some basic information. Question 1 asked about reasons the participants entered the teaching profession. Question 2 followed up, asking why the participants chose their particular content areas, and question 3 inquired about the participants' decision to teach at the high school level.

Question 4 asked how the participants would describe the reading needs of the general education students. The question was based on the NAEP report, which states that Virginia high school students do not have adequate literacy proficiency (VDOE, 2011). The Nation's Report Card (2017) reported that in Virginia there had been no change in reading scores from 2015 to 2017 for fourth-grade students, and only a one-point increase for eighth-grade students. Without significant improvements in reading scores, literacy instruction and strategies continue to be necessary for Virginia teachers to implement.

In question 5, participants were asked to discuss the reading needs of students with learning disabilities and students who are English language learners. Question 5 was based on the increased number of students with disabilities who are being taught within a general education setting (Roberts et al., 2013; Vaughn & Wanzek, 2014). Students with learning disabilities may have more reading challenges and need more scaffolding than students labeled general education students (Bulgren et al., 2013). The question also referred to English language learners in the classroom (Lee & Buxton, 2013). Reading from textbooks and/or classroom materials may be overwhelming for English language learners (McCormick & Segal, 2016).

Questions 6 to 10 examined the participants' understanding of literacy instruction and strategies. The literacy instruction and strategies questions focused on the teachers' pedagogical and curricular knowledge (Shulman, 1986). Question 6 asked participants to provide their definition of literacy instruction. No definition is provided by either the ESSA (2015) or the VA State Literacy Plan (2011). In addition, neither the ESSA (2015) nor the VA State Literacy Plan (2011) dictate the length of time or type of literacy strategy to be used for literacy instruction by science and social studies teachers, so this question fleshed out the participants' beliefs. Question 7 explored how frequently participants included literacy instruction in their classes. Based on research, science and social studies teachers might not feel adequately prepared to include literacy instruction in their classrooms (Hooley & Thorpe, 2017; Meyer, 2013). However, all content area teachers are required to incorporate literacy strategies according to the VA State Literacy Plan (2011) and the ESSA (2015).

Questions 8 to 10 examined whether participants were familiar with the need to include reading strategies and whether they were informed about effective methods (Carney & Indrisano, 2013, Lenski, 2011; Nixon et al., 2012; Wendt, 2013). Question 8 asked about the participants' comfort with including literacy instruction in their classrooms. As stated previously, teachers may not feel comfortable including literacy instruction and strategies in their classrooms because they do not feel prepared to do so (Hooley & Thorpe, 2017; Meyer, 2013). In addition, teachers may focus more on covering subject content in their classes instead of focusing on literacy skills (McCormick & Segal, 2016). Teachers' comfort level and the amount of literacy instruction they include may be influenced by their sense of self-efficacy (Bandura, 1997).

Question 9 asked participants how they selected texts for their lessons. The participants might have to use classroom texts that were chosen for them by their school district, but

participants might have chosen supplementary texts that were not required by their school district. Many textbooks are written at a higher readability level than the students are capable of reading (Berkeley et al., 2016), but supplementary texts may be chosen with the students' reading levels in mind.

Question 10 asked participants about the strategies they used in their classrooms. Depending on the discipline, different strategies may be used. There are generic strategies that may be used for either science or social studies classes (Shanahan & Shanahan, 2012). Participants may also choose discipline-specific strategies (Shanahan, 2014).

Questions 11 to 13 explored the participants' beliefs toward their literacy training and their beliefs regarding how successful their implementation of literacy strategies has been. Question 11 investigated the participants' literacy instruction training. Question 12 examined whether participants learned literacy instruction strategies after college. Effective professional development may encourage teachers to incorporate more literacy strategies in their content areas (Greenleaf et al., 2018). Content area teachers reported that they did not feel adequately prepared to incorporate literacy instruction in their classrooms (Brozo et al., 2013; Hooley & Thorpe, 2017; Nixon et al., 2012; Shanahan & Shanahan, 2012; Wendt, 2013). Question 13 asked participants to discuss ways they could develop better literacy instruction practices.

Questions 14 to 16 focused on Bandura's (1997) self-efficacy theory to determine the participants' level of knowledge and comfort about including literacy instruction in the classroom. Bandura (1997) has proposed that teachers who have a high sense of self-efficacy will continue to challenge themselves, even in areas that they are not comfortable in, and ultimately persevere. Question 14 asked about the participants' strengths in literacy instruction. Bandura (1997) has stated that if people believe they can be successful in a task, they will

continue to work toward becoming a success. Question 15 asked the participants to describe how they determine whether their literacy instruction was successful. This question focused on participants reflecting on their lessons and their efficacy. Question 16 connected to the participants' understanding of pedagogical and curricular knowledge (Shulman, 1986). The question focused on participants' ability to modify lessons. Lessons might be modified if the participants determined their literacy strategies were initially not effective.

The purpose of question 17 was to discover whether participants were including motivation strategies to encourage students to use reading strategies (Goldman, 2012; Guzzetti & Bang, 2011). Intrinsic motivation strategies are more effective than extrinsic motivation strategies (Rush & Reynolds, 2014). The question provided insight into which strategies the participants prefer.

Lesson Reflection Journals

Participants were asked to reflect on a lesson that used literacy strategies (see Appendix F). Participants were asked to reflect on the type of literacy strategy/strategies that they had used and then discuss how they perceived the effectiveness of the strategy. Participants were asked to reflect on a lesson where they had included a literacy strategy. The lesson reflection journals were collected and analyzed for similarities. Hayman, Wilkes, and Jackson (2012) have stated, "Journaling as a method of data collection has long been accepted as a valid way of assessing rich qualitative data" (p. 30). Participants also reflected on teacher-developed or teacher-selected documents that they had used during literacy instruction. According to Bowen (2009), "Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge" (p. 27). In the study, the participants were asked to evaluate their

own documents and the effectiveness of their lessons (Hayman et al., 2012). Once submitted to me, the journals were coded, looking for repeating themes. These themes provided insight into the types of strategies used and how the participants perceived their effectiveness when using the strategies.

Data Analysis

The first step in the data analysis was organizing the data. I ensured that all the participants' names were provided with pseudonyms and that the correct information was securely listed and stored for each person. To manage the data, I created a Microsoft Excel spreadsheet. Not only did I use the Excel spreadsheet to organize the participants' information, but the spreadsheet was also used to list recurring statements and themes that appeared during the analysis. Textural and structural data were taken from the TSELI questionnaire, the interviews, and the lesson reflection journals. Textural data delved into what the participants experienced about the inclusion of literacy instruction. The participants discussed what strategies they used. Structural data explored how the participants experienced the inclusion of literacy instruction in their classrooms within different settings (Creswell, 2013). For instance, some students may be more disruptive, so the experience for the participants may be different than working with students who are less disruptive. Structural data explored how effective the participants believed they were when including literacy instruction in their classrooms.

The TSELI questionnaire results were reviewed for similar themes the participants shared about including literacy instruction in their classrooms. I transcribed the interviews and analyzed them for common themes. After receiving lesson reflections from the participants about their lessons incorporating literacy strategies, I reviewed the participants' reflections to search for thematic similarities. At the same time that the data were analyzed, they were coded for

commonalities. Using an emergent strategy, a list of significant descriptors was developed during data analysis. The descriptors were divided into segments and were then reviewed for commonalities for the sake of developing an open coding system. The researcher had to "read through text, make marginal notes, [and] form initial codes" (Creswell, 2013, p. 190). This process allowed me to look for commonalities to determine whether there were consistent themes. Afterwards, the data were organized and coded by "significant statements" in a process called "horizonalization" (Creswell, 2013, p. 82). According to Moustakas (1994), during horizonalization, "every statement initially is treated as having equal value" (p. 97).

The statements gathered during horizonalization were analyzed, and any "statements irrelevant to the topic and question, as well as those that were repetitive or overlapping, [were] deleted, leaving only the horizons" (Moustakas, 1994, p. 97). The remaining statements created "meaning units" or themes (Creswell, 2013, p. 193). From the data, the textural descriptors explained "'what' the participants in the study experienced with the phenomenon" (Creswell, 2013, p. 193). Moustakas (1994) has referred to the "what" derived from the textural descriptions as phenomenological reduction. Moustakas (1994) has stated that "through the Transcendental-Phenomenological Reduction we derive a textural description of the meanings and essences of the phenomenon, the constituents that comprise the experience in consciousness, from the vantage point of an open self" (p. 34). In addition to the textural descriptions, structural descriptions were created to describe "'how' the experience happened" (Creswell, 2013, p. 194). Structural descriptions have been referred to by Moustakas (1994) as "imaginative variation." The "essence" of the experience was written by "incorporating both the textural and structural descriptions" to explain what happened and how it was experienced (Creswell, 2013, p. 194). Moustakas (1994) has explained: "The final step in the phenomenological research process was

the intuitive integration of the fundamental textural and structural descriptions into a unified statement of the essences of the experience of the phenomenon of the whole" (p. 100). By synthesizing textural and structural descriptions, there emerged shared experiences among the participants.

Trustworthiness

To increase trustworthiness, validation strategies were used to increase the credibility, dependability, confirmability, and transferability of the study (Lincoln & Guba, 1985). In addition, triangulation increased the trustworthiness of the study, because it would "capture and report multiple perspectives rather than seek a singular truth" (Patton, 2002, p. 546). Triangulation increased trustworthiness since the information would come from different sources instead of one source. Purposeful sampling increased the trustworthiness of the study because it increased the diversity of the participants (Creswell, 2013).

Credibility

Credibility refers to the believability or plausibility of the research's results. Those results are based on participants having similar experiences with the phenomenon. The credibility of the study was increased with triangulation. Creswell (2013) has explained that triangulation enables researchers to "make use of multiple and different sources, methods, investigators, and theories to provide corroborating evidence" (p. 251). Multiple methods were utilized during the data collection: a questionnaire, interviews, and lesson reflection journals. Using reliable equipment during the interviews increased the credibility of the study. Afterwards, the interviews were transcribed verbatim by me. In addition, member checks were used to increase credibility: The participants could review the findings and transcripts and provide their opinions, if applicable. Peer review was used to increase the credibility of the

study. My study was reviewed by a dissertation chair, two committee members, and a research consultant. As my peers questioned the methods and meanings of my research, it caused me to be more accountable because the study was critiqued.

Dependability

Dependability refers to using accurate, in-depth descriptions of how an original study is conducted, in the interests of replicating the study in a different context. The dependability of the study was increased since the research was described accurately and thoroughly, so it could be reproduced (Creswell, 2013). The study's research design has been described and pertinent details from the study have been reported. All interview questions have been listed, and they were guided by the literature review. The interviews were audiotaped to improve the accuracy of the data reporting, thus increasing dependability. The interviews were transcribed verbatim to increase dependability, so if the study were to be reproduced, future researchers would have access to follow-up questions and comments.

Confirmability

Confirmability refers to a study's results being accepted or agreed upon by others. To increase confirmability, a detailed audit trail was conducted throughout the research study. Through accurate reporting of the research steps, I was able to assess the research process. Because the study uses a transcendental phenomenological design, I acknowledged my preconceived notions regarding the phenomenon. I attempted to be as "objective toward the research as possible, with an understanding that it can never be fully value free" (Patton, 2002, p. 574). By recognizing potential biases, confirmability was increased.

Transferability

Transferability means that a study's results may be similar even if the study is conducted in a different context. By providing detailed accounts about the participants and the setting, transferability of the study was increased. Transferability was increased when using purposeful sampling (Creswell, 2103). The criteria for choosing the participants for this study were clearly stated, so future researchers would be able to model similar studies accordingly. It is accepted that it is difficult to replicate studies and have them be identical to one another because the participants and settings will be unique. However, this study can be transferred to another setting if future researchers use "shared characteristics" to develop their own studies (Creswell, 2013, p. 252). The validity of the study was improved as its design could be transferred to other participants and settings that have similar traits.

Ethical Considerations

Ethical considerations included receiving approval from the IRB, the school district, and the principals, and informed consent from the participants before conducting any research. Confidentiality was maintained by using pseudonyms for the school district, the high schools and participants' names. All data were securely stored in a password-protected file. Any physical data were stored in a locked storage case. The storage case was located in my home office. I was the only person with access to the locked storage case. The collected data will be destroyed three years after the research is published. Physical data will be shredded.

Summary

This chapter described the qualitative research study using a transcendental phenomenological approach. The study was conducted in high schools in a rural, southeast Virginia school district. High school science and social studies teachers' self-efficacy regarding

their incorporation of literacy instruction in content area classrooms was explored. Data were collected through questionnaires, interviews, and lesson reflection journals. The data were analyzed using a transcendental phenomenological approach to discover the essence of the phenomenon.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this transcendental phenomenological study was to explore high school teachers' sense of self-efficacy regarding the incorporation of literacy instruction in high school science and social studies classes in a rural, public school district. Chapter Four outlines the analysis of the participants' responses to the TSELI questionnaire, the in-depth interviews, and completed lesson reflection journals in order to answer the central question and sub-questions. Using these three data sources, a rich, detailed description of the participants was obtained regarding their beliefs in their ability to include literacy instruction in their content areas.

Participants

The participants in this study taught one or more of the content areas that are most often required for graduation with a standard or advanced diploma (VDOE, 2018a). All participants received a pseudonym to protect their privacy. For the study, participants completed the TSELI questionnaire, answered interview questions, and completed a lesson reflection journal. All participants' interviews were transcribed and then presented to them for auditing and approval. Table 1 provides a tabular form of the participants' years of experience and content areas.

Beth

Beth has been teaching high school history for 35 years. She has taught in one school district throughout her career. She taught US and VA History. She chose the social studies discipline and grade level because of an influential high school social studies teacher. Another reason for choosing the high school level was her love of the local community and the opportunity to have conversations where she could engage with older students (Beth, personal communication, October 15, 2018).

Beth said that her general students' reading needs were "needy." Students had a difficult time reading the material, and as a result, she had "watered [the material] down" to match the students' reading abilities (Beth, personal communication, October 15, 2018). She believed students could answer basic questions that did not require a great deal of thought. She referred to this as "cut and dry" answers and said students had trouble with "higher-level thinking" (Beth, personal communication, October 15, 2018). For students with a learning disability, she did not believe there was much difference in their reading needs from those of the general education students, because not all learning disabilities were reading based. For the students who were ELLs, Beth believed they had trouble "knowing the words and also understanding context because they [did not] always understand how we might use a slang term or how we might use an expression they would have difficulty with as well" (Beth, personal communication, October 15, 2018). Beth considered reading levels based on the students' overall abilities, not individually. If the reading level was challenging for particular students, she would offer to work with them individually to provide extra support. She thought that students could pronounce words, but they did not know what the words meant. She stated that students have become surface readers without much critical thinking ability.

Beth used several types of literacy strategies in her class to aid her students with reading comprehension. She defined literacy instruction as students being "able to read and understand outside of my classroom" (Beth, personal communication, October 15, 2018). She said she utilized the guided reading method the most and used this "a couple times a week" (Beth, personal communication, October 15, 2018). She created fill-in-the-blank questions and review sheets for the students. She did not include explicit morpheme instruction in her lessons. Beth used graphic organizers "sometimes," such as flow charts. She did not use traditional textbooks

but paraphrased material for the students or used primary documents. Almost all the students' reading was completed independently. Beth said that it was important for students to view primary documents, because "it's very important to see the actual language because it's different than what we say, what we feel, [how] we speak [now], and then help them interpret what that means." She did not make students view the entire version of the primary document, such as the Declaration of Independence, but she saw the value in them reviewing parts of it and discussing what she considered relevant passages from it.

Beth stated that she was confident in her ability to include literacy instruction in her classes but wished she had more time to include it or try different strategies. She said, "I just don't feel like I have as much time to do as much as I used to do like a long time ago" (Beth, personal communication, October 15, 2018). Beth explained that she took a reading class for certification about 25 years ago and she learned how to gauge reading levels, but she has since forgotten how to do that. She had not had any explicit literacy training after that course. She said, "For the past 20 years, the focus has been what they've got to learn, the facts, to pass the SOL test. If that means they don't read, they don't read" (Beth, personal communication, October 15, 2018). She saw value in knowing students' reading levels because she believed she could choose better texts for them. For instance, if the students had a lower reading level, she would know to paraphrase the Declaration of Independence instead of expecting the students to read it independently. She would know which students to focus on for help. Beth believed her strengths in literacy instruction were helping students learn difficult vocabulary and memorize the facts they needed to pass the end-of-the-course assessment.

Beth wants to develop her strengths in literacy. She wants to see students "be more critical readers where they understand what they're reading." She said students needed more

practice with reading and more accountability to prove they have read. However, she believed, since her "subject is so content heavy," that she did "most of the talking" (Beth, personal communication, October 15, 2018). She said that students expect her to tell them the answers instead of them reading the material and making meaning from it themselves. She said that "[the students have] gotten used to, don't make me read this and answer your questions ... Just tell me ... It's quicker; it's more efficient. Just tell me" (Beth, personal communication, October 15, 2018). For Beth, the main motivator she used was grades, and she said that was unfortunate. To increase engagement, she believed teachers "have to get them to accept that fact that what we're learning about applies to them" (Beth, personal communication, October 15, 2018). She hoped that if the end-of-the-course assessments change, then literacy instruction would be increased in social studies.

Carson

Carson has taught chemistry for three years. Initially, Carson thought he was going to attend medical school, but after one Foundation in Education course, he decided to teach high school chemistry. He was already studying the subject in his undergraduate courses. Carson was open to teaching either middle or high school students, but he had the opportunity to teach high school first. He has taught at two different high schools in two separate counties. He enjoys the "relational power" of teaching and working with older students (Carson, personal communication, October 2, 2018). He enjoys the mentor role he has with the students and the opportunity to influence their lives.

Students enrolled in chemistry classes tend to be better readers, since it is not required for a standard diploma. However, Carson believed that his students would benefit from working with more challenging texts. He said it was difficult to gauge their reading levels and reading

comprehension levels because he did not "see them read and … show, demonstrate … reading comprehension" (Carson, personal communication, October 2, 2018). Carson had never taught students with a learning disability in a class. He believed this made his experiences with students and the inclusion of literacy instruction more positive. He has taught students who were ELLs, and he noticed they had literacy strategies they used, like underlining main words. He provided students who were ELLs with a dictionary, so they could look up the English words in their language. The challenge for Carson was "getting them to get vocabulary" because there was "very specific science vocabulary." Overall, Carson's students who were ELLs read and comprehended satisfactorily. They expressed themselves well and were able to write well. Because of this, Carson said that he seldom used explicit literacy strategies in class beyond vocabulary and highlighting important words and key points.

For the definition of literacy instruction, Carson defined it as the students being "able to read well and comprehend things." Carson has had no training or post-college training in literacy inclusion in a science classroom. He did not use the textbooks but chose to create his own notes for the students. Carson said, "I write my own notes and a lot of the weird words are often scientific words [that] are bolded and italicized." He defined the words for the students in the notes he provided. He said, "I try to do the work for them essentially" (Carson, personal communication, October 2, 2018). Most of the information was from his own college texts or college notes. He did adjust the reading level for the students, and he based that judgment on what he gauged in class; he did not use any specific reading assessment. Carson said, "I'm going to do the work of figuring out how to present this in a way that makes more sense and in language." He put the information in simpler sentences and shortened the length of the text.

Carson chose published laboratory assignments or wrote his own laboratory assignments with clear instructions, and he worked closely with the students during laboratory work, because there could be a dangerous outcome otherwise. If his students do not read the steps and follow them closely, they could injure themselves or their classmates. Carson explained: "If you do [the laboratory] wrong, your grade is going to plummet and you're gonna have to start over, and you may hurt yourself." Because of this, strong reading skills are valuable, unless the teacher has compensated by choosing or writing assignments that are easier to understand. Personal safety was one motivator Carson used to encourage close reading. He believed the students "[were] pretty good about it" (Carson, personal communication, October 2, 2018).

A challenge for Carson was having enough class time. With classroom interruptions that occurred throughout the year, he believed he lost 45 hours of instructional time in a school year. He said he lost "72 percent of instructional time" since he was no longer working in a school district that had "seven periods [of] 55-minute schedule" daily (Carson, personal communication, October 2, 2018). With students having to be prepared for their end-of-the-course assessment, Carson did not believe he had time to introduce more complex reading, because it would take additional scaffolding to prepare students for this challenge. Carson explained: "Like, I value reading. I think reading is more important than chemistry ... But the problem is, like, time ... I'm running out of time." For instance, if he asked students to read a scientific paper on their own, he would have to teach students about the format of a scientific paper; for instance, the abstract, the italicized keywords, the methods section, and conclusion. Even though Carson did not believe he used explicit literacy instruction in his class, he still did try to promote literacy by talking about books he was reading with the students. His primary motivation tools for students were the grades received on the class assessments and end-of-the-course assessments.

Devin

Twelve years ago, Devin began teaching agriculture classes. He chose the profession and content area because of influential teachers. He has been an agriculture teacher, an assistant middle school principal, an elementary school principal, and now a science teacher. He prefers the high school grades, because he can have better conversations than at the lower grade levels. He has worked in three districts in the state of Virginia and one district in West Virginia. This was his first year teaching Earth Science and Biology.

Devin has noticed a decrease in reading levels among the students. Devin claimed that about 70% to 80% of his students were reading below grade level (Devin, personal communication, October 13, 2018). He stated that students in lower grades, such as elementary school, did not have as much of a reading level gap as older students seem to have. For students with a learning disability, he said that he tried to provide them with more assistance and more time, but he did not feel qualified to help them appropriately, since he did not have special education or reading specialist training (Devin, personal communication, October 13, 2018). Devin did not believe he had any experience working with students who were English language learners. According to Devin, the reading level affected students' abilities to read independently, to pass the state assessments, and to believe in their capability to be lifelong learners.

To compensate for the lower reading ability of his students, Devin often included literacy instruction in his classes. He said, "I help them with context clues and those types of things, but I need more help in that area" (Devin, personal communication, October 13, 2018). He focused on vocabulary in his classes. Devin included "prefix, suffix, root word type of things. I also have interactive notebooks." He did not require memorization of vocabulary, but instead he asked students to put the words into their own meaning. He said that he would ask the students,

"Tell me again what that means in your own words" (Devin, personal communication, October 13, 2018). His ultimate vision of success was if students could teach other students what they knew. Even though he believed that the more students read, the better readers they became, he did often read aloud to the students and did not often require independent reading. Devin explained that when he read aloud to the students he believed they were more likely to follow along with him because of the questions they asked. He had a different experience when students were reading independently. He said, "They're not getting it" (Devin, personal communication, October 13, 2018). Because of this experience, Devin stated that about 15 to 20 minutes per week of independent reading was required. Behavioral problems increased when students were asked to read independently. He stated, "They shut down" (Devin, personal communication, October 13, 2018). He believed this was because of frustration due to the students' lack of ability and practice.

Often Devin began an assignment with a pre-reading activity, asking students to predict or use their prior knowledge about the subject. They read the material and answered questions. Devin used the school's textbooks, online sources, Edgenuity (an online curriculum program), trade books, and newspapers for his class texts. He tried to use interesting articles to encourage reading and increase students' interest in science and encouraged them to be independent readers. He did consider the reading level of the texts. He did "not want to dumb it down," but he would "find [texts] on the same content but using different language, if you will, easier words for them to understand" (Devin, personal communication, October 13, 2018). His goal for his students was "for them to be independent readers" (Devin, personal communication, October 13, 2018).

Devin stated that he was not comfortable with including literacy instruction in his classes since he had had little training. He had had one class in college on literacy and had never had any professional development in it. Devin said he wanted to know whether his "students are getting the appropriate instructional strategies they need for reading, and with me not having such a background knowledge in reading content ... I think that [more literacy training] would be even helpful for me." If Devin needed literacy help, he would ask the English teachers and reading specialists. He did not believe they often had viable solutions for him. For his own literacy education, he had received one class in college on reading strategies and said it had been mostly geared toward elementary level. There has been little professional development in literacy since working in the teaching profession. He stated that he was "trying to push content" during most of the class time (Devin, personal communication, October 13, 2018).

Janice

Before education, Janice was in supervisory positions in the agricultural industry, but she left that because she believed the teaching profession would be better for her family obligations. She has taught for 11 years in the same county. This year she taught biology. She prefers the high school level because she likes teenagers and enjoys using sarcasm to add humor to her classroom.

Janice believed that the reading level of students has decreased, and it was "worse" for students with learning disabilities (Janice, personal communication, October 9, 2018). She did not teach any students who were ELLs this year. She said, "[General education students] do not dive deep, to dive deep means you have to read, you have to enjoy reading and these kids want … to do as little as possible" (Janice, personal communication, October 9, 2018). She believed texting has "dummied" students' vocabulary, so she has to spend time teaching vocabulary to the

students (Janice, personal communication, October 9, 2018). Because she perceived students as having a lower reading level, Janice did not use the textbook. She found her own materials and simplified the text for the students. The text she chose was "based on stuff that's not dry" (Janice, personal communication, October 9, 2018). She said that "I've highlighted all the important things and this is what they have to go back to, to answer the questions" (Janice, personal communication, October 9, 2018). In order to create the texts and worksheets, Janice added, "This takes an incredible amount of time." Students followed the text while she read to them. She said that "we do have stuff to read and usually I read it" (Janice, personal communication, October 9, 2018). She did not ask the students to read aloud because she did not want to embarrass a student. There were places to take notes. Janice said that all the students had to do was "put the words in and they follow along."

To keep students interested, Janice used pictures within her text and changed the font size and style. She said: "[Changing the font size and style] keeps your eyes active" (Janice, personal communication, October 9, 2018). She used YouTube videos as much as she could and provided students with video worksheets to complete while they viewed the video. Janice believed that students learned better if the information was presented in the most interesting way possible. If she thought a lesson or article was boring, so would the students. She brought in props to keep the assignment relevant and fun. For instance, she brought in a pig liver to discuss cirrhosis. Janice explained that she "[brought] in a big old pig liver, and they get to play with it, and I get to talk about this gorgeous mahogany color and that if you eat the wrong foods, it's going to turn yellow with fat." She connected the lesson to concepts that the students would have experiences with or care about. Most students knew family or friends who had been diagnosed with cancer or had had heart attacks, so she used their personal experiences to help them connect to science

topics that related to those better-known illnesses. To engage the students, she did not let the SOL guide her pacing; therefore, she took longer than her peers did to work through the standards. Janice said it was an "injustice to rush." However, she did lament that even though she was slower than her peers to get through the SOL, she could not sidestep it completely. She thought this affected her creativity as a teacher and lowered students' interest.

Janice taught the prefixes consistent with science vocabulary. More importantly, she helped students "tear words apart" (Janice, personal communication, October 9, 2018). She saw the skill of decoding words as one that students could use in all disciplines and in their future. She stated that the SOL words were "tricky," such as the word "optimal" (Janice, personal communication, October 9, 2018). Most students did not know or use that word in their own lives, so she had to teach them how to approach a word. She asked them to consider what other words it sounded like to develop their own definitions. She tried interactive notebooks but did not think it was effective. She did not think she was "getting any bang out of it" (Janice, personal communication, October 9, 2018).

Janice had had one class in college on literacy, but no professional development once she became a teacher. She requested that any future training should demonstrate how "to integrate [reading strategies] with my materials so it is meaningful for me" (Janice, personal communication, October 9, 2018). However, all of her literacy choices were intentional and based on feedback from the students. If a strategy was not working, then she was willing to try something new.

Jon

Jon has taught social studies for 14 years. He chose the profession after taking an education course in college. After a middle school college practicum placement, Jon knew he

wanted to teach high school students only. He preferred the maturity and conversations of older students. Jon taught World History and World Geography this year.

Jon described his students as not being able to read or process the information. Jon said, "I don't think [the students] get a lot of deep context" (Jon, personal communication, October 16, 2018). Not reading enough might be one reason why students were not able to read critically. Jon said, "But as a whole, I don't think they're getting enough reading at all." For students with a learning disability, Jon believed that they struggled with "basic instructional stuff" and processing ability. The skills that Jon referred to when he discussed the reading needs of students identified with a learning disability was "processing what they need to do through written instructions … and then from there it's the ability to then articulate that in written form." His concern was the students' inability to summarize information and determine the main idea of a passage. Not being able to perform those two tasks made it more difficult for students to pass the end-of-the-course assessments. Jon found that his students were unlikely to ask for help and "shut down" when they were uncomfortable. He created lessons to keep students engaged. Most of Jon's texts were from internet sources he had "chunked" together to work for his students' ability levels and interests. He chose the length of the passages based on what will not overwhelm the students and will match the length of the reading passages found in the end-of-the-course assessments, usually three to four paragraphs in length. Jon used himself as a "barometer" of what to use as texts. If he could not read it, he assumed the students could not either. If he was not interested in a text, he assumed they would not be either. Jon said that his literacy strength was his ability to find multiple text options. He called it "hunting" (Jon, personal communication, October 16, 2018). He said that "I set up my own parameters, like, okay, I don't want something too long because they're going to get overwhelmed with it" (Jon,

personal communication, October 16, 2018). For instance, he used modern translations of documents instead of having students read the original documents. As long as the students knew what the document said and meant, he did not think it benefited the students to read the older versions in the older language.

To promote literacy, Jon had students read independently every day. Jon said that he tried to "have reading in all my classes every day ... even if it's a short passage or something." He assessed students' reading and comprehension ability based on their capacity to answer the questions and participate in subsequent class discussions. He stated that the questions were "not earth-shattering questions" but "basic questions" (Jon, personal communication, October 16, 2018). If students did not appear to understand a concept, Jon found another reading passage that explained the concept. As a class, the students discussed the vocabulary first before they read the text and answered questions. He used graphic organizers because it helped students with organization. He provided test-taking strategies in his instruction and asked students to review the questions prior to reading the passage.

Jon had little training in college on how to incorporate literacy instruction in his classes. He has received no training in literacy instruction since teaching. Because of his lack of training, he said that his comfort level was "pretty low" and that he "was not a good reader in school" (Jon, personal communication, October 16, 2018). For these reasons, he stayed "within [his] comfort zone" (Jon, personal communication, October 16, 2018). He said, "I don't do things unless I have a competence, like feel I am competent at it" (Jon, personal communication, October 16, 2018). His hope was that there would be more discussions among the disciplines, so the teachers could be intentional about what was covered and how it was covered. He said that "I think that the fact that we don't talk across the curriculum is a big deal" (Jon, personal

communication, October 16, 2018). By talking with the different disciplines, specifically English concerning literacy, Jon believed that teachers could encourage one another regarding what to include in their classrooms to help each other in their disciplines.

Kristy

Kristy has taught social studies for 20 years in one Virginia county. She began teaching because she had an influential social studies teacher in high school. The ability of high school students to discuss topics more deeply was why she chose the high school level. This year she taught US and VA History.

Kristy stated that there has been a decline in students' ability to read and write since the state adopted the SOL. She said, "I've found in the past, at least decade since we've had the SOLs that there's been a decline in the students' abilities to read and understand what they're reading, and apply their reading" (Kristy, personal communication, October 11, 2018). The decline in reading ability led to Kristy often choosing to read aloud to her students. In the past, she would ask her students to help her read, but she has noticed that fewer students offer and she did not want a student to feel "inferior" to his or her peers, so she did all the reading aloud now (Kristy, personal communication, October 11, 2018). She said that students "avoid" reading "altogether" (Kristy, personal communication, October 11, 2018).

Since Kristy had a collaborative class with a special education (SPED) teacher present, Kristy used the SPED teacher to assist struggling learners. She said they "separate, divide and conquer" (Kristy, personal communication, October 11, 2018). For students with learning disabilities, she accommodated their needs by providing extra time or by modifying the length of an assignment. She said their reading needs were "lower than average" (Kristy, personal communication, October 11, 2018). Some students with learning disabilities were offered read-

aloud for assessments and were allowed to have their writings transcribed by the SPED teacher. Kristy stated that students who received read-aloud accommodations did not seem to perform better than the students who did not have a read-aloud accommodation. Kristy did not currently have students who were ELLs. She had taught students who were ELLs in previous years. Kristy noticed that there was a variety of needs within that subgroup, so what would work for one student who was an ELL may not work with or be needed by another student who was an ELL. She said that students who are ELLs might "feel lost" in a classroom (Kristy, personal communication, October 16, 2018). During her previous experiences with students who are ELLs, Kristy utilized the ELL teacher to help meet the students' needs. The ELL teacher would often follow up with the students during their scheduled class to help with class readings or assignments.

Kristy stated that in addition to the SOL negatively affecting students' reading and writing abilities, social media had negatively affected these too. Also, students' shorter attention spans made them unable to, or disinterested in reading and writing independently for any length of time. Students wanted "instant gratification," so they were less inclined to read longer texts or investigate more deeply on their own now (Kristy, personal communication, October 11, 2018). Kristy had noticed that students could not write in Standard American English without using "texting" language, such as using the lowercase "i" for the pronoun "I" and forgetting to capitalize proper nouns now. Kristy's classroom rule was that students could not have their cell phones out until an allotted time. If students thought they could have their cell phones out once their work was completed, she found that the "quality of [their] work goes down because all [they are] thinking about [is] getting [their] phones out" (Kristy, personal communication,

October 11, 2018). Kristy said students "can't disconnect" and she believed this negatively affected students' attention while in class.

In Kristy's classes, she used vocabulary lists and matching quizzes to assess understanding. The vocabulary was guided by the curriculum that was guided by the end-of-the-course assessment. She said the students did need vocabulary instruction for words specific to social studies, but also they need to learn vocabulary for "everyday language" (Kristy, personal communication, October 11, 2018). She taught students how to break words apart and use context clues to find the meanings. For the read-aloud activities, students followed along while she read, answering guided questions. She prompted the students when to stop and answer the questions, because she said students did not know where to find the information themselves. Kristy said, "We discuss and then either they're going to fill out that study guide independently, or with a partner sometimes if it's more difficult; as a class, we do that." She tried to show the students how to use a topic sentence to recognize what a paragraph is about, but she did not know whether they could or would apply the reading strategy independently.

Kristy wanted students to read and write effectively, because it would be valuable after they graduate. Students themselves did not see this value yet. She said she was comfortable including literacy instruction in her classes, but she tried "to avoid it just for the sake of time," because the class has to "cover all this information by a certain date, have [students] ready for the test" (Kristy, personal communication, October 11, 2018). Kristy believed that students did not acknowledge the connection between English and all other disciplines and life. If she had more time and no pressures from the state assessments, she would want to combine disciplines so students would experience how English and social studies in particular complement each other.

Kristy explained: “If I’m teaching a little English or a little math along with my social studies, then so be it. Because that’s life. It’s not divided into different classes.”

Louis

Louis has taught for 27 years in two Virginian counties. For the first 17 years, he taught middle school science. He enjoys the high school age, because the students present themselves more maturely. He taught Earth Science and Biology. Both courses have a state end-of-the-course assessment.

Louis believed that the general education students’ reading needs included a “pretty wide range” of abilities (Louis, personal communication, October 1, 2018). He said that students “have developed different strategies to compensate for their lack of reading ability or their lack of literacy skills” (Louis, personal communication October 1, 2018). In a collaborative class, he used the SPED teacher to pull students out who might need more support with the reading they were doing. Louis believed he had to “scale everything back” to help meet the needs of students identified with a learning disability. For ELL students, Louis viewed the reading needs as a “language barrier” and used Google Translate for assistance (Louis, personal communication, October 1, 2018). His only foreign language experience was with Latin, so he did not know how to communicate in the language most often spoken at his school by the majority of its ELL students.

To prepare students for the assessments, Louis focused on vocabulary. He helped students decode the vocabulary by teaching Latin and Greek morphemes, because most science terms use them. Louis said, “I try to give them root words or trying to give them examples of things that will help them with their vocabulary down the road.” He assessed the students’ understanding of these morphemes through weekly quizzes. Louis believed that by helping

students with their vocabulary knowledge, it would compensate for their lack of reading skills. Louis said that students did not comprehend what they read. His vocabulary focused on keywords that were used in the end-of-the-course assessment. He said that he would like the end-of-the-course assessments to include a plain English version, like the state offers with mathematics assessments. Students might know what a "killer whale" was, but the assessment would call it an "orca," thus confusing the student (Louis, personal communication, October 1, 2018). Louis adjusted his texts to a fifth- or sixth-grade reading level because of students' reading deficiencies.

Because students lacked comprehension skills, Louis did not have them read independently much. Louis said, "So most of my instruction in both disciplines is, is me, is direct instruction with me." He did not use the textbooks, because they were written beyond the students' ability levels. He explained: "I teach [with direct instruction and PowerPoint slides] more than I do with textbooks, just because so many kids struggle with reading and they struggle with reading comprehension" (Louis, personal communication, October 1, 2018). When he included supplementary texts, he chose reading materials based on the students' interests and the level of difficulty. He wanted students to read the newest, most relevant information. Louis said that he "[tried] to give readings based on the audience of the kids," so he would "read over it [himself] and decide whether or not [he] think[s] the kids can read it." In the past, Louis tried to connect literature and science. For instance, he used Michael Crichton's novel *The Andromeda Strain* in class. However, the SOL created time constraints, so students were usually required to read one independent science article every 30 days, which they had to summarize.

Louis believed students needed to read more. He acknowledged that as a student he learned better with hands-on activities, but to help students in their future, teachers have to work

on them being able to be proficient readers by the time they graduate. Louis said his level of comfort with the inclusion of literacy instruction was "very weak." He had no training and "picked up [strategies] from watching other people." Louis saw all teachers as being part of the process to increase students' literacy abilities. He said, "I think all secondary teachers could benefit from having an in-service or having some type of literacy specialist kind of explain what we're doing and what we need to do" (Louis, personal communication, October 1, 2018).

Madison

Madison has been teaching for ten years for the same county and was currently teaching World Geography this year. Being a teacher was all Madison has wanted to be. She chose social studies because of her own great social studies teachers. She chose high school because with older students she believed she "[could] have an adult conversation" (Madison, personal communication, October 8, 2018). Her ultimate focus was to teach the content and have students pass the end-of-the-course state assessments.

Madison believed that her general education students were "struggling readers." Madison perceived herself as ineffective at providing students with reading strategies and that she was "more equipped" teaching them test-taking strategies. Madison stated that reading strategies and test-taking strategies were similar in design though. For students identified with a learning disability, Madison thought they had similar needs to general education students, but "on a different level because sometimes the disability hinders them even more from learning how to read." For her students who were English language learners, the language barrier was a difficulty they must overcome. She had not had specific training for these students' needs either. She did not "feel like we're equipped with the resources they need" (Madison, personal

communication, October 8, 2018). Her school had an ELL teacher, and she utilized that resource to help the students with homework and reading assignments.

To help students pass the end-of-the-course assessments, Madison focused on vocabulary. In her experience, the vocabulary chosen for the assessment was difficult for students. For instance, instead of using the word "farmable," the assessment used the word "arable," and students had trouble remembering the definition of the word "arable" even though they knew what "farmable" meant (Madison, personal communication, October 8, 2018). Madison stated that students needed to know the synonyms of the words used in the assessment, so they could answer the questions correctly. To help students with the World Geography vocabulary, Madison tried to expose the students to the words multiple times with their corresponding, student-friendlier synonyms. She said, "But I think it's just that repetition and making sure that they are exposed to the word on a regular basis or as regular as possible" (Madison, personal communication, October 8, 2018). Madison did not use vocabulary lists because she did not think they were an effective way for students to learn these terms. She believed copying definitions from a glossary was not an "active" activity and had little benefit for the students (Madison, personal communication, October 8, 2018). She used mnemonic devices and acronyms to help students remember facts and locations for their end-of-the-course assessments.

Madison did not feel adequately trained during college to help students with their reading needs. She has received no additional training. Madison said, "I don't think that's something that colleges really prepare you for," and "I really don't feel that I have the knowledge to do that well in my classroom." She said the end-of-the-course assessment was a reading test, but some students could not read or would not read the passages. She neither felt equipped to help the

students with literacy instruction, nor felt like she had the time to invest in it. According to Madison, students felt the reading passages in the assessments were too long for them to read, so students became "lazy," and they would pick an answer without reading the passage first. They then moved on to the next passage and question and used the same technique. Madison encouraged students to read the passages, because it increased their likelihood of choosing the correct answers, thereby passing the assessment. Therefore, she reviewed the released passages with her students to build their confidence and prove to them that they did have the skills to comprehend the material. Madison said, "Part of it's just like showing them that [they] can do this. It's not that bad." Madison did not use the textbooks other than for the maps. She said students performed better on map quizzes and tests, and thought it was because there was less reading. The texts she most often used were notes she had created and gave to the students as a Google document. She had not modified the reading level. She did "like to find little excerpts" for students to read, because too much text would "turn them off and they're not going to read it anyway" (Madison, personal communication, October 8, 2018). She also used web quests and multimedia slideshows that contained video clips in her classes.

Madison's experience has taught her that students perform better on assessments if they have them read aloud, but unless students have that as an accommodation on their individualized education plan, they cannot have texts read to them on test day. She explained that "it's almost like hearing it and processing it is easier than reading it, processing it" (Madison, personal communication, October 8, 2018). Because most students could not have a read-aloud accommodation, she seldom read aloud to her students or allowed them to use audio options on her assessments or assignments in classes. She did not think her students connected the importance of being literate to their courses other than English or their lives. Madison believed

that if teachers could get students interested in something, then that was "where the learning really starts to happen." Unfortunately, time and content constraints limit how deeply she could go with her material.

Monica

Monica has taught for 15 years. Her love for coaching led her to teaching. She has taught in two counties in Virginia. This year she taught Earth Science and Chemistry I. Monica's experience had been that the students' reading needs were higher than she had anticipated. Monica said that "my general education students read under their grade level and don't read with fluency and they have difficulty comprehending what they're reading" (Monica, personal communication, October 11, 2018). Her lessons had to include more scaffolding to meet those reading needs. Monica stated that students appeared "nurtured the whole way through" and were resistant to gaining independence academically. Particularly, Monica thought that students with a learning disability were "coddled." She noticed that students with a learning disability were never expected to read for themselves. For Monica, her past ELL students appeared to be more motivated than other students were. She said the reason for the motivation may be a "curiosity of being able to decipher like a new, a new language" (Monica, personal communication, October 11, 2018). From these experiences with her general education students, students with a learning disability, and ELL students, Monica questioned whether all students were unable to go beyond surface answers because of their lack of ability or because of their insecurity regarding failing. Students wanted easy answers that were given to them. She did not believe students were willing to investigate a subject more deeply.

Monica did not use textbooks. She adjusted the reading level from sources found online, such as articles from the *Science News for Kids* website. She "truncate[d] everything" to make

the information easier to read (Monica, personal communication, October 11, 2018). Monica said, "If I need anything, if I need to give them anything text related, I'll find it or create it." Her passages were usually one paragraph, especially if she had students read independently. Monica explained: "If it's got to be an independent [read], it's got to be short, sweet, concise." Usually, Monica read the passage aloud, or if it was a collaborative class, the SPED teacher read it aloud. She chose passages that she hoped the students found engaging and on topics that were relatable.

To teach students the vocabulary needed for the end-of-the-course assessment, Monica used flashcards to help students learn. She did not find value in copying vocabulary words and their definitions from the glossary to paper. Monica said, "I just despise doing like vocab lists ... because I just don't think they work." With vocabulary, she helped students find synonyms for challenging words. She had the students create flashcards. Monica chose reading strategies that students appeared to enjoy, such as graphic organizers. She said, "I just feel like students really enjoyed doing graphic organizers, and I don't know if it's a way for them to kind of chunk things in their brain" (Monica, personal communication, October 11, 2018). She used reading guides to help students highlight the most important points for the assessment. To motivate students to use reading strategies so they would be more likely to pass the end-of-the-course assessment, she used an extrinsic reward, namely grades. However, she said she had not seen students use reading strategies independently. Monica did not believe many students used the reading strategies they were taught when working independently. Most often, the reading strategy she noticed students using independently was highlighting or underlining.

Monica had had one literacy class in college and no professional development in literacy instruction since working. Even without literacy courses or professional development, Monica believed she was "moderately competent" in terms of including literacy strategies in her classes.

Although she felt competent to include literacy instruction, she said the main focus was "probably more on content than anything" (Monica, personal communication, October 11, 2018).

Natalie

Natalie has taught for five years. While in college, she was deciding between business or teaching. She chose teaching because she liked school herself and it seemed natural for her to go into the profession. Growing up in this part of Virginia provided Natalie with a love for history, because the area is so rich in it. This year she taught World Geography and US and VA History.

Natalie stated that her students were able to read the words in front of them; that was not the reading problem. The real concern for her students was that they could not comprehend what they had read. Natalie said her experience working with students to pass the general education development program (GED) caused her to believe that reading comprehension was a problem. She stated, "[Students] can read [the GED test], but they have no idea what they just read" (Natalie, personal communication, October 7, 2018). Natalie explained that the accommodations for students with a learning disability were "usually read aloud or extended time." She modified their notes and read aloud to them. Because of the lack of reading comprehension ability, Natalie found herself unable to include more project-based assessments for her students, since projects require more work that is independent. Natalie said that "there were so many projects I'd like to be able to do with them, but they'd have to do [them] on their own and they don't have the skills to do it on their own." Instead of self-guided projects, she used a more traditional approach to teach the SOL. She provided the reading selections and guided the learning. Natalie has little experience teaching ELL students.

Natalie did not use the textbooks to teach her content. She used government websites, such as the national parks websites or the Smithsonian, to find reading selections for her

students. Usually she retyped the information to their reading ability level. Natalie said, "So anything I've used, it's what I've created or I've found online and like adjusted to what I need." She stated that she had spent up to "six hours a day retyping" information (Natalie, personal communication, October 7, 2018). The Newsela website was used often because she could adjust the reading level without having to do the work herself. Even with the reading levels adjusted, she read to the students. Natalie said her students "hate, hate reading." She found that when she read to the students they did not get as frustrated as quickly and were able to grasp the content better. Natalie said, "If I read [texts] to them, [students] can usually get it because what I'll do, I'll read a little bit of it, explain what I read, keep reading, explain what I read." She did not focus on vocabulary, since many of her students came in with prior knowledge from previous social studies courses. Natalie said the vocabulary "overlaps" from one year to the other, so she did not think she needed to spend as much time on it. She focused on teaching the main idea or the author's purpose, because that matched the end-of-the-course assessment's questions. Natalie showed her students primary documents, but she provided the modern translations with them for comprehension support. She used highlighting and underlining as literacy strategies and had students "underline the purpose of the document" (Natalie, personal communication, October 7, 2018).

Natalie stated that she had two classes in college that discussed "finding content area materials," but she did not believe she would say she was trained in literacy instruction. As a working professional, she attended conferences and chose ones that focused on adult literacy. She said she was "probably not very" comfortable about including literacy in her classroom (Natalie, personal communication, October 7, 2018). Her inadequacy stemmed from her not knowing the needs of her students. Natalie stated that the students were afraid of failing, so they

would not even demonstrate what needs they might have. She explained: "A lot of [students] don't want to even try because they're afraid to fail" (Natalie, personal communication, October 7, 2018). Natalie spoke to her English colleague for ideas to help her struggling readers.

Sean

Sean has taught high school science for 35 years. He has always wanted to teach people about the environment and grew up loving science. He prefers high school because of the students' level of maturity. Sean taught Earth Science and Astronomy this year.

Sean was concerned about students' lower reading levels and stated that there seemed to be a decrease in ability from year to year. Sean said that students seemed not to be interested in "self-discovery" but wanted to be guided to the answers (Sean, personal communication, September 27, 2018). He said that "even with some of [his] higher performance students, they seem to have, I would say, lower reading skills" (Sean, personal communication, September 27, 2018). He worried that the students did not comprehend much. For students with a learning disability, Sean said that these students had "reading comprehension farther below than what I would normally see, and again, I don't think they practice [reading]." He thought the students with a learning disability were lower now than in the past, which was similar to how he felt about general education students' abilities. Sean had little experience with ELL students.

Sean did not use the textbook. For his classroom texts, he used information from the internet, along with handouts he had created over the years. Sean said that "to get kids to buy in and get kids to participate, you almost have to start to go with what they're willing to do." Because of this philosophy, he used shorter texts and mostly videos. He said it was unlikely a student was going "to sit there and read that whole [two-page excerpt], honestly" (Sean, personal communication, September 27, 2018). When starting a unit, Sean taught the terminology first,

because science was like a "foreign language." Sean taught key terms and how they related to the key concepts as the basis for his lessons. The eventual goal was that students could apply these terms and concepts independently later in a formal assessment and/or visual explanation. He said he wanted students to "have a grasp of a key concept or concepts" and that he did not teach for "100 percent mastery" (Sean, personal communication, September 27, 2018). Concerning literacy concerns, Sean did not require much independent reading, but he said he hoped students became "a little bit more independent" with their reading.

A frustration Sean faced was working with so many diverse learners in a class that it was difficult to know how to influence a student's reading level successfully. He said, "It's really hard to start everybody at the same place" (Sean, personal communication, September 27, 2018). Sean preferred to focus on a student-centered approach to learning. Sean thought the end-of-the-course assessments had forced teachers to move too quickly along with the material and prevented them from stopping and allowing students to explore areas that interested them more. Sean explained that "we had to learn x amount of things in x amount of time and, you know, damn the torpedoes, you know." As stated earlier, he tried to engage students by using materials he thought they would enjoy, so he had students demonstrate their understanding in some visual format, such as modeling the moon phases using Google Slides or PowerPoint. Most of the written material Sean used had been adjusted for reading level, and difficult words were pre-taught to aid comprehension. For instance, students might not be able to pass a quiz, but they might be able to explain the process to him, and he considered that equally successful. Sean referred to this as using different "modalities" to assess success, such as acting out a scene to demonstrate the water cycle.

Sean had had little instruction in including literacy, so he did not feel overly confident in his ability. Sean said that "the training has not been very strong." Mostly he remembered professional development asking science teachers to include more reading, but the request was because of lower English SOL scores and, once the scores had increased, no one mentioned it again.

Tamara

Fifteen years ago, Tamara came to the United States from Nigeria. She started teaching at the elementary school level, until she decided to complete her high school certification so she could teach chemistry. She has been teaching high school chemistry for five years in this rural Virginia county. Tamara has taken extra classes in special education, specifically in autism spectrum disorder. Currently, she is taking classes to learn to teach reading in STEM programs.

Tamara taught General Chemistry I and Honors Chemistry I. She acknowledged there was a difference between her general students' reading needs and her honors students' reading needs. Tamara said to meet the reading needs of her general education students, she had "to be patient and break things down to their level" (Tamara, personal communication, October 25, 2018). She taught them "to read questions carefully [and] underline keywords" (Tamara, personal communication, October 25, 2018). She said that her general education students "just don't want to read," so she tried to make the material "applicable" to them (Tamara, personal communication, October 25, 2018). For her students with a learning disability, she said their reading needs depended on their disability, so it was more difficult to generalize. Tamara did not have any ELL students this year.

Tamara thought students' reading abilities had declined over the years, so she worked on vocabulary with the students. She included explicit literacy instruction in every class. She used

Nearpod, a presentation software program, and she had students take notes on Google Slides and expected the students to summarize the material and not copy and paste it. Tamara preferred the "backward method" design for lesson planning, and hoped that by having the students more active in their learning, they would better retain information and be interested in the subject. She defined the "backward method" as creating a "definition based on their experience with that word" (Tamara, personal communication, October 25, 2018). The goal was for the students to have ownership of the words. Tamara explained: "We have to explore to get into the meaning." She seldom provided the vocabulary definitions to the students, instead choosing to have them seek it out themselves.

Tamara said she rarely used the textbooks. She said she tailored her lessons for each class by rewriting what she had found. Tamara tried to "engage, explore, explain, expand, then evaluate" with her students; she referred to this as the "5 e's." If she wanted to share an article she had found online, she summarized the piece for the students because "[she and the students] still have crunch time, so there are so many things we would love to do, but we can't do all of them" (Tamara, personal communication, October 25, 2018). The end-of-the-course assessment did limit the amount of time students could spend on other activities.

Tamara believed she was "very comfortable" including literacy instruction in her classes, since she had many years of additional schooling. She had been trained through the Virginia Initiative for Science Teaching and Achievement (VISTA) and had attended classes at the Virginia Commonwealth University. There had been no professional development opportunities for literacy instruction through her own school division. One of her strengths was trying new strategies. Tamara stated, "I'm open to learning because things, new things come up every day."

Theme Development

Careful review of the TSELI questionnaire responses, the in-depth interview answers, and the completed lesson reflection journals led to initial coding, separating words or passages of text that had similar themes. These words or passages were organized to determine comprehensive thematic categories relevant to the research question and sub-questions.

TSELI

For the TSELI, I created an Excel spreadsheet to document the participants' responses. From these responses, I noted areas that appeared consistent within each discipline and then noted areas where there were discrepancies in the answers. Also, I compared the science and social studies TSELI responses for similarities and dissimilarities in their average scores. I considered these scores while developing the emerging themes. Using Creswell's (2013) steps for phenomenological data analysis, I used these similarities to "provide an understanding of how the participants experienced" their abilities regarding incorporating literacy instruction in their classrooms (p. 82).

Interviews

For the interviews, I audio-recorded the participants and transcribed the interviews. I provided the participants with copies of the transcripts, so they could check the interviews for accuracy. The credibility of the research was improved once participants approved their transcripts, called "member checking". Once I received all transcript approvals, I reviewed each participant's interview multiple times and highlighted significant statements, choosing a specific color code for the first few interviews. After establishing this color-coding, I used this whenever I saw similar themes in the other interviews. If it seemed that a new theme developed, I would use another color and then go back to review the previously coded interviews. Sometimes I

would notice that the color I had used for coding a similar theme in one interview was a different color in another interview. These highlighted topics developed into emerging themes. I used the colors for cross-referencing and created another Excel spreadsheet with these significant statements. I compared the statements, looking for thematic commonalities. I also added comment boxes as reminders of connections made with the other research sources. Horizonalization occurred as I discovered the similar "significant statements" from the participants regarding their beliefs in their abilities to incorporate literacy instruction in their classrooms (Creswell, 2013, p. 82).

Lesson Reflection Journals

For the lesson reflection journals, I created an Excel spreadsheet and documented the types of literary strategies used by the participants as indicated in their written statements. I highlighted their written statements, based on the color-coding from the interviews, to support the thematic similarities with the TSELI responses and the interviews. During this process, I had to bracket my own suppositions regarding what I considered a successful literacy strategy or what I considered "good" or "effective" teaching. According to phenomenological design, my purpose was to understand what the participants perceived about their ability to include literacy instruction in their classes and how they perceived their self-efficacy regarding the inclusion of literacy instruction. Using the three data sources, I synthesized the shared experiences of the participants.

After analyzing the TSELI responses, the in-depth interviews, and the completed lesson reflection journals, significant themes emerged. The themes were as follows: 1) Participants' Beliefs: Literacy Instruction Abilities, 2) Participants' Beliefs: Students' Abilities, 3)

Participants' Beliefs: Motivation Ability, and 4) Participants' Beliefs: Assessment-Driven Literacy Instruction.

Participants' Beliefs: Literacy Instruction Abilities

A theme that emerged from the three data sources was what the participants included in literacy instruction and how they perceived their abilities as they included literacy instruction. I reviewed the TSELI responses for similar results in the upper and lower scored responses for the participants. The TSELI responses were most useful for the participants' beliefs in their literacy instruction abilities theme, since the questionnaire was designed to assess the teachers' beliefs in their abilities. The TSELI instructs teachers to rate their current ability, resources, and opportunities to complete different literacy skills. The teachers rated themselves 1 (not at all), 3 (very little), 5 (some degree), 7 (quite a bit), or 9 (a great deal).

The TSELI questions that addressed students' oral reading abilities were questions 1, 4, and 9. For question 1 of the TSELI questionnaire, the science participants on average scored themselves higher regarding ability than the social studies participants in response to the question, "To what extent can you use a student's oral reading mistakes as an opportunity to teach effective reading strategies?" The science participants' average score was 4.7 (close to "some degree of ability" range), compared to the social studies' participants' average score of 3.8. Question 4 of the TSELI asked participants to score themselves on the extent to which they could provide specific, targeted feedback to students during oral reading. Science participants' average score was higher than that of the social studies participants, with the average scores being 4.4 and 3.2, respectively. Question 9 of the TSELI asked participants to rate to what extent they could get students to read fluently during oral reading. The social studies

participants' average score was a 3.8, while that of the science participants was a 3.3, which is within the "very little ability" range.

Questions 5 and 11 addressed the teachers' ability to improve their students' reading skills. In question 5, participants were asked how they could meet the needs of struggling readers. Science participants' average score was a 4.7 (close to the "some degree of ability" score), while the social studies participants' average score was a 3.6. Question 11 asked: "To what extent can you implement effective reading strategies in your classroom?" For question 11 of the TSELI, the science participants averaged a score of 5, meaning they were confident to "some degree of ability" to implement effective reading strategies in their classroom. The social studies participants' average score was lower than that of the science participants, at a 4.2. Based on the TSELI questions that best corresponded with the participants' beliefs in the literacy instruction ability theme, the science participants rated themselves as having a higher ability than the social studies participants' ratings of themselves.

With regard to the interviews, I used my coding system to develop significant statements and themes to create a textural description, describing what the participants experienced regarding their literacy instruction effectiveness. During the interviews, participants discussed their definition of literacy instruction and responded to questions about their perceived effectiveness in utilizing literacy strategies in their own classes. They discussed which methods they most often employed and their reasoning for choosing those methods. The participants discussed the challenges of covering all the content required in their courses. Participants discussed their perception of students' reading abilities and their students' willingness to use reading strategies independently. Most of the participants believed they were not trained in college to incorporate effective literacy instruction in their classes, and they did not recall

receiving professional development on the topic from the school district. The significant statements from the interviews are listed in Table 2 below.

Table 2: Literacy Instruction Abilities: Significant Statements

Literacy Instruction Abilities: Significant Statements
Lack of training
I try strategies I have learned
I don't have very many strengths (with inclusion of literacy instruction)
I don't feel equipped (to include literacy instruction)
I create notes for [the students]
I choose the texts
I can't help kids read, but I can help them get through the content
Want to know [student's] reading level
No professional development in literacy instruction
Need to work with someone to help show me how I can help them
Try to give readings based on the audience of kids [their ability level]

The lesson reflection journals asked the participants to reflect on a particular lesson where they had incorporated literacy instruction and discuss their beliefs on their effectiveness, as well as the effectiveness of the literacy strategy. Six participants stated that they did not incorporate explicit literacy instruction in their classrooms: Carson, Jon, Louis, Madison, Monica, and Natalie. Three of the participants, Louis, Madison, and Monica, added that they did not feel properly trained to include effective literacy instruction in their classrooms. Social studies participant Madison wrote: "I do not incorporate explicit literacy instruction in my class because I do not feel that I have been properly taught how to do so" (Madison, personal

communication, October 8, 2018). Devin and Janice discussed that the students did not use the strategies without teacher direction, so there was less value in including literacy instruction. Janice, science participant, stated, "When in class [literacy instruction is effective], but [students] are not doing [the strategies] on their own" (Janice, personal communication, October 9, 2018). Beth, Sean, and Tamara believed the literacy strategies they had used have been effective.

Participants' Beliefs: Students' Abilities

Question 8 of the TSELI asked about the participants' degree of ability to help their students monitor their own use of reading strategies. Helping students monitor their own use of reading strategies refers to teachers instructing students when and how to use a reading strategy that fits the purpose of the assignment best. For instance, students may not know what to highlight or underline when looking for the main idea, so this is a skill teachers will have to teach so the strategy will be most effective. The science participants averaged a score of 3.5, meaning they perceived themselves as having very little degree of ability to help their students monitor their own use of reading strategies. The social studies participants' average score was not much higher than that of the science participants, at a 4.

The participants discussed their students' abilities in the interviews. Often, the participants' beliefs in their students' abilities determined what type of literacy strategy to include and how often to use it. The participants who used literacy strategies chose the strategy for the students and then they modeled how to use the strategy; they did not discuss having students choose strategies for themselves. Most of the participants believed they needed to adjust the reading level of the texts they used in class to meet the lower reading abilities of their students. Because of the reading needs, most participants created notes or guided reading questions at the reading level at which they perceived the students to be reading. In most cases,

the participants required very little independent reading from their students, and when reading was required in class, the participant read to the students.

Table 3: Participants' Beliefs on Students' Abilities: Significant Statements

Students' Abilities: Significant Statements
[Students] skim everything
There's a lack of comprehension on a deeper level
I read to them because they are following along
Everything [students] read on their social media is like 200 characters
[Students] don't want to read
[Students] read under grade level
I am spending six hours a day retyping stuff for my students to use
I have witnessed like a depreciation in the ability to read
More struggling readers than before
I have watered [the texts created] down a lot
I do all the reading
They can read it, but they have no idea what they just read

In the lesson reflection journals, one participant mentioned the student ability level in her responses. Kristy, a social studies participant, wrote, "Overall, in the past several years, students' reading/comprehension skills have declined" (Kristy, personal communication, October 11, 2018). During her interview, she added that she believes the focus on end-of-the-course testing had caused some of the decline in reading/comprehension skills. She, like several other participants, in their interviews agreed that social media had negatively affected students' reading ability.

Participants' Beliefs: Motivation Ability

Question 21 of the TSELI asked about how teachers can motivate students with low interest in reading. Both the science and social studies participants' averages were similar on the motivation questions, scoring a 3.9 ("very little degree of ability") and 4, respectively. Question 17 of the interview specifically asked the participants how they motivated their students. Based on the TSELI responses, the participants perceived themselves as having little ability to motivate students. From the interview responses, grades, graduation, and passing the end-of-the-course assessment were the overwhelming extrinsic motivators listed by the participants. Many participants, such as Monica and Sean, used their enthusiasm for the content and the literacy strategy being used to motivate students. Others, such as Janice, Louis, and Natalie, tried to find relevant and/or more entertaining content to motivate the students to learn the material.

Table 4: Beliefs in Motivation Ability: Significant Statements

Motivation Ability: Significant Statements
Try to give my students real-life examples
Grades
Graduate
Choose relevant texts
Be enthusiastic
Show them by modeling that they can do it
You have to get them to accept the fact that what we're learning about applies to them

The participants' perceived ability to motivate was not a question specifically asked in the lesson reflection journals and no participants mentioned it in any of the lesson reflection

journals. The participants' perceptions on their ability to motivate students were discussed in the TSELI responses and in the interviews.

Participants' Beliefs: Assessment-Driven Literacy Instruction

Question 2 of the TSELI asked teachers to respond on how they use a variety of informal and formal assessments. The science participants averaged a score of 4.7, while the social studies participants' average was 4.2. Question 3 of the TSELI referred to the teachers' ability to adjust reading strategies based on the ongoing informal assessment of their students. The science participants averaged a score of 4.3, and the social studies participants' average score was 4. Both disciplines had similar scoring about assessments determining reading strategies. The 4 average falls between the "very little" degree of ability and "some degree of ability" ranges. In the interviews, the participants discussed the end-of-the-course assessments as often being a deterrent to incorporating literacy instruction in their classes. The time constraint and amount of material to cover were two specific reasons discussed. All of the participants mentioned the pressure of covering the state-mandated curriculum in a school year.

Table 5: Participants' Beliefs on Assessment-Driven Literacy Instruction: Significant Statements

Assessment-Driven Literacy Instruction: Significant Statements
I'm just trying to push content
SOL class; no time
Too much material to cover
Write questions to mimic SOL type
Choose readings to match SOL length
Gotta get through the material
The focus has been to pass the test

The lesson reflection journals' responses reinforced the participants' beliefs about end-of-the-course assessments driving the inclusion of literacy instruction in their classes. Four participants stated that they did not incorporate explicit literacy instruction in their classrooms: Louis, Madison, Monica, and Natalie wrote that they did not include literacy strategies because of a lack of time. Science participant Louis wrote: "I do not incorporate explicit literacy instruction in my class because instructional time is needed to deliver content by other means" (Louis, personal communication, October 1, 2018). Devin and Kristy also discussed the lack of time in their lesson reflection journals as a reason why they did not often include literacy instruction in their classes. Kristy, a social studies participant, stated, "Social studies teachers do not have time to teach separate lessons concerning reading strategies" (Kristy, personal communication, October 11, 2018).

Research Question Responses

Using the TSELI questionnaire responses, the in-depth interview answers, and the completed lesson reflection journals, the research questions were answered following the phenomenological design.

Central Question

The central question asked, "What does it mean to include literacy instruction for high school science and social studies teachers?" Most of the interview responses that answered the question on defining literacy instruction mentioned the teaching of reading and applying strategies to assist in reading comprehension. Kristy stated, "I would define [literacy instruction] as the activities and the strategies used to help students read more effectively and be able to apply what they've read to some type of activity" (Kristy, personal communication, October 11, 2018). Natalie mentioned teaching "reading skills" (Natalie, personal communication, October

7, 2018). Increasing reading comprehension was the focus for Jon when defining literacy instruction. Louis discussed the need for students to learn to decode words and understand vocabulary. Some participants also included writing as part of literacy instruction. Monica included writing in her response, stating, "Literacy instruction would be the tools that we use in the classroom to try to get students to become more proficient readers and writers" (Monica, personal communication, October 11, 2018). In addition, Madison and Carson included reading and writing as two parts of literacy instruction. Tamara discussed several types of literacies, including digital, computer, and language literacy. Her view of literacy instruction was broader than the other participants, since she viewed language literacy as "communication skills that transcend the classroom" and "life skills that [a student] can use to become a better citizen" (Tamara, personal communication, October 25, 2018). Janice stated that she did not "have a definition on [literacy instruction]" since she had not "had a literacy class in 20 years" (Janice, personal communication, October 9, 2018). Overall, the participants agreed that literacy instruction included teaching reading skills and comprehension.

As discussed in the theme development section, six of the 12 participants did not consider themselves using explicit literacy instruction: Carson, Jon, Louis, Madison, Monica, and Natalie. The participants may have used literacy strategies in their classes, but the literacy strategies were not used for a specific purpose. For the participants who did perceive themselves as including literacy instruction in their classes, 10 to 15 minutes per day was the average amount of time spent using explicit literacy strategies in class. Devin, Natalie, Tamara, and Sean claimed to spend about 45 minutes including literacy instruction per day. Janice wrote that she spent 90 minutes per class day using some form of literacy instruction. She wrote in her lesson reflection

journal that she "[uses] many strategies to cover all learning styles" (Janice, personal communication, October 9, 2018).

Based on the lesson reflection journals, different types of literacy strategies were used by the participants. Word study included morpheme awareness, the teaching of the meanings of prefixes, suffixes, and root words. Devin, Kristy, Monica, Natalie, Sean, and Tamara stated that they used morpheme instruction in their classes. In his interview, Sean mentioned morpheme instruction; he said, "[Science teachers] used to hand out a list of [prefixes and suffixes]." He discussed teaching the word "diurnal" and explained how he taught students to break a word apart for better comprehension of words that may not be familiar to the students (Sean, personal communication, September 27, 2018). Devin made a similar statement regarding morpheme instruction and said, "Once you learn the prefix, you can usually decode other words" (Devin, personal communication, October 13, 2018). Janice, Kristy, and Tamara used similar phrasing. Janice said she had students "break words apart" as she taught science vocabulary terms (Janice, personal communication, October 9, 2018). Kristy used the example of "ethnocentrism" and explaining the meaning of "ethno" and "centri" for her students to explain how she encouraged students to decode more difficult vocabulary (Kristy, personal communication, October 11, 2018).

For many of the participants, such as Janice, Jon, Kristy, Louis, and Madison, the end-of-the-course assessments do determine the vocabulary needs of students. Madison said, "And so you feel like you've almost got to train [students] to use those [obscure end-of-the-course vocabulary words]" (Madison, personal communication, October 8, 2018). She used the examples of "arable" and "copious" and explained that "we have to teach kids this random word and really there's no rhyme or reason to it" (Madison, personal communication, October 8,

2018). Devin, Janice, Jon, Kristy, and Sean said they used vocabulary lists as a form of literacy instruction. However, other participants disagreed with this approach. Monica stated in her interview: "I despise [vocabulary lists] and despise doing definitions because I just don't think they work" (Monica, personal communication, October 11, 2018). When discussing the effectiveness of students writing definitions, Janice said, "I mean a monkey can move words from one paper to another paper" (Janice, personal communication, October 9, 2018). She valued students creating their own meanings and connections.

In the lesson reflection journals, there were several reading comprehension options for the participants to choose. Table 6 indicates the strategies used by each participant.

Table 6: Reading Comprehension Strategies

Reading Comprehension Strategy	*Participants Using Strategies and Discipline Science (Sc) and Social Studies (SS)*
K-W-L Chart	None marked this answer
During Reading Guides	Beth (SS), Janice (Sc), Jon (SS), Kristy (SS), Monica (Sc)
Annotation of Texts	Natalie (SS)
Interactive Notebooks	Devin (Sc)
Adjusting Reading Level of Text	Kristy (SS), Natalie (SS), Monica (Sc), Tamara (Sc)
Anticipation Reading Guides	Beth (SS), Janice (Sc), Monica (Sc)
After Reading Guides	Beth (SS), Janice (Sc), Jon (SS), Kristy (SS), Monica (Sc), Tamara (Sc)
Graphic Organizers	Beth (SS), Janice (Sc), Kristy (SS), Monica (Sc), Tamara (Sc)
Chunking Text	Monica (Sc), Janice (Sc), Tamara (Sc)
Other	Sean (Sc): Creating a visual representation of a concept

The majority of the participants remarked in the lesson reflection journals that they used after reading guides to check for reading comprehension. Jon said he used questions after reading. In his class, the expectation was that students read independently and the questions checked to see whether the students had read the assignment. Beth wrote in her lesson reflection journal: "I have found the Anticipation Reading and After Reading Guides to be quite useful as a homework tool, either to review information covered or to prepare students for the next day's lesson" (Beth, personal communication, October 15, 2018). Kristy stated, "In order to facilitate [students'] reading, I often develop during or after reading guides for them" (Kristy, personal communication, October 11, 2018). Kristy added that the reading guides allowed her to focus on vocabulary terms needed for that lesson. Graphic organizers were often used by the participants. The graphic organizers were used for review purposes, based on Beth's lesson reflection journal response. Monica said that "we do a ton of graphic organizers in here" (Monica, personal communication, October 11, 2018). She elaborated on their use and said that "I just feel like students really enjoyed doing graphic organizers and I don't know if it's a way for them to kind of chunk things in their brain or just makes them feel good to have stuff reorganized" (Monica, personal communication, October 11, 2018).

Adjusting the reading levels for students was another area the participants discussed in their interviews. Carson said, "I'm going to do the work of figuring out how to present this in a way that makes more sense" (Carson, personal communication, October 2, 2018). Natalie said that she spent six hours retyping information for her students to adjust the reading level to suit their needs. Beth, Carson, Kristy, and Tamara referred to creating their own notes or summarizing articles to fit the reading needs of their students. Janice adjusted the reading level

and chose to use different fonts and font sizes to "keep [students'] eyes active," so the reading selections and notes would be "more interesting" to the students (Janice, personal communication, October 9, 2018).

Tamara was the most confident participant with her use of explicit literacy instruction. In her TSELI responses, she was the participant who most often rated herself in the "quite a bit" or "a great deal" ability range. During the interview when she discussed her use of literacy strategies in class, she said her choice of "strategies [were] dependent on what [was] being covered" (Tamara, personal communication, October 25, 2018).

With regard to the six participants who stated in the lesson reflection journals that they did not use explicit literacy instruction, their interview responses suggested that they did use literacy strategies, but the strategies were not necessarily chosen with a specific purpose or with a specific audience in mind. Jon stated that he encouraged highlighting and/or underlining, but he did not force the students to do it. He believed students would use what they had learned in their English classes. Janice, Jon, and Monica did not see the benefit of enforcing the use of strategies, since the students would not use them on their own. Louis said he provided the students with multiple strategies and used the metaphor of a coat rack to explain his philosophy. He stated that he saw literacy instruction as "one big coat rack with a bunch of little hooks and give [students] room to hang things on them" (Louis, personal communication, October 1, 2018).

Sub-Questions

SQ1: What are high school science and social studies teachers' perceptions regarding their ability to adequately meet the literacy needs of their students?

After reviewing the participants' TSELI ratings, the lowest scored items between 1 ("not at all") and 3 ("very little ability") were the TSELI questions 14, "To what extent can you

recommend a variety of quality children's literature to your students?" and 18, "To what extent can you implement word study strategies to teach spelling?" The average score for recommendation of quality children's literature to students was 2.75 ("very little ability") and the average score for the implementation of word study strategies to teach spelling was 2.67 ("very little ability").

The 5 rating is described as "some degree" of ability and six of the TSELI questions were rated as such by the participants. The average rating for 5 was chosen for two of the TSELI questions: Question 10 asked, "To what extent can you model effective reading strategies?" and question 16 asked, "To what extent can you integrate the components of language arts?" The average score for question 19, "To what extent can you provide children with writing opportunities in response to reading?" was 5.41. The participants scored an average of 5.75 for question 12, "To what extent can you help your students figure out unknown words when they are reading?" and question 15, "To what extent can you model effective writing strategies?" The highest rating was a score of 5.9 for question 7, "To what extent can you provide your students with opportunities to apply their prior knowledge to reading tasks?"

The majority of the TSELI questions had participants' ratings ranging from 3.5 to 4.9. Overall, six of the 22 questions received a "some degree" of ability rating, and there were no average scores ranging in the "quite a bit" or "a great deal" of ability ranges. Based on the TSELI average responses, the participants did not perceive their abilities in literacy instruction to be "quite a bit" or "a great deal" of ability.

Based on the lesson reflection journals, Beth, Sean, and Tamara were the most positive about how effective they were at including literacy instruction in their classrooms. Sean assumed his literacy instruction was effective because students were able to visually demonstrate

their understanding of a concept. Tamara stated, "I was very effective in implementing the strategies, but I am open to new strategies that my students benefit from" (Tamara, personal communication, October 25, 2018). Monica wrote that she believed she was moderately effective with regard to including literacy instruction. Jon stated that he had been "marginally successful" with the implementation of literacy instruction (Jon, personal communication, October 16, 2018).

Interview question 8 asked participants to explain their level of comfort with including literacy instruction in their classrooms. Participants' level of comfort could influence how often they included literacy instruction or what types of literacy strategies they would use. Tamara was the only participant who perceived her comfort level as "very comfortable" (Tamara, personal communication, October 25, 2018). Jon stated that his level of comfort was "pretty low" (Jon, personal communication, October 16, 2018). He explained his low level of comfort by his personal belief that he was not a good reader, so he does "what I feel comfortable with" (Jon, personal communication, October 16, 2018). Louis referred to his level of comfort as "very weak" (Louis, personal communication, October 1, 2018). Interview question 14 asked participants about their strengths when including literacy instruction. In Monica's interview, she stated that she was "moderately comfortable" including literacy instruction in her classroom, but she did not believe she had "very many strengths in literacy instruction" (Monica, personal communication, October 11, 2018). She said that she was "willing to try new things," and this statement was similar to Tamara's and Jon's strength (Monica, personal communication, October 11, 2018). Jon said he was "willing to do [literacy instruction]" (Jon, personal communication, October 16, 2018). Natalie said one of her strengths was making students read every day "even if it involves me reading it to them" (Natalie, personal communication, October 7, 2018). Janice

referred to herself as a "struggling reader" in high school, and believed this was a strength because she tried to create activities and use texts that the students would find engaging (Janice, personal communication, October 9, 2018).

SQ2: What challenges have high school science and social studies teachers faced when addressing the literacy needs of their students?

Lack of training in literacy instruction was discussed the most by participants as a challenge they faced when addressing the literacy needs of their students. Interview question 11 asked participants about the training they had received regarding literacy instruction. Jon said he did not have much training. Madison explained in her interview that she did not "feel equipped" to incorporate literacy instruction, and she noted a similar sentiment in her lesson reflection journal (Madison, personal communication, October 8, 2018). Louis said that he had had no training concerning literacy instruction.

Lack of time was described by participants as a challenge when including literacy instruction in the classroom. This was listed multiple times in the lesson reflection journals, by Devin, Louis, Kristy, Madison, and Monica. In her interview, Kristy stated she was comfortable including literacy instruction in her classroom, but because of time she avoided including it. Madison said, "I don't feel like I have the time to [include explicit literacy instruction] (Madison, personal communication, October 8, 2018). Beth stated that "[teachers] don't have the time to even try to deal with [literacy instruction]" (Beth, personal communication, October 15, 2018). She explained that she "wants to have kids be more critical readers, but [teachers] don't have time" (Beth, personal communication, October 15, 2018). In Carson's interview, he broke down the amount of time that he lost in his class per year because of various school functions (such as

assemblies or fire drills). He said he lost 45 hours of instructional time. He perceived this as a major challenge for him to cover the content necessary for this discipline.

The participants perceived the students' reading abilities to be declining in recent years. Monica said, "It's the one thing teachers probably collectively complain about the most with their students is their ability or inability to read and write" (Monica, personal communication, October 11, 2018). Kristy said that "there's been a decline in the students' abilities to read and understand what they're reading, apply with their reading and then that transfers to their writing skills" (Kristy, personal communication, October 11, 2018). Louis explained: "I don't feel like I can help kids read, but I feel like I can help them understand the content, but I struggled with helping them to read" (Louis, personal communication, October 1, 2018). Beth adjusted the reading levels of her assignments and "watered" the material "down" (Beth, personal communication, October 15, 2018). Carson adjusted reading levels too. He summarized the information for his students and referred to that as "cutting the length," so it would make "more sense" to the students (Carson, personal communication, October 2, 2018).

Some participants believed the decline was a result of the increased use of social media. When Jon was asked why students disliked reading so much, he answered that "everything they read on their social media is like 200 characters and it's like, you know, it's not long and it's, you know, something that they have chosen to do" (Jon, personal communication, October 16, 2018). Janice blamed students' texting for their "dummied down" vocabulary skills (Janice, personal communication, October 9, 2018). Kristy said that "these kids have social media and because everything is, the language gets abbreviated as well" (Kristy, personal communication, October 11, 2018). In addition, Kristy perceived the decline in reading ability as a result of the end-of-the-course assessments that might cause teachers to focus on content only.

An additional challenge regarding students' literacy needs was a decrease in students' critical thinking abilities. Jon stated, "I don't think they get a lot of deep context" (Jon, personal communication, October 16, 2018). Janice explained that students "do not dive deep; to dive deep means you have to read" (Janice, personal communication, October 9, 2018). She referred to the students as the "get-it-done generation," meaning students "want to do as little as possible to get the max" (Janice, personal communication, October 9, 2018). Janice continued claiming a "big disconnect and it's getting worse each year" (Janice, personal communication, October 9, 2018.) She would like to see students no longer be surface learners. Sean said that students "rely a lot on being guided towards information instead of investigating, finding for themselves" (Sean, personal communication, September 27, 2018). There seemed to be some consistency among the participants that students' critical thinking abilities were decreasing.

SQ3: How do high school science and social studies teachers determine literacy strategies that are appropriate for their students' needs?

Participants determined appropriate literacy strategies based on student needs and the material covered in the end-of-the-course assessments. Since students were perceived to have a lower reading ability than in previous years, the participants were adjusting reading levels for the students. Interview questions 15 and 16 asked participants about how they assessed whether literacy instruction was successful and how they developed future strategies to use. Monica stated that she chose literacy strategies based on her perception of which strategies she believed the students valued the most. Kristy, Jon, and Tamara asked their students for feedback on strategies they had used to determine if these were meeting their students' needs. Some participants created notes and reading guides that had simpler language than the participants may

have used in the past. Natalie chose material that she believed would be more interesting to the students and adjusted the reading level when necessary.

The end-of-the-course assessments determined the literacy strategies participants used. Madison stated that she did not teach reading strategies; she taught testing strategies. Her focus was to have students pass the end-of-the-course assessment. The vocabulary participants focused on were most often based on the vocabulary used in the end-of-the-course assessments. The passages used in Jon's classes were chosen because they were of a similar length as the end-of-the-course assessments. Carson wrote his test questions to be similarly worded as the end-of-the-course assessments, so the students would have practice with the "tricky questions" used (Carson, personal communication, October 2, 2108). Beth said, "The focus has been to pass the test" (Beth, personal communication, October 15, 2018).

SQ4: What professional development opportunities or support are content area teachers receiving in order to implement literacy skills in their content areas?

Most of the participants stated that they had not received any professional development since they had been employed as teachers. Participants were not opposed to receiving professional development on literacy instruction, as long as it was relevant to their subject and grade level. Monica stated that "some short condensed professional development about different strategies that you can employ" might be effective to assist content area teachers with literacy instruction (Monica, personal communication, October 11, 2018). Madison said professional development in literacy instruction had been negligible since she started teaching. She stated it would be beneficial for the school division's English coordinator to provide professional development on "strategies to work with struggling students or whether it's providing stuff that I can actually implement in class" (Monica, personal communication, October 11, 2018). The

reason for participants' hesitation to include literacy instruction was often stated as a time constraint. Monica suggested that professional development be "short" and the strategies "simple" (Monica, personal communication, October 11, 2108).

Areas of support that the participants would like included more availability of reading/literacy specialists. Madison discussed working with students who were English language learners and said she did not feel "equipped with the resources [students] need" (Madison, personal communication, October 8, 2018). She had access to an ELL teacher, but she did not have her in the classroom during instruction. Devin and Louis mentioned having access to a reading or literacy specialist. Devin said, "I need to work with someone to help show me how I can help them, so that I can maybe use more instructional strategies so I can help their needs" (Devin, personal communication, October 13, 2018). Kristy, Jon, and Sean mentioned collaborating with other disciplines to assist each other in their content areas.

Summary

This chapter analyzed the three data sources: the TSELI questionnaire, the in-depth semi-structured interviews, and the lesson reflection journals. With regard to the TSELI questionnaire, the participants' ratings were compared to determine their perceived ability regarding the inclusion of literacy instruction in their classrooms. Overall, the participants' average rating for the majority of the questions was that they had "some degree" of ability regarding literacy instruction. There was no average rating that met the "quite a bit" or "a great deal" of ability level. The interviews indicated that the participants did use a variety of literacy strategies, but the majority did not consider the strategies used as being explicit. Many participants indicated including literacy instruction with the hopes it might work to teach content, but not necessarily to improve students' literacy abilities. The participants expressed frustration

at the lack of time to implement literacy instruction with the amount of content they had to cover. The lesson reflection journals asked participants to reflect on the types of literacy strategies they used and judge their effectiveness in implementing these strategies.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this transcendental phenomenological study was to explore high school teachers' sense of self-efficacy regarding the incorporation of literacy instruction in high school science and social studies classes in a rural, public school district. The data used in the study was a TSELI questionnaire that assesses teachers' perceived ability regarding literacy instruction in their classes, in-depth semi-structured interviews, and lesson reflection journals from 12 participants. The theoretical framework was based on Bandura's (1997) self-efficacy theory and Shulman's (1986) pedagogical content knowledge theory. The central question asked: "What does it mean to include literacy instruction for high school science and social studies teachers?" The four sub-questions were the following:

1) What are high school science and social studies teachers' perceptions regarding their ability to adequately meet the literacy needs of their students?
2) What challenges have high school science and social studies teachers faced when addressing the literacy needs of their students?
3) How do high school science and social studies teachers determine literacy strategies that are appropriate for their students?
4) What professional development opportunities or supports are content area teachers receiving in order to implement literacy skills in their content areas?

This chapter includes a summary of the findings, a discussion of the findings, the implications of the study, a discussion of the delimitations and limitations, and recommendations for future research.

Summary of Findings

The central question of this research asked high school science and social studies teachers what the inclusion of literacy in their classrooms meant to them. All of the participants answered that literacy instruction was improving students' reading levels and reading comprehension skills. Some participants included writing skills in their responses about literacy instruction. The majority of the participants, however, did not believe they could effectively help improve reading levels and reading comprehension skills in their classrooms. The participants cited a lack of training and a lack of time as reasons they perceived they were unable to improve students' reading abilities by the inclusion of literacy instruction in their classrooms.

Bandura's (1997) self-efficacy theory states that if teachers believe they have a high sense of self-efficacy, then they would be more likely to include new strategies. Self-efficacy theory claims that in addition to teachers' beliefs in themselves, they would believe more in their students' abilities (Bandura, 1997). Teachers would be more likely to motivate students better and perceive their teaching as more successful and effective. After reviewing the three data sources, three themes emerged that connected with Bandura's (1997) self-efficacy theory: participants' beliefs in their own literacy instruction abilities, participants' beliefs in their students' abilities, and participants' beliefs in their ability to motivate students.

This study's results demonstrate that Bandura's (1997) self-efficacy theory anticipated the research participants' shared experiences involving their sense of self-efficacy regarding the inclusion of literacy instruction in their classes. The participants with a higher sense of self-efficacy were more self-confident regarding literacy instruction and spoke more positively about its effectiveness. The participants with a higher sense of self-efficacy presented as being more intentional when deciding what types of literacy strategies to include and how to implement them

in the classroom. The participants with a lower sense of self-efficacy did not feel comfortable regarding the inclusion of literacy instruction, thus supporting Bandura's (1997) self-efficacy theory. Many of the participants with a lower sense of self-efficacy questioned the usefulness of including literacy instruction at all. All of the participants discussed the lack of literacy training, and some participants said they wanted more professional development to improve their level of self-efficacy regarding the inclusion of literacy instruction. To summarize the answer to sub-question 1, the majority of high school science and social studies participants perceived that they could not always meet the literacy needs of their students. They cited a lack of training and lack of time as the primary reasons.

For many of the participants, the students' reading and/or critical thinking abilities were perceived as being lower than in past years. This perception answered sub-question 2, "What challenges have high school science and social studies teachers faced when addressing the literacy needs of their students?" Many of participants stated that they perceived their students as struggling readers or poorer readers. Because of these perceived beliefs, none of the participants used the class textbooks. All materials read were chosen by the participants. These were either online articles that the participants determined were at an appropriate reading level for their students or they were selections that the participants had created themselves, based on what they assumed their students' needs were. Many of the participants stated that they would like to know their students' reading levels, but the lack of this knowledge did not stop them from making their own assumptions about their students' needs. Sub-question 3 asked how literacy strategies were determined appropriate for their students' needs. The participants chose texts based on their perceptions of their students' needs. Participants also developed guided

notes/assignments based on these perceptions. The participants changed the vocabulary in their guided notes/assignments to meet the students' interests and/or needs.

The participants made a distinction between using literacy strategies occasionally and including explicit literacy strategies. In the lesson reflection journals, participants reported that they did use a number of strategies. Morpheme instruction, vocabulary instruction, and reading comprehension skills were reported as used. During the interviews, participants described using literacy strategies in class. Many would not label these strategies as explicit, since the participants chose the strategies that they liked personally, or the participants chose the strategies that they perceived the students enjoyed more. A strategy was not intentionally chosen or designed for a specific instructional purpose; it was chosen based on perceived preference.

To answer sub-question 4, participants discussed their lack of training in college as well as their lack of professional development while teaching. Many of the participants stated that they would accept more training. Devin and Louis requested help from a reading/literacy specialist. The participants perceived that there was a lack of literacy ability on the part of their students.

Discussion

The results of this study substantiate the theoretical and empirical literature review discussed in Chapter Two. This study was approached using a social constructivist paradigm, following Vygotsky's (1987) work. As teachers worked with other teachers and students, their beliefs were influenced. In this case, the beliefs that were influenced were the teachers' sense of self-efficacy, specifically about the inclusion of literacy instruction in the classroom. The two theories guiding this research were Bandura's (1997) self-efficacy theory and Shulman's (1986) pedagogical content knowledge theory. Consideration was also given to how this study

connected to recent literature in terms of the following: teachers' expanding roles, students' reading proficiency, literacy instruction, content-driven instruction, and differentiated instruction.

Theoretical Literature

Bandura's (1997) self-efficacy theory. Based on Bandura's (1997) self-efficacy theory, teachers' sense of self-efficacy affected the types of activities they included in their classrooms. It also affected whether the teachers would take risks to implement new teaching strategies. Self-efficacy theory (Bandura, 1997) states that a higher sense of teaching self-efficacy leads teachers to be more successful in the classroom. When the teachers perceived themselves as being effective in the classroom, they were able to recover from a less successful lesson to modify future lessons. Teachers with a higher sense of self-efficacy positively viewed their students' ability levels, differently than teachers with a lower sense self-efficacy. According to Bandura's (1997) self-efficacy theory, teachers' beliefs in their students' abilities will lead to students believing in themselves more. In this study, participants with a lower sense of self-efficacy questioned their ability to include literacy instruction in their content area classrooms. In addition, participants questioned their students' abilities to use literacy strategies, so often participants did not teach these strategies because they perceived their students as incapable or unwilling.

The participants who scored high on the TSELI questionnaire had the most positive beliefs in their abilities and effectiveness to include literacy instruction in their classrooms. Eleven of Tamara's TSELI responses were rated from 7 ("quite a bit of ability") to 9 ("a great deal of ability"). In her lesson reflection journal, she stated she was effective with literacy instruction. In Tamara's interview responses, she listed many strategies she used and confirmed

she was comfortable with including literacy instruction. Sean's TSELI responses had 8 out of the 22 ratings ranging from 7 ("quite a bit of ability") to 8. Like Tamara, his lesson reflection journal reported he was positive toward the inclusion of literacy instruction and his effectiveness in implementation. His interview responses were similarly positive. These two participants' perceived beliefs in their ability to include literacy instruction were clear from their responses in all three data sources.

Kristy's TSELI responses had 8 out of 22 questions ranging from 7 ("quite a bit of ability") to a 9 ("a great deal of ability"). For Beth, two out of 22 questions rated 7 ("quite a bit of ability"). Beth and Kristy reported in their lesson reflection journals and in their interviews that they were comfortable with the inclusion of literacy instruction, but the lack of time because of content material had them not include it often. Although their perceived beliefs in their literacy instruction abilities were more positive than some of the other participants, their lack of literacy instruction was similar to that of participants who did not feel as comfortable or effective with literacy instruction.

Monica rated herself higher on more of the TSELI questions than Sean did. She had 10 out of 22 responses ranging from 7 ("quite a good bit") to 9 ("a great deal"). However, she reported in the lesson reflection journal that she was "moderately effective," and she was more self-deprecating in her interview responses. She claimed she did not know whether she had any strengths regarding the inclusion of literacy instruction. In her lesson reflection journal and interview, she explained that she lacked training and had time constraints because of the content she needed to cover before the end-of-the-course assessment, and cited these as reasons she did not incorporate explicit literacy instruction more often. Time constraints due to the amount of

content were consistently used as a reason not to incorporate literacy instruction by all the participants.

The other participants' TSELI responses revealed that their perceived abilities to include literacy instruction ranged from "none at all" to "some degree" of ability. Their lesson reflection journals demonstrated that they either did not include any explicit literacy instruction or limited the amount of time. Janice was an exception, since her TSELI ratings were similar to the other participants, but in her lesson reflection journal, she reported that she spent 90 minutes per class using literacy strategies. In her interview, she discussed all the literacy strategies she employed, such as changing fonts and font sizes, to meet the needs of her students. Again, the majority of the other participants mentioned time being the reason they did not include literacy strategies. In addition to time as a factor discouraging teaching literacy strategies, Janice, Jon, and Monica mentioned that students did not see value in them. They did not believe students used the literacy strategies independently; therefore, the teachers did not believe they should spend class time teaching strategies that would not be used. Overall, the majority of the participants did not perceive themselves as adequately trained in the inclusion of literacy instruction in their classes, so they did not incorporate it often or perceive themselves as being successful at including it.

Shulman's (1986) PCK theory. Shulman's (1986) pedagogical content knowledge theory was applicable to this study, since the inclusion of literacy instruction consists of teachers being knowledgeable about their own curricular material and pedagogy. The participants presented as being confident about their curricular knowledge. Most participants noted that their main focus in the classroom was to cover all the Virginia-created Standards of Learning, so students could pass their end-of-the-course assessments. For many students in Virginia, the passing of these end-of-the-course assessments determines graduation. Pedagogical knowledge

was an area in which participants needed to improve. Specifically, Shulman (1986) stated that teachers should be able to relate their content to different disciplines. Four of the participants mentioned the need for increasing cross-curricular discussion. The participants appeared to be waiting for their school division to facilitate the process. Another area in Shulman's (1986) PCK theory is the concept of "reflective awareness" that asks teachers to reflect on their teaching practices (p. 13). The participants did reflect on their lessons. They modified assignments depending on what they perceived their students' abilities or interests to be. They also modified their strategies based on their own comfort level and their own beliefs in what had been successful in the past. However, few of the participants sought additional professional development opportunities in literacy instruction, thus limiting their pedagogical development.

Bandura's (1997) self-efficacy theory states that teachers who have a higher sense of self-efficacy will take more risks with regard to instruction in the classroom. The students benefit from teachers' high sense of self-efficacy, since the teachers' faith in their own ability may cause students to believe they are also more capable (Bandura, 1997). This sense of self-efficacy contributes to teachers making pedagogical decisions, thus connecting to Shulman's (1986) PCK theory. The findings of this research indicate that participants with a higher sense of self-efficacy were thinking beyond just their curricular knowledge and were open to different teaching methods. A lower sense of self-efficacy regarding literacy instruction may have caused them to try fewer strategies. Many participants with a lower sense of self-efficacy devalued the need to provide literacy instruction.

Empirical Literature

Teachers' expanding roles. Federal and state decisions have influenced literacy instruction in the classroom. The Every Student Succeeds Act of 2015 (2015) requires annual

assessments in core subject areas and a comprehensive state literacy plan for all public school students. The Virginia Department of Education follows the ESSA (2015) and requires yearly end-of-the-course assessments for their core courses, and the VDOE has implemented a state literacy plan. The VA State Literacy Plan (2011) requires all content area teachers to include literacy instruction in their classrooms; therefore, content area teachers' roles have changed from not only being responsible for delivering their content material to now also being responsible for including literacy instruction. With this additional responsibility, content area teachers may benefit from professional development opportunities in literacy instruction to develop these skills.

With the changing expectations for content area teachers, high school teachers may not feel prepared to incorporate literacy instruction in their classes (Dobbs et al., 2016; Hannant & Jetnikoff, 2015; Hooley & Thorpe, 2017; Wilson 2011). This study corroborated the research, since none of the participants believed their college coursework prepared them to incorporate literacy instruction with their content. Jon did not remember any college coursework about the teaching of literacy strategies and stated he did not expect it because he was not going to teach English. Devin and Monica stated that their required literacy classes were geared toward elementary school students, so they did not find them as valuable. If teachers are not taught to include literacy instruction at all grade levels, then it is more likely they will not feel prepared to do so. In addition, teachers may not know how to include literacy instruction effectively into their lessons. The participants from this study did not feel college coursework had prepared them, and many of the participants questioned the effectiveness of their literacy instruction because of this lack of training.

If content area teachers do not believe their college courses were adequate, they may require more professional development on the inclusion of literacy instruction for it to occur more often and effectively in their classrooms. According to the participants, professional development opportunities on literacy have been limited. Devin, Jon, Madison, and Tamara said their school system had not provided any professional development on literacy instruction. Beth, Kristy, Natalie, and Tamara said they had to seek their own professional development opportunities on this topic. Even with the ESSA (2015) and the VA State Literacy Plan (2011) focused on literacy, the participants did not perceive themselves as having received additional training to support this focus. This perception concurred with the review of the literature that stated content area teachers did not feel prepared to include literacy instruction (Shanahan, Shanahan, & Misischia, 2011). To improve teachers' inclusion of literacy instruction, teachers need to have more training opportunities to improve their perceptions of self-efficacy. The more prepared they believe they are; the more likely they will implement new strategies.

Students' reading proficiency. Students are not reaching high school with proficient reading skills (Troyer, 2017). Participants of this study perceived students' reading levels as declining from past years. The participants' beliefs that reading levels have declined concurred with recent literature that states that most students are unable to read proficiently at grade level (Fang, 2012; Marchand-Martella et al., 2013; Shanahan & Shanahan, 2013). One of the suggestions to increase reading levels was for students to practice independent reading more (Lenski, 2011). The more students read, the more likely they are to read better. This theory is based on the Matthew Effect (Mraz et al., 2013). Although research supported students reading more to become better readers, most of the participants in this study did not require their students to read independently. Jon stated that he did not think students read enough and that was a cause

of declining reading abilities. However, Jon did not increase the amount of reading in his own course to potentially improve students' reading abilities. Instead, Jon chose shorter texts and chose more simple reading assignments. The majority of the participants either read to their students or they had modified the reading levels to what they perceived to be their students' ability levels. When teachers decrease reading requirements, it decreases the opportunities for students to improve reading skills.

Literacy instruction. Several literacy strategies were discussed in this study: word study, fluency, vocabulary, reading comprehension, and motivation. Based on the participants' interview responses and lesson reflection journals, word study and vocabulary were the most often used literacy strategies, followed by reading comprehension strategies. Motivation and fluency were the least discussed literacy strategies.

Participants used word study and vocabulary literacy strategies the most. Six participants used word study, which includes morpheme instruction, as a literacy strategy: Devin, Janice, Kristy, Natalie, Monica, and Tamara. Based on Bromley (2014), morpheme instruction is most effective within the science discipline, and four of the seven science participants specifically discussed this strategy. Six of the participants used vocabulary instruction: Devin, Janice, Jon, Kristy, Natalie, and Sean. Madison stated that she taught vocabulary that was unique to the end-of-the-course assessment, but she did not teach vocabulary lists for other words. As the participants taught vocabulary, they had the potential of benefitting the students' reading comprehension skills (Berkeley et al., 2016; Fisher & Frey, 2014).

Along with word study and vocabulary instruction, reading comprehension was used by most of the participants. Only two participants, Carson and Madison, did not discuss reading comprehension strategies in their lesson reflection journals. Williams and Ortlieb (2014) have

stated that reading instruction as a literacy strategy is effective, particularly when using structured notes, guided questions that checked for understanding, and graphic organizers. The participants discussed using structured notes, guided questions, and graphic organizers to assist students with reading comprehension. Five participants mentioned reading guides and graphic organizers in their lesson reflection journals.

In addition to reading comprehension, motivation was used as a literacy strategy. The participants used mostly extrinsic motivators. Extrinsic motivators are not as effective as intrinsic motivators (Rush & Reynolds, 2014). Most of the participants used grades, graduation, and passing the end-of-the-course assessments as extrinsic motivators. Using enthusiasm for content matter was most often cited as the intrinsic motivator. According to Billman and Peterson (2013) and Rush and Reynolds (2014), helping students see the value in the material is another intrinsic motivator. Several participants used this motivator.

Fluency appeared to be the least used strategy, because so few participants asked students to read independently and/or had students read aloud to them to determine their fluency rate. Three of the social studies participants, Beth, Kristy, and Natalie, discussed using primary sources in their classes. Primary sources were stated as being most pertinent in the social studies curriculum (Achugar & Carpenter, 2012). For struggling readers to best comprehend these documents, students would need to be fluent readers or be provided with literacy strategies to aid with comprehension. The participants did not specifically check for fluency or teach to improve it. To teach primary documents, the participants said they did not require students to read the entire documents.

Content-driven instruction. Because the literacy strategies were chosen based on teacher and student preference and not based on the discipline being taught, the literacy

strategies implemented were most often general literacy strategies and not discipline-specific ones. Brozo et al. (2013) and Fang and Schlepprengrell (2012) have stated that general literacy strategies may be more effective to decrease difficulty for students. In addition, participants believed it was more beneficial to cover the content material instead of teaching a literacy strategy. This is consistent with the current literature (Goldman, 2012; McCormick & Segal, 2016). From middle school through high school, the instructional focus becomes more content-driven, with little to no inclusion of literacy instruction (Swanson et al., 2017). Content-driven instruction was what the majority of the participants described as taking place in their classrooms to meet the standards of learning required for the course. Every participant mentioned the end-of-the-course assessments as a reason for basing their lessons on covering content first. Both Louis and Madison said they included no explicit literacy instruction in their classrooms because of needing to cover the content.

Differentiated instruction. When teaching students with a learning disability, general literacy strategies work more effectively than discipline-specific literacy strategies (O'Connor et al., 2017). Students with a learning disability benefited from teachers instructing students how to locate the main idea of a passage and from teachers chunking more difficult material into manageable pieces. This study's participants who taught students with a learning disability depended on the experience of the special education teachers. The SPED teachers were either present in the room with the students to provide additional support or students received support in a resource class. Most of the participants used general literacy strategies, although this did not appear intentional to benefit students with a learning disability.

Students who are English language learners (ELLs) benefit from explicit vocabulary instruction (Barr et al., 2012; Rubenstein-Avila & Lechie, 2014). Participants who taught

students who were English language learners commented on using the ELL teacher as a resource to support these students. The few participants who had experience teaching students who were ELLs discussed the language barrier and vocabulary skills being the areas they focused on. The majority of the participants did not have experience teaching students who were ELLs.

Implications

This research study provides a number of implications regarding teachers' sense of self-efficacy in the incorporation of literacy instruction in high school science and social studies classes. This study yielded theoretical, empirical, and practical implications for stakeholders: students, parents, teachers, administration, teacher preparation programs, and the Virginia Department of Education.

Theoretical Implications

The theoretical implication is that this study adds to previous research regarding teachers' knowledge pertaining to literacy instruction. To date there has been little research on this topic (Goldman, 2012; Guzetti & Bang, 2011). Bandura's (1997) self-efficacy theory states that teachers who perceive themselves as effective will be more successful in teaching students. Teachers who have a high sense of teaching self-efficacy are more likely to develop new strategies to meet learning objectives (Bandura, 1997). The majority of the participants did not believe they were adequately trained to include literacy instruction. Even though they did not feel prepared, some participants continued to include literacy strategies in their lessons. These participants chose strategies that they believed had worked in the past and were perceived as successful by them. Administration and teacher preparation programs, as stakeholders, can improve teachers' sense of self-efficacy by providing additional training. This training may lead

to teachers perceiving themselves as being more prepared, so they will be more likely to implement new strategies (Bandura, 1997).

Another theoretical implication pertains to Shulman's (1986) PCK theory. Participants were confident about curricular knowledge, but they were not confident about literacy instruction pedagogy. Teachers may need additional support to combine their curricular knowledge with their literacy pedagogical knowledge. Administration may need to develop professional development opportunities for teachers to provide that support. Teachers will have to implement the new strategies they have learned.

Empirical Implications

The empirical implication of this study pertains to the participants' sense of self-efficacy and how it affects their inclusion of literacy instruction. The research suggests that science and social studies teachers do not feel trained to include literacy instruction in their classrooms (Brozo et al., 2013; Carney & Indrisano, 2013; Nixon et al., 2012; Meyer, 2013; Shanahan, Shanahan, & Misischia, 2011; Wendt, 2013). In this study, the participants' lack of self-efficacy did affect how they perceived their success and whether they were willing to take risks. The less comfortable they were with literacy instruction, the more likely they were not to include it in class. To increase literacy instruction, teachers need to perceive themselves as knowledgeable about literacy strategies. A recommendation for administration is to provide support for teachers to build that knowledge base. This can be developed in teacher preparation courses as well.

Students' declining reading abilities represent another empirical implication of this study. Related studies have revealed that students' reading abilities are decreasing (Hooley & Thorpe, 2017; The Nation's Report Card, 2015). Many of the participants believed that the textbooks provided to them were inadequate for students. All of the participants discussed that the

textbooks were out of date, and a few participants mentioned the difficulty of the text. Berkeley et al. (2016) have stated that high school texts are difficult for students to understand. The participants chose texts based on the perceived reading needs of their students. They did not have a reading level provided to them, but made these assumptions based on their experiences with the students. As stakeholders, teachers could be provided with the reading levels of their students, so they may base their text selections more accurately. While knowing their students' reading levels may help teachers choose texts, in order to build reading skills teachers must assign independent reading to their students (Mraz et al., 2013). Most of the participants did not require their students to read independently. An opportunity to improve reading skills would be for teachers to assign students independent reading.

Practical Implications

The practical implication of this study is the need for training in literacy instruction. There has been little research on professional development that supports literacy instruction for science and social studies teachers (Greenleaf, Litman, & Maple, 2018). The results of this study imply that additional training for teachers would be beneficial. Due to the decrease in students' literacy skills, all content area teachers would have to increase their literacy instruction in their classrooms (Marchand-Martella et al., 2013). A recommendation for administration is to provide professional development opportunities for content area teachers to develop literacy strategies. The Virginia Department of Education may provide additional support on literacy inclusion by promoting and/or requiring courses. The teachers' responsibilities will be to attend trainings and implement techniques. As long as the Virginia SOL and end-of-the-course assessments continue, students' literacy abilities should be important for all content area teachers, not just English teachers.

Textbook selection is another practical implication of this study. Since most of the participants did not believe they had an adequate textbook, this study encourages school systems to reconsider their current textbooks and their adoption practices. More teacher input should be considered, because they will want to choose textbooks that will be beneficial to their students. The input from students and parents would be valuable with textbook selection. Students and parents may be more accepting of a textbook that includes texts that are more challenging if they perceive themselves as part of the decision-making process.

Delimitations and Limitations

One delimitation of the study is confining the content area subjects to science and social studies. The two subjects were chosen because students have state-mandated end-of-the-course assessments in these subjects. English was not chosen, because there is an assumption that English teachers would be more likely to know and use reading strategies due to the nature of the subject. Both science and social studies' texts require specific reading skills in order to adequately handle the reading material (Lenski, 2012; Meyer, 2013). Both subjects require higher-level reading. The specific science and social studies courses incorporated in this study represent another delimitation. These courses are required for a standard or advanced diploma, but other courses could be considered (VDOE, 2012). In addition, the study focuses on high school teachers and not elementary or middle schoolteachers. There has been less research at the high school level (Lenski, 2012), so other grade levels have been excluded.

Another delimitation is using rural schools versus urban schools. Stockard (2011) stated, "Observers of rural education research have termed it 'scant,' noting that the area has received much less attention than urban education (e.g., Mulkey, 1993; Stern, 1994, both cited in Sherwood, 2000)" (p. 2). There is a need for research in rural education. According to Bailey

(2014), “There are 14 million children living in rural America” (p. 390), yet there is little research being conducted in these rural schools.

A limitation of the study is that the findings might not be applicable to urban areas in Virginia, since the research was conducted in a rural area. According to Azano (2015), “Little research addresses [literacy] issues in the rural context, which has created a hidden achievement gap” (p. 267). There might be geographic, economic, and cultural differences between rural Virginia and an urban area that may result in the research not being applicable to urban areas (Azano, 2015).

Another limitation might be that the research will not be transferable to states that use the Common Core State Standards (CCSS), since those states have specific objectives regarding literacy instruction. According to Sheridan-Thomas (2014), “CCSS for Literacy in History / Social Studies, and Technical Subjects, for the first time, clearly specify the role content area teachers play in developing the literacies critical to adolescents' success in high school, as well as beyond, in college or careers” (p. 267). The research might not be transferable to other subject areas, since the focus was specifically on science and social studies.

A final limitation is that the research might not be generalizable to post-secondary education students. The research mentioned the challenges less proficient readers might have in post-secondary education; however, this research did not address those needs.

Recommendations for Future Research

There are several recommendations for future research. This research used three data sources: the Teacher Sense of Efficacy for Literacy Instruction (TSELI) questionnaire, interviews, and lesson reflection journals. Future research may be conducted using different data sources. One new data source may be classroom observations. Another data source could be

meeting teachers in a focus group. Yet another data source could be a discussion with content area teachers who are not language arts teachers about the effectiveness of the literacy strategies implemented in a language arts classroom. If language arts teachers are using literacy strategies that may be effective in other content area classes, then promoting these strategies in other content areas may encourage students to use them more often and more effectively.

This research used a phenomenological design, asking about teachers' perceptions. Future research may focus on students' perceptions of the effectiveness of literacy instruction in their classrooms. Students can also provide input on how effective their teachers are when implementing literacy strategies. Future research could focus on what types of literacy strategies are deemed most successful and used most often by the teachers and students to train current and future teachers. Future research could also focus on literacy strategies that work most effectively within the different content areas, such as science and social studies. If teachers are concerned about time and covering the content, then knowing the most effective strategies for their specific content areas may encourage them to use the strategies more frequently.

Future research may include different curricular areas. This study focused on science and social studies, but other content areas may include literacy instruction. Although mathematics presents itself as if there is little required reading, there are often word problems where teachers would have to use literacy strategies. Non-content area classes may also present literacy needs for teachers to address, and to be investigated in research, such as reading informational articles in a business/marketing class.

Another area for future research is to expand this research from a rural setting to include an urban setting as well. Urban settings may present different needs or concerns than a rural setting. The research may also be expanded to include middle school grades. Middle school

courses also have required end-of-the-course assessments; however, they are not at the same high-stakes level as high school. Students may fail middle school end-of-the-course assessments, but it does not prevent them from advancing to high school. For high school students, not passing a certain number of Virginia-developed end-of-the-course assessments will prevent them from graduating.

This research can be expanded to include states that use the CCSS. The CCSS also has literacy requirements (Sheridan-Thomas, 2014). Research including these states may provide more understanding regarding self-efficacy and the inclusion of literacy instruction.

Summary

Teachers' perceptions regarding their self-efficacy may affect their willingness to try new strategies and successfully implement these for their students. Students may respond to the teachers' perceived sense of self-efficacy by believing they are as capable as their teachers tell them they are. In this research study, the participants who perceived themselves as not being effective in literacy instruction tended to include less literacy instruction in their classes. In addition, participants who had a higher sense of self-efficacy regarding literacy instruction were willing to try different literacy strategies. Participants with a lower sense of self-efficacy regarding literacy instruction tended to use literacy strategies they were most comfortable with and that had worked in the past.

The participants cited a lack of training during their college career as a reason for a lower sense of self-efficacy regarding literacy instruction. There has been little to no professional development in literacy instruction once the participants started working in the teaching profession. The participants who had post-college literary instruction development sought those

classes/courses on their own. Interestingly, the participants who did perceive themselves as having a higher sense of self-efficacy did not necessarily have more training.

Participants described their students' literacy abilities as declining. However, the participants did not increase literacy instruction or increase reading opportunities for their students. Instead, the participants decreased the amount of reading the students had to complete independently. They chose shorter passages and/or passages with a lower reading level. Most of the participants developed their own texts to use in class to meet what they perceived were their students' reading abilities. Many participants practiced reading aloud to their students to compensate for the students' lack of ability.

The participants' main motivator for students to perform in class was grades. The participants did try to present to their students that the material was relevant to their lives beyond the grades and tests. They chose texts that they perceived as interesting to their students, yet they still considered the text length and level of difficulty. With these texts, the literacy strategies were similar within each discipline. Vocabulary instruction was an important strategy used for both disciplines. For science participants, morpheme awareness was more crucial, while social studies participants focused on test-specific language. Reading guides were also used consistently, allowing students to fill in the blanks, as well as graphic organizers and following along as the teachers used direct instruction to convey the content.

The participants cited the content-heavy curricula of science and social studies as the reason for not including more literacy instruction in their lessons. The content-heavy curricula were important to cover, since the courses had end-of-the-year assessments the students had to pass to receive their graduation credit. The literacy instruction choices made were often based on the pressure to move through the material quickly and efficiently. Due to the importance of

improving literacy among students, more research should be completed on empowering teachers to include literacy instruction in all content areas.

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APPENDIX A: IRB APPROVAL

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

September 4, 2018

Jennifer L. Ryan
IRB Approval 3406.090418: High School Science and Social Studies Teachers' Self-Efficacy Regarding Literacy Instruction: A Transcendental Phenomenological Study

Dear Jennifer L. Ryan,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

6. Collection of data from voice, video, digital, or image recordings made for research purposes.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
The Graduate School

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APPENDIX B: SCHOOL SYSTEM CONSENT FORM

August 7, 2018

Dear :

As a graduate student in the Education Department at Liberty University, I am conducting research as part of the requirements for a Doctorate in Education. The title of my research project is "High School Science and Social Studies Teachers' Self-efficacy Regarding Literacy Instruction: A Transcendental Phenomenological Study." The purpose of this study is to explore teachers' sense self-efficacy regarding the incorporation of literacy instruction in high school science and social studies classes.

I am writing to request your permission to conduct my research at the Public School's high schools. I will ask science and social studies to participate in my research study.

Participants will be asked to complete a questionnaire, participate in an interview, and provide reflections about lessons that incorporate literacy strategies in their science and social studies classrooms. The data will be used to describe how science and social studies teachers incorporate literacy strategies within their discipline. Participants will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please provide a signed statement on approved letterhead indicating that you approve of the research.

Sincerely,

Jennifer L. Ryan
English Teacher
Doctoral Candidate

APPENDIX C: PARTICIPANT CONSENT FORM

The Liberty University Institutional Review Board has approved this document for use from 9/4/2018 to 9/3/2019 Protocol # 3406.090418

Informed Consent

High School Science and Social Studies Teachers' Self-Efficacy Regarding Literacy Instruction: A Transcendental Phenomenological Study

Jennifer L. Ryan
Liberty University
School of Education

You are invited to be in a research study of high school science and social studies to study how teachers' sense of self-efficacy influences the inclusion of literacy instruction. You were selected as a possible participant because you teach these subjects. Please read this form and ask any questions you may have before agreeing to be in the study.

Jennifer L. Ryan, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this transcendental phenomenological study is to explore teachers' self-efficacy regarding the incorporation of literacy instruction in high school science and social studies classes in a rural, public school district in Virginia.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Please complete the Teacher Self-Efficacy in Language Instruction (TESLI) questionnaire. This should be take approximately 15-20 minutes.
2. Researcher and participants will decide on interview location and time. The interview may be only one session unless additional information is needed. The interview will be audio recorded. Interviews should take approximately 60 minutes.
3. Participants will provide journal reflections about their lessons that use literacy strategies. It should take approximately 20-30 minutes to complete the journal reflection(s). If you are willing, please provide the teacher-developed or teacher-selected documents used for these literacy lessons, so I may include them in the research study as examples of participants' work.
4. Participants will be provided copies of their interview transcripts to review for accuracy. Transcript review should take approximately 20-30 minutes.

Risks and Benefits of Participation: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Participants should not expect to receive a direct benefit from taking part in this study.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Participants will be assigned a pseudonym. I will conduct the interviews in a location where others will not easily overhear the conversation.

The Liberty University Institutional
Review Board has approved
this document for use from
9/4/2018 to 9/3/2019
Protocol # 3406.090418

- Data will be stored on a password locked computer and may be used in future presentations. Any non-digital information will be stored in a locked filing cabinet. After three years, all electronic records will be deleted and non-digital information will be shredded.
- Interviews will be recorded and transcribed. Recordings will be stored on a password locked computer for three years and then erased. Only the researcher will have access to these recordings.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or your school district. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

Contacts and Questions: The researcher conducting this study is Jennifer L. Ryan. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at (540) 908-7958 or jryan2@liberty.edu. You may also contact the researcher's faculty advisor, Dr. K. Swafford, at knswafford@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to video-record me as part of my participation in this study.

_____

Signature of Participant Date

_____

Signature of Investigator

APPENDIX D: TEACHER BELIEFS- TSELI QUESTIONNAIRE

The questionnaire is available at following website:

http://wmpeople.wm.edu/site/page/mxtsch/researchtools.

APPENDIX E: OPEN-ENDED INTERVIEW QUESTIONS

1. Why did you decide to enter the teaching profession?
2. How did you choose the discipline that you teach?
3. Why did you decide to teach at the high school level?
4. How do you describe the reading needs of your general education students?
5. How do you describe the reading needs of your students identified with a learning disability or English as Language Learners?
6. How do you define literacy instruction?
7. How often do you include explicit literacy instruction in the classroom?
8. How would explain your level of comfort with including literacy instruction in your content area?
9. How do you select the texts you use in the classroom?
10. What strategies do you use for literacy instruction?
11. How were you trained in regards to teaching reading in your content area?
12. What post-college training, such as additional college courses or professional development, have you had and/or materials you have used to help you develop literacy strategies?
13. What are some areas you would like to develop with literacy instruction?
14. What do you believe are your strengths with literacy instruction?
15. How do you assess the success of the reading strategies used?
16. If you decide a reading strategy is not the most successful, how do you develop and/ or decide upon future strategies to use?
17. How do you motivate students to use reading strategies?

APPENDIX F: LESSON REFLECTION JOURNALS

Instructions: Please reflect on a lesson or lessons that incorporate literacy strategies (please do not provide more than three examples) that you have used in your class(es). If you are able, please include any digital or hard copy of the teacher-developed or teacher-selected documents you used for these literacy lessons.

Subject (s) teaching for the 2018-2019 year (please choose all that apply)

Social Studies
___World Geography
___World History
___US & VA History

Science
___Earth Science
___Biology
___Chemistry

1. How much class time (minutes) did you spend on the explicit literacy strategies? Please be clear to which strategy you are addressing if you used multiple types.

If you do not incorporate explicit literacy instruction in your class(es), please provide your reasoning below. If you do not include literacy instruction, you do not have to answer questions 2-6. I do not incorporate explicit literacy instruction in my class because

2. What literacy strategies are you including in your reflection (think alouds, KWL charts, vocabulary building activities, etc.)?

Word Study
___Morpheme (prefix/ suffix/ root word) Instruction
___Other (please explain) _____
Vocabulary
___Vocabulary Word Lists
___Other (please explain) _____
Reading Comprehension Strategies
___K-W-L Charts
___During Reading Guides
___Annotation of Text(s)
___Interactive Notebooks
___Adjusting Reading Level of Text
___Anticipation Reading Guides
___After Reading Guides
___Graphic Organizers
___Chunking Text
___Other (please explain) _____

3. Describe how effective you believe the strategies were. Please be clear to which strategy you are addressing if you used multiple types.

4. How effective do you believe you were in implementing the strategies in your classroom? Please be clear to which strategy you are addressing if you used multiple types.

5. What would you do the same and/or differently next time?

6. Additional thoughts.

APPENDIX G: PARTICIPANT RECRUITMENT LETTER

March 2, 2018

Science and Social Studies Teachers
Southeast County Public School
Rural, VA

Dear Science and Social Studies Teacher:

As a graduate student in the Education Department at Liberty University, I am conducting research as part of the requirements for a Doctorate in Education degree. The purpose of my research is to explore teachers' sense self-efficacy regarding the incorporation of literacy instruction in high school science and social studies classes, and I am writing to invite you to participate in my study.

If you are willing to participate you will be asked to complete questionnaire through SurveyMonkey,™ participate in an one-on-one interview, and complete a lesson reflection journal. It should take approximately 15-20 minutes for you to complete the questionnaire. The interview should be conducted for approximately one hour. The lesson reflection journal should take approximately 20-30 minutes. Your participation will be completely anonymous, and no personal, identifying information will be collected.

To participate, please click on the link provided to complete and return the consent document to me. Once the consent is returned, I will email you the link to the questionnaire and then contact you to set up an interview time.

A consent document is provided as the first page you will see after you click on the link. The consent document contains additional information about my research, please click on the survey link at the end of the consent information to indicate that you have read the consent information and would like to take part in the research study.

Sincerely,

Jennifer L. Ryan
English Teacher

APPENDIX H: DISTRICT PERMISSION LETTER TO CONDUCT RESEARCH

August 30, 2018

Ms. Jennifer Ryan

Dear Ms. Ryan:

You have permission to conduct your research study, "High School Science and Social Studies Teachers' Self-efficacy Regarding Literacy Instruction: A Transcendental Phenomenological Study" in . Public Schools. I am aware that this request is being made for the purpose of your dissertation, that teacher participation is completely voluntary, and participants can discontinue participation at any time. Good luck with your research.

Sincerely,