Implementing Content Literacy and Disciplinary Literacy: A Mixed Methods Study of Middle School Teachers' Pedagogical Dispositions

Madison Weary
mw746846@wcupa.edu

Follow this and additional works at: https://digitalcommons.wcupa.edu/all_doctoral

Part of the Language and Literacy Education Commons

Recommended Citation
Weary, Madison, "Implementing Content Literacy and Disciplinary Literacy: A Mixed Methods Study of Middle School Teachers' Pedagogical Dispositions" (2021). West Chester University Doctoral Projects. 80. https://digitalcommons.wcupa.edu/all_doctoral/80

This Dissertation is brought to you for free and open access by the Masters Theses and Doctoral Projects at Digital Commons @ West Chester University. It has been accepted for inclusion in West Chester University Doctoral Projects by an authorized administrator of Digital Commons @ West Chester University. For more information, please contact wcressler@wcupa.edu.
Implementing Content Literacy and Disciplinary Literacy: A Mixed Methods Study of Middle School Teachers' Pedagogical Dispositions

A Dissertation

Presented to the Faculty of the

College of Education and Social Work

West Chester University

West Chester, Pennsylvania

In Partial Fulfillment of the Requirements for

the Degree of

Doctor of Education

By

Madison A. Weary

May 2021

© Copyright 2021 Madison A. Weary
Dedication

This dissertation is dedicated to my family. Throughout all of my endeavors, my family has always been a source of unwavering love, support, and encouragement. To my parents, I would not be who I am today without you. Your hard work and countless sacrifices provided Kyle and me with every opportunity to succeed. I can never thank you enough for always believing in us and for being our biggest fans. To my brother Kyle, thank you for being my best friend and voice of reason. Your support means the world to me. To be able to dedicate this work to my family has made every moment of this process worth it.

To my friends, thank you for always being the best motivators, cheerleaders, and sources of comedic relief. Your ability to find the light in any situation is exactly what I’ve needed over the last few years. Despite the amount of time that I had to dedicate to this journey, your understanding and support are what got me through. You are a constant source of strength and inspiration, and I am so fortunate to call you my friends.

Lastly, a very special thank you to my most loyal four-legged companion, Cooper, who lent a furry ear as I proofread every chapter out loud, again, again, and again. After spending countless hours by my desk as I wrote, I’m sure he is very much looking forward to our hikes together now that this process is complete.
Acknowledgements

This dissertation would not have been possible without the guidance, support, and encouragement of numerous individuals. First and foremost, I would like to express my deepest appreciation to my advisor, Dr. Heather Schugar, for her invaluable insight and feedback throughout my doctoral journey. Her commitment to her students and advisees is unparalleled, and it does not go unnoticed. Next, a sincere thank you to my committee members, Dr. Katie Solic and Dr. Kevin Flanigan. Their input and expertise were vital to the development and outcome of my research, and I am incredibly grateful for their involvement. A special thanks should also go to Dr. Drew Crossett, whose time, patience, and mathematical guidance were a lifesaver, especially on days where the world of numbers just did not make sense to me.

To my colleagues who supported me throughout this process, I cannot thank you enough for your patience and encouragement. It is not easy to be a middle school teacher, and despite all of the ups and downs, your passion, commitment, and humor make each day worth it. I would also like to extend my gratitude to my classmates in Cohort 3. The term cohort technically means a group of people banded together, and Cohort 3 truly personified this as we supported and encouraged one another throughout our journey. It was an absolute privilege to share this experience with them, and I look forward to the many great things they will accomplish in the future.

Lastly, I would like to acknowledge the rest of the faculty and staff of the West Chester University Literacy Department and the Kutztown University History Department. Throughout my time at either institution, I have been beyond lucky to have had so many professors who believed in me. I am forever grateful to them for instilling within me a love of learning and a belief that I belonged in the academic world.
Abstract

Researchers uphold that teachers' beliefs toward reading influence their planning and implementation, and that content area teachers are often reluctant to implement literacy strategies and skills within their instruction (Ness, 2009; Nourie & Lenski, 1998; Richardson et al., 1991). Much of this reluctance stems from teachers’ lack of familiarity with content area and disciplinary literacy or misconceptions surrounding instruction that supports literacy implementation (O’Byrne et al., 2020). However, within the field of literacy, there are tensions between the implementation of content area versus disciplinary literacy (Graham et al., 2017).

The purpose of this study was to examine middle school content area teachers' pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction. This study utilized a two-phase explanatory sequential mixed method design (quan → QUAL) based on a theoretical framework consisting of social constructivist theory, metacognitive theory, and social cognitive theory. Within Phase I of the study, I utilized a survey to collect quantitative data about participants’ self-efficacy beliefs (n=26). During Phase II, I collected qualitative data from a smaller group of participants (n=4) using semi-structured interviews and artifact collection. Utilizing a case study design, I explored participants’ responses regarding their literacy implementation and their professional experiences and training (Yin & Campbell, 2018). Through this study, I found discrepancies surrounding teachers’ abilities to differentiate between content area and disciplinary literacy approaches, indicating that teachers could benefit from additional opportunities to develop their knowledge of literacy instruction.

Keywords: content area literacy, disciplinary literacy, mixed methods, case study, self-efficacy, pedagogy
Table of Contents

List of Tables .................................................................................................................. ix
List of Figures ................................................................................................................ x
Chapter 1: Introduction .................................................................................................... 1
  Focus of the Study ........................................................................................................ 2
  Rationale and Significance ......................................................................................... 2
  Problem Statement .................................................................................................... 4
  Research Questions and Design ............................................................................. 6
  Rationale for Methods ............................................................................................ 7
  Limitations ................................................................................................................. 8
Definition of Terms ....................................................................................................... 9
  Principles of Literacy ............................................................................................... 9
  Expository Text ....................................................................................................... 11
  Striving Readers ..................................................................................................... 11
  Content Area Readers ........................................................................................... 11
  Content Area Literacy ........................................................................................... 12
  Disciplinary Literacy .............................................................................................. 12
  Infusion and Hybridity ........................................................................................... 13
  A Comprehensive, Balanced Approach to Literacy Instruction ....................... 14
  Explicit Instruction ............................................................................................... 15
Summary ....................................................................................................................... 15
Chapter 2: Literature Review ....................................................................................... 17
  What Teachers Need to Know about the Habits of Good Content Area Readers ...... 18
    Exposing Students to Direct, Explicit Strategy and Skill Instruction ................ 18
    Going Beyond Skill Instruction ......................................................................... 19
    Providing a Comprehensive, Balanced Approach to Literacy Instruction ........ 19
  The Explicit Instruction of Expository Text .............................................................. 20
    “Learning to Read” versus “Reading to Learn” ............................................... 21
    Skills for Reading Complex Texts .................................................................... 21
    Comprehension Instruction Leads to Independent Readers ............................ 22
  Content Area Literacy ........................................................................................... 23
Content Area Literacy Through a Philosophical Lens .................................................. 24
Why is Content Area Literacy Important in Secondary Education? ................................ 24
Teachers’ Resistance to Implementing Content Area Literacy ...................................... 25
Disciplinary Literacy ........................................................................................................ 26
Disciplinary Literacy Across Content Area Courses .................................................... 27
Content Area Teachers as Disciplinary Experts .......................................................... 30
Infusion and Hybridity ..................................................................................................... 30
Positionality .................................................................................................................... 31
My Educational Background and Beliefs on Literacy Implementation .......................... 32
My Prior Assumptions of Literacy Implementation ...................................................... 33
Epistemology .................................................................................................................. 33
Theoretical Framework ................................................................................................. 34
The Origins of Constructivism ....................................................................................... 34
Early Constructivist Philosophies .................................................................................... 35
Theoretical Perspectives of Literacy Instruction ......................................................... 37
Metacognitive Theory .................................................................................................... 38
Social Cognitive Theory ............................................................................................... 50

Chapter 3: Methodology ............................................................................................... 53
Description of the Setting .............................................................................................. 53
Participants in Quantitative Data Collection ................................................................. 53
Participants in Qualitative Data Collection .................................................................. 54
Methods ......................................................................................................................... 55
Survey ............................................................................................................................. 56
Case Study ...................................................................................................................... 57
Instrumentation ............................................................................................................. 60
Quantitative Instrumentation ....................................................................................... 60
Qualitative Instrumentation ......................................................................................... 62
Procedures ..................................................................................................................... 63
Quantitative Component ............................................................................................... 63
Qualitative Component ............................................................................................... 64
Internal and External Validity ....................................................................................... 65
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Validity</td>
<td>66</td>
</tr>
<tr>
<td>External Validity</td>
<td>67</td>
</tr>
<tr>
<td>Researcher’s Bias</td>
<td>67</td>
</tr>
<tr>
<td>Analysis Procedures for the Quantitative Component</td>
<td>68</td>
</tr>
<tr>
<td>Analysis and Coding Procedures for the Qualitative Component</td>
<td>69</td>
</tr>
<tr>
<td>Coding</td>
<td>69</td>
</tr>
<tr>
<td>Identifying Themes</td>
<td>70</td>
</tr>
<tr>
<td>Limitations and Generalizability</td>
<td>70</td>
</tr>
<tr>
<td>Informed Consent and the Protection of Human Subjects</td>
<td>71</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>71</td>
</tr>
<tr>
<td>Risks</td>
<td>71</td>
</tr>
<tr>
<td>Benefits</td>
<td>72</td>
</tr>
<tr>
<td>Summary</td>
<td>72</td>
</tr>
<tr>
<td>Chapter 4: Results</td>
<td>74</td>
</tr>
<tr>
<td>Surveying the Self-Efficacy Beliefs of Content Area Teachers</td>
<td>75</td>
</tr>
<tr>
<td>Analysis of Variance between Subscales</td>
<td>78</td>
</tr>
<tr>
<td>Principal Component Analysis</td>
<td>86</td>
</tr>
<tr>
<td>TSELI and CALIS Scores</td>
<td>88</td>
</tr>
<tr>
<td>Clustering of Participants’ Responses</td>
<td>88</td>
</tr>
<tr>
<td>Summary of Quantitative Findings</td>
<td>92</td>
</tr>
<tr>
<td>Patterns and Variations Among the Variables</td>
<td>93</td>
</tr>
<tr>
<td>Differences Between Subject Areas</td>
<td>93</td>
</tr>
<tr>
<td>A Case Study of Teachers’ Pedagogical Dispositions</td>
<td>94</td>
</tr>
<tr>
<td>Participants</td>
<td>95</td>
</tr>
<tr>
<td>Michael: Social Studies</td>
<td>96</td>
</tr>
<tr>
<td>John: Mathematics</td>
<td>96</td>
</tr>
<tr>
<td>Anne: Science</td>
<td>96</td>
</tr>
<tr>
<td>Daniel: English Language Arts (ELA)</td>
<td>96</td>
</tr>
<tr>
<td>Teachers’ Dispositions Towards Literacy Instruction</td>
<td>97</td>
</tr>
<tr>
<td>The Importance of Metacognitive Reading Strategies and Reading Comprehension</td>
<td>97</td>
</tr>
<tr>
<td>Teachers’ Perceptions of Literacy</td>
<td>101</td>
</tr>
</tbody>
</table>
List of Tables

Table 1: Implementation Matrix
Table 2: Instrument Subscales with Corresponding Survey Questions
Table 3: Participants’ TSELI, CALIS, and Overall Scores by Subject Area
Table 4: Global F-test for Subject Area CALIS Scores
Table 5: Global F-test for Subject Area TSELI Scores with Daniel Removed
Table 6: Tukey Multiple Comparisons of Means: TSELI Scores with Daniel Removed
Table 7: Principal Component Analysis: Questions Answered Similarly and Differently
List of Figures

Figure 1: Content Area Literacy versus Disciplinary Literacy Strategies and Skills..............................29

Figure 2: The Reading Process..................................................................................................................38

Figure 3: Study Timeline..............................................................................................................................63

Figure 4: Controlling for Threats to Reliability and Validity......................................................................66

Figure 5: Tukey Multiple Comparisons of Means: Assessment Scores by Subject Area..........................79

Figure 6: Tukey Multiple Comparisons of Means: Meeting Needs Scores by Subject Area....................80

Figure 7: Tukey Multiple Comparisons of Means: Preparation Scores by Subject Area..........................81

Figure 8: Tukey Multiple Comparisons of Means: TSELI Scores by Subject Area...................................83

Figure 9: TSELI versus CALIS Scatterplot.................................................................................................88

Figure 10: Cluster Dendrogram..................................................................................................................89

Figure 11: Tukey Multiple Comparisons of Means: TSELI and Cluster Assignment.............................91

Figure 12: Tukey Multiple Comparisons of Means: CALIS and Cluster Assignment............................92

Figure 13: Components of the Theoretical Framework Evident in the Findings of the Study.............140
Chapter 1: Introduction

Over the last 20 years, school districts across the country have emphasized state-mandated, tested subjects such as English Language Arts (ELA) and mathematics, encouraging teachers to implement literacy instruction across all disciplinary curricula and urging them to support students’ development of reading and writing skills within specific content areas (Graham et al., 2017; McMurrey, 2007). This emphasis is a result of educational policies and standards stemming from the implementation of No Child Left Behind (2001), and content area teachers may be unprepared, uncomfortable, or unwilling to implement literacy strategies and skills within their disciplinary instruction. McCoss-Yergian and Krepps (2010) indicated that if content area teachers received education and training primarily in their discipline, they may be ill-equipped with the knowledge or skill set required to teach reading and writing within their curricula. Teachers’ self-efficacy is a key factor in their planning and integration of literacy in the content areas, whereas the amount of training and preparation teachers receive is connected to the development of their self-efficacy beliefs (Bandura, 1977a; Cantrell & Hughes, 2008; Graham et al., 2017). In turn, researchers uphold that teachers’ beliefs toward reading influence their planning and implementation (Novie & Lenski, 1998; Richardson et al., 1991), and that they are often reluctant to explicitly implement reading comprehension strategies and skills within their secondary classrooms (Ness, 2009).

In addition to the impact that teachers' self-efficacy has on literacy implementation, a discrepancy exists between the types of instructional approaches that disciplinary teachers should utilize. Within the literature, researchers debate whether literary strategies and skills should follow a content area or a disciplinary literacy approach (Shanahan & Shanahan, 2008) and explore the ambiguity surrounding teachers’ definitions and applications of each approach.
(Brozo et al., 2013). Furthermore, there is an absence of research regarding a hybrid approach, or how both strategies, content discourse, and the context of the school environment are blended, or implemented together, during instruction (Hinchman & O'Brien, 2019).

**Focus of the Study**

This study focused on content area teachers' pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction. Utilizing a mixed-methods approach, teachers described their self-efficacy beliefs, their decision-making processes regarding their implementation of content area literacy and disciplinary literacy strategies and skills, and their experiences and training that have informed their dispositions toward literacy instruction. In this chapter, I will first provide a rationale and problem statement for the study. Next, I will outline the research questions and study design, along with a rationale where I will discuss the methods I employed in this study. Lastly, I will review the limitations of my research and conclude the chapter by defining the research’s essential terms.

**Rationale and Significance**

Alongside teachers' sense of efficacy for literacy instruction, important aspects to examine are the types of approaches teachers implement within the classroom. Although researchers differentiate between content area literacy and disciplinary literacy and their application within the reading process, Graham et al. (2017) claimed that philosophical and pedagogical tensions exist between the implementation of content area literacy and disciplinary literacy. To differentiate, content area literacy skills refer to skills that students can generalize across disciplines and apply in a variety of settings such as summarizing, annotating, or paraphrasing (Spor & Schneider, 1998). Disciplinary literacy, in turn, refers to "an emphasis on
the knowledge and abilities possessed by those who create, communicate, and use knowledge within the disciplines… emphasizing the unique tools that the experts in a discipline use to engage in the work of the discipline" (Shanahan & Shanahan, 2012, p. 8). For example, readers of a historical text would employ a skill known as sourcing, where they can determine the author's bias and context of the text, whereas readers of a science or mathematics text would use a different approach because context of this type of writing matters far less (Shanahan & Shanahan, 2012).

Although the terms content area and disciplinary literacy are often synonymously defined, they are distinctly different, leading to a clear tension in the field over their effective application and infusion into secondary content area courses (Graham et al., 2017). In response, further research can more clearly examine teachers' understanding of content area and disciplinary literacy, how there may be inconsistencies between the use of either term, and whether teachers need to receive training or professional development on literacy instruction to find a blended approach that utilizes both forms of strategies and skills, enabling teachers to provide effective literacy instruction within their curriculum.

In addition to the philosophical and pedagogical differences between content area literacy and disciplinary literacy, Graham et al. (2017) found that while teachers often implemented both approaches during their instruction, they were not always aware of how or when they had used these strategies. As administrators and policymakers require teachers to implement direct, explicit literacy instruction within their content area courses, they could benefit from investigating the type of instructional approaches that would best meet students’ needs so that teachers can purposefully select strategies and skills for their course content. To more effectively provide literacy instruction, it is essential that teachers have a clear understanding of literacy
strategies and skills, and are intentional in their instructional methods as they build their course content. As such, this study examined middle school content area teachers' implementation of content area literacy and disciplinary literacy strategies and skills, as well as how teachers’ training and professional development sessions have informed their dispositions toward literacy instruction.

**Problem Statement**

While there is a significant amount of research investigating the advantages and disadvantages of each instructional approach, researchers have yet to examine how teachers utilize content area literacy and disciplinary literacy strategies together within their content area courses (Brozo et al., 2013; Hinchman & O’Brien, 2019; Shanahan & Shanahan, 2008), along with the factors that drive their decision-making processes in terms of their instructional planning. As advocates of disciplinary literacy instruction, Shanahan and Shanahan (2008) acknowledged the important foundation that content area literacy provides to students, suggesting that eventually middle school students can transition from the use of content area literacy to disciplinary literacy. However, Graham et al. (2017) noted that within previous literature, research focuses on content area literacy, neglecting middle school teachers' instructional practices and their use of disciplinary literacy. As such, this study focused on middle-level content area teachers, providing insight into their dispositions toward literacy instruction.

Additionally, although Shanahan and Shanahan (2008) have advocated that middle school is the ideal transitional period for students to move from using content area literacy skills to utilizing disciplinary literacy skills, they also recognized that by this time, not all students will have the proficiency to do so. To this point, they expressed that the "majority of American
students gain control of these intermediate reading tools by the end of middle school, but it is common to find high school students who still struggle to read texts because they have not mastered those tools" (Shanahan & Shanahan, 2008, p. 45). By identifying an area of need for older students, this statement not only emphasizes the importance of direct, explicit instruction that utilizes aspects of each literacy approach but also acknowledges the need for further research and discussion of a hybrid model of instruction, attending to both generic and discipline-specific literacy needs (Hinchman & O'Brien, 2019).

To address the disconnect between instructional approaches, Brozo et al. (2013) expressed that the field lacks discourse surrounding a "false dichotomy," or a perceived division, between content area and disciplinary literacy (p. 354). Although philosophically and pedagogically different, Brozo et al. (2013) claimed that "a blend of practices from both approaches can serve the needs of all students," noting that researchers who are advocating for the replacement of content area literacy instruction with disciplinary literacy implementation are acting counterproductively, and the general nature of content area literacy skills can only help to build a solid foundation for the specific skill sets required by disciplinary literacy (p. 354). To this extent, Hinchman and O'Brien (2019) advocated for a model of hybridity where classroom discourses account not only for a blend of generalized and discipline-specific practices, but consider the "school and community cultural beliefs, practices, and resources" (p. 1). Therefore, future research can provide opportunities to determine how teachers can best implement a blended approach to literacy instruction that contextually meets the needs of their students while also attending to the specific demands of each discipline. Examining teachers' understanding of content area and disciplinary literacy can also provide valuable insight, as well as the possibility of inconsistencies between the use of either term and their implementation across disciplinary
curricula. To best support students, researchers advocate for a blended approach that implements both sets of strategies and skills, encouraging students' overall literacy development as well as adhering to the nuances of each specialized discipline (Brozo et al., 2013; Hinchman & O'Brien, 2019).

As content area teachers work toward implementing curricula containing content area and disciplinary literacy strategies and skills, purposeful professional development and opportunities for training and collaboration are essential factors in the development of teachers' sense of efficacy (Cantrell & Hughes, 2008). To best support teachers in becoming confident literacy practitioners, school districts may need to provide teachers with opportunities for training or professional development regarding literacy instruction, emphasizing a blended approach that clearly defines each set of literacy strategies and skills and how to implement them within content area instruction.

**Research Questions and Design**

The purpose of this study was to examine middle school content area teachers' pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction, and to provide insight into how school districts may be able to support their teachers in becoming more effective literacy practitioners. The questions that helped to guide this study included:

1. What self-efficacy beliefs do content area teachers hold in regards to content area and disciplinary literacy strategies and skills?
2. How do content area teachers describe their decision-making process in regards to the implementation of content area literacy and disciplinary literacy strategies and skills within their planning and classroom instruction?
3. In what ways do teachers' experiences and training inform their dispositions toward literacy instruction?

This study utilized a two-phase explanatory sequential mixed method design (quan → QUAL). Within Phase I of the study, I collected quantitative data from 26 participants through survey responses, examining content area teachers' self-efficacy beliefs in regards to literacy instruction. The results from the first phase of the study guided the purposeful selection of participants for Phase II, where four content area teachers who identified as having high self-efficacy for literacy implementation participated in a case study utilizing semi-structured interviews and artifact collection (Yin & Campbell, 2018).

**Rationale for Methods**

Within this study, I utilized an explanatory sequential mixed method design to gather results from a quantitative phase, informing the purposeful selection of participants for the qualitative phase. I was able to utilize purposeful selection by identifying four individuals who completed the initial survey, reporting the highest levels of self-efficacy regarding literacy implementation. This purposeful sample was essential to the study as in order to participate in the semi-structured interviews, participants needed to have adequate experience implementing literacy strategies and skills in their content area classes. In doing so, I was able to provide insight into the quantitative findings by conducting semi-structured interviews to gather qualitative data and give voice to participants' pedagogical dispositions.

I chose to conduct semi-structured interviews with the goal of uncovering the decision-making processes of the participants regarding their planning and implementation of literacy strategies and skills within their lessons. They also provided data on how teachers' training and professional development sessions informed their dispositions toward literacy implementation,
allowing the teachers to lend a voice to their knowledge and beliefs about literacy instruction. Utilizing Yin and Campbell’s (2018) case study framework, an analysis of multiple cases provided insight into middle school content area teachers’ perceptions of implementing content area literacy and disciplinary literacy strategies and skills into their instruction, while also elaborating on how school districts can better support their teachers. Following the analysis of each participant's experience, a cross-case analysis identified themes across content areas.

**Limitations**

To begin, the small sample size of teachers that participated in the semi-structured interviews limits the degree to which the findings are generalizable to the larger population of middle school content area teachers. Another limitation is that as a result of the global COVID-19 pandemic, classroom observations during the course of this study were not feasible. Ideally, observations of participants' physical classroom instruction would be able to provide a more detailed picture of their literacy implementation. Classroom observations can contextualize teachers’ planning and instruction, providing data on when and how teachers explicitly utilize literacy strategies and skills. Lastly, the purposeful selection of participants for the study highlighted teachers who exhibited high self-efficacy and knowledge of literacy implementation to ensure that they had adequate experience with using literacy strategies and skills in their content area classes, which is not generalizable across all content area teachers. This purposeful sample was essential to the study as in order to participate in the interviews, teachers needed to have adequate experience using literacy strategies and skills in their content area classes. Teachers who indicated that they were familiar with literacy strategies and skills, and who, to an extent, have attempted to implement them into their instruction, best fit the needs of the study and were able to speak to the interview questions during Phase II. I designed the interview
questions to help answer the second and third research subquestions: How do content area teachers describe their decision-making process regarding the implementation of content area literacy and disciplinary literacy strategies and skills within their planning and classroom instruction, and how have their experiences and training informed the dispositions that impact those decisions?

**Definition of Terms**

To ensure a common understanding of the terminology and concepts that are central to this study, I will define several terms and describe how they are situated within the context of the research. I begin by discussing various core principles that help to define literacy, followed by a description of expository text and its significance regarding reading comprehension instruction within the content areas. Next, I discuss the terms striving readers and content area readers, as well as define both content area literacy and disciplinary literacy, noting their pedagogical and philosophical similarities and differences within literacy implementation. Within this discussion, I also highlight the terms infusion and hybridity and discuss their implications for blended literacy instruction. Lastly, I explain the significance of a comprehensive, balanced approach to literacy instruction as well as explicit instruction, and how they relate to reading development within the parameters of this study.

**Principles of Literacy**

Within the literature, a significant amount of research exists on the various approaches to teaching literacy. However, surprisingly, much of the literature lacks a precise definition as to what the term literacy actually means. Keefe and Copeland (2011) recognized that while one definitive definition of literacy does not exist, there is "value in developing a shared set of core principles that any definition of literacy should encompass" (p. 92). They begin by providing an
overview of the conceptualization of literacy, as well as several examples of definitions. In terms of reading, Keefe and Copeland identified the Program for International Student Assessment's definition of literacy as "an individual's capacity to understand, use, and reflect on written text, in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society" (Organization for Economic Co-operation and Development, 2006, p. 46). In acknowledging literacy as a social phenomenon, Keefe and Copeland reference Kliewer (2008) who described literacy as "the construction (which includes interpretation) of meaning through visually or tactually crafted symbols that compose various forms of text" (p. 106). As their purpose is not to create a single definition of literacy, Keefe and Copeland recognized that there is a continuum for literacy that develops throughout one's lifetime. They also rejected the notion of what they describe as a literate versus nonliterate dichotomy. Given their beliefs, they outline their five core definitional principles for literacy:

(1) All people are capable of acquiring literacy.

(2) Literacy is a human right and is a fundamental part of the human experience.

(3) Literacy is not a trait that resides in the individual person. It requires and creates a connection (relationship) with others.

(4) Literacy includes communication, contact, and the expectation that interaction is possible for all individuals; literacy has the potential to lead to empowerment.

(5) Literacy is the collective responsibility of every individual in the community; that is, to develop meaning-making with all human modes of communication to transmit and receive information. (p. 97)

Keefe and Copeland (2011) explicitly stated that they developed their principles in order to encourage an inclusive approach to literacy instruction. Having established a lens through which
to view literacy and literacy instruction, I will now discuss *expository text* and how the comprehension of expository text relates to content area literacy instruction.

**Expository Text**

As this study centered around the implementation of literacy strategies and skills within content area courses, I focused on the instruction of *expository text*. In this study, exposition generally refers to textbook-style text that utilizes a variety of specific structures to organize, present, and explain information (Burke, 2000). In different content area courses, expository text is situated using various structures, including description, sequence, compare and contrast, cause and effect, and problem-solution (Akhondi et al., 2011; Meyer, 1985). By fostering expository text comprehension through explicit instruction, opportunities for discourse, and the identification of text structures, content area teachers can enable their students to develop the productive habits of good readers. According to the literature, this instruction can occur for content area readers through *content area literacy* instruction or *disciplinary literacy* instruction.

**Striving Readers**

The term *striving readers* refers to students who may face academic difficulties in regards to their reading development (Groff, 2014). The adjective *striving* emphasizes readers' assets over their deficits.

**Content Area Readers**

In this study, *content area readers* refers to students interacting with expository text in content area courses such as science, mathematics, social studies, and ELA, and refers to any reader at any proficiency level. The term *content area readers* is not to be confused with the term *content area literacy*, which describes an instructional approach that teachers utilize during literacy instruction.
Content Area Literacy

Content area literacy refers to strategies and skills that readers can generalize and apply across disciplines, often categorized synonymously as metacognitive reading strategies where readers are thinking about their thinking, such as self-monitoring, an awareness of the purpose of reading, questioning, visualizing, predicting, clarifying, summarizing, and making connections or associations (Palincsar & Brown, 1984). As students encounter various types of text structures across disciplinary curricula, content area literacy skills enable them to independently utilize their metacognitive reading strategies to aid in their comprehension of the text. In addition to receiving instruction on metacognitive reading strategies, teaching students to attend to the text features of various disciplinary texts also improves their ability to understand and interact with the information (Risko et al., 2011). Such text features can include the table of contents, glossary, index, pictures and illustrations, captions, titles, headings, and bolded words.

Disciplinary Literacy

According to O’Byrne et al. (2020), “the term disciplinary literacy is often used interchangeably with content-area literacy,” although they are very different (p. 3). Disciplinary literacy, in turn, refers to instruction that is discipline-specific in nature and attends to the unique ways that experts in each respective field approach and interact with text (Shanahan & Shanahan, 2008). For example, Wineburg (1991) discussed how as experts in their field, historians interact with texts by questioning their sources and identifying who created the artifacts they are examining. This would differ from how a scientist would approach a text, where they might begin by looking for a process or a hypothesis instead of contextualizing the information. In contrast to the generalized nature of content area literacy, advocates for disciplinary literacy attest that it is the basis for understanding specialized disciplines (Zygouris-Coe, 2012).
practicing disciplinary literacy skills, readers essentially become members of the subject's community, taking on the role of disciplinary experts and interacting with the text as such (Brozo et al., 2013).

As experts in their respective disciplines, content area teachers can best model for students how disciplinary experts interact with text (Shanahan & Shanahan, 2008). However, experts indicate that simply supplementing, or infusing, instruction with literacy strategies will not suffice in discipline-specific courses. Instead, several researchers advocate that a model of hybridity is necessary for students to develop their reading comprehension skills within the context of the classroom (Brozo et al., 2013; Hinchman & O'Brien, 2019). According to O’Byrne et al. (2020), “Content-area literacy and disciplinary literacy are founded upon very different theoretical bases and have different goals,” thus making them “complementary but not interchangeable” (p. 4).

**Infusion and Hybridity**

*Infusion* refers to instruction that occurs when teachers infuse basic reading strategy and skill instruction into specific subject areas to help support students' reading development. For example, using an infusion approach, a content area teacher could introduce comprehension strategies utilizing disciplinary trade books (Fang & Wei, 2010). In turn, proponents of *hybridity* advocate for context-driven literacy instruction that supports the unique demands of each subject area, attending to epistemological and pedagogical practices that value teachers' perspectives and include inquiry, authentic texts, and scaffolded learning (Hinchman & O'Brien, 2019). However, it is a *comprehensive, balanced approach* that utilizes the direct, *explicit instruction* of literacy strategies and skills that allows students to internalize successful reading habits and

A Comprehensive, Balanced Approach to Literacy Instruction

In regards to the science of reading, the term “balanced literacy approach” has become synonymous with whole language instruction (Routman, 1991). However, in contrast to whole language, a comprehensive, balanced approach to literacy instruction grants teachers the agency to decide when to be explicit in their instruction and when to provide students the opportunity to work with literacy strategies and skills in authentic, meaningful ways (Pressley, 2006). Opposite of whole language is “structured literacy,” a term indicating an approach where teachers utilize explicit, systematic instruction to teach foundational literacy skills such as phonological skills, spelling, and decoding, along with other components of literacy, such as vocabulary, comprehension, and text structure (Spear-Swerling, 2019). Within the field of literacy research, there is tension surrounding not only the use of either term, but also between the implementation of balanced literacy and structured literacy, as proponents of structured literacy have argued that balanced literacy lacks an “explicit, systematic, sequential approach” (Spear-Swerling, 2019, p. 205).

In this study, I refer to a comprehensive, balanced approach, not as a version of whole language instruction, but as an inclusive literacy practice that encompasses not only the foundational components of literacy instruction, but also emphasizes additional lenses and perspectives of literacy implementation. Less systematic and without a definitive sequence like structured literacy, a comprehensive, balanced approach includes direct, explicit instruction in phonemic awareness, phonics, comprehension, vocabulary, and fluency, as well as extended time
and opportunities for students to apply their reading strategies and skills in authentic, meaningful contexts (Pressley, 2006; K. Flanigan, personal communication, September 29, 2020).

**Explicit Instruction**

In this study, *explicit instruction* refers to the direct, overt instruction of literacy strategies and skills utilizing techniques such as teacher modeling, metacognitive think alouds, or a gradual release of responsibility model where teachers implement scaffolded support and phase students into independent reading (Duffy, 2002; Duke & Pearson, 2002; Fisher & Frey, 2008; Marin & Halpern, 2011). Although students receive literacy instruction throughout the early years of their primary education, researchers have noted that "strong early reading skills do not automatically develop into more complex skills that enable students to deal with the specialized and sophisticated reading of literature, science, history, and mathematics" (Shanahan & Shanahan, 2008). When teachers implement direct, explicit literacy strategies such as scaffolding and activating prior knowledge into content area courses, they can help students gain a deeper understanding of the course material and bridge the gap between previous learning experiences and the required content learning that is taking place (Bruner, 1986; Spor & Schneider, 1998).

**Summary**

To prepare content area teachers to meet the demands of administrators and policymakers, districts and teacher preparation programs could benefit in providing opportunities for educators to form a solid foundation for literacy instruction. In this study, I utilized a mixed-methods analysis to explore teachers' understandings and misconceptions, decision-making processes, and professional development experiences that inform their dispositions toward literacy instruction in a way that can take into account the complex nature of instruction and the situational contexts of each classroom environment.
Overall, mixed-methods research is a valuable asset to the body of knowledge because of the quantitative data, amplified by authentic, qualitative evidence. Researchers indicate that confident teachers who can make data-driven decisions supporting the literacy needs of their students can aid in improving students' overall reading and comprehension skills (Cantrell & Hughes, 2008; Graham et al., 2017). By providing a platform for teachers' voices and the ability to share their experiences within the reading and instructional processes, researchers can better inform professional development practices and prepare practitioners to provide the type of instruction that is essential to student success. As noted by Shanahan (2014), "If we are going to get it right, it is essential that teachers be involved in all aspects of the educational enterprise," and as such, researchers could benefit from the prevalence of their stories (p. 11). Within the field of literacy, mixed methods research is essential in analyzing the relationship between the self-efficacy beliefs of content area teachers regarding literacy instruction, how teachers describe their decision-making processes as they implement literacy strategies and skills in their classrooms, and the training and professional development experiences that inform their dispositions. As literacy learning itself is a complex construction of knowledge, it is imperative that the research methodologies are reflective of such complexities and can give voice to the authentic context and individualized experiences of the participants.
Chapter 2: Literature Review

This study focused on content area teachers' pedagogical dispositions toward implementing content area and disciplinary literacy strategies and skills into their instruction. Researchers have indicated that teachers' beliefs toward reading influence their planning and implementation (Nourie & Lenski, 1998; Richardson et al., 1991) and that when teachers are confident in their abilities to implement literacy strategies and skills, they are more likely and more willing to do so (Bandura, 1977a; Cantrell & Hughes, 2008; Graham et al., 2017). However, before they can discuss their beliefs towards the topic, content area teachers may benefit from having a solid understanding in the ways that effective literacy implementation occurs. By considering the practices of successful readers, teachers can gain an understanding of effective literacy instruction. Therefore, this research examined the habits of good readers, as well as both content area and disciplinary literacy approaches and their implications for classroom instruction.

I will first explain literacy implementation and the strategies and skills good readers employ as they read, beginning the chapter by defining “good content area readers” and discussing their habits. Next, I will outline the importance of explicit literacy instruction when utilizing expository text, followed by an examination of content area literacy, disciplinary literacy, and the infusion and hybridity of both approaches. Lastly, I will review the theoretical and empirical evidence that contributes to our knowledge of the reading process by discussing metacognitive theory, social constructivist theory, and social cognitive theory, as well as their implications for content area reading instruction.
What Teachers Need to Know about the Habits of Good Content Area Readers

Content area teachers need to understand the habits of good readers so that they can purposefully plan and integrate explicit strategy and skill instruction into their daily lessons. To this extent, I will discuss what content area teachers need to know about successful reading instruction. Much of what we know about reading comprehension comes from studying good readers and what good readers do when they read. For students to be successful readers, they must independently utilize reading strategies and skills as they read (Allington, 2013; Duffy, 2002; Duke & Pearson, 2002). However, for students to internalize their learning and independently apply reading strategies and skills, they need explicit instruction on employing fix-up techniques and monitoring their understanding (Duffy, 2002; Duke & Pearson, 2002; Durkin, 1978/1979; Fisher & Frey, 2008). Utilizing reading strategies and skills is especially important as students enter content area courses, where the disciplinary reading material increases in complexity and often requires reading and rereading for comprehension (Fang, 2016).

Exposing Students to Direct, Explicit Strategy and Skill Instruction

In terms of content area readers, successful readers read actively, create goals, preview the text, make predictions, question their meaning-making, attempt to determine the meaning of unfamiliar words, integrate their prior knowledge, monitor their understanding, and use different approaches for different kinds of text (Duke & Pearson, 2002). According to Duke and Pearson (2002), effective reading comprehension instruction includes explicitly modeling specific strategies and providing adequate time for students to spend reading, writing, and talking about text. Meanwhile, reading development refers to the continuum of stages that explain how students progress as readers. For reading development to occur, students need exposure to the
direct, explicit instruction of strategies and skills, along with the ability to utilize cognitive strategies and skills independently.

**Going Beyond Skill Instruction**

According to Afflerbach et al. (2013), four components are necessary for successful literacy implementation that go beyond the instruction of strategies and skills. For teachers to develop effective literacy instruction, they need to be aware of these four components as they plan. Afflerbach et al. (2013) determined that successful readers: (1) are metacognitive by planning their reading around specific goals and monitoring and evaluating their reading as they go; (2) are motivated and engaged; (3) develop their epistemic beliefs by analyzing authors’ purposes and understanding that texts show bias; and (4) have high self-efficacy by setting expectations to meet the challenges of different texts and tasks. Afflerbach et al. (2013) stated that all four factors are integral for students’ reading development and success, and content area teachers should, therefore, center their planning and instruction around them. Additionally, McKeown et al. (2009) suggested that rather than focusing on employing specific skills, as students build meaning while they read they “require attention to text content in ways that promote attending to important ideas and establishing connections between them” (p. 245).

**Providing a Comprehensive, Balanced Approach to Literacy Instruction**

The development of reading occurs through the instruction of phonemic awareness, vocabulary, fluency, phonics, and comprehension (Afflerbach et al., 2013). However, regardless of how students develop their reading and decoding skills, teachers in content area courses are asking students to utilize their skills to address information in unique, discipline-specific ways (Fang, 2014; Wright & Gotwals, 2017). For example, as students continuously interact with domain vocabulary words in a science class, they are able to transfer the words from their
receptive vocabulary, or their ability to recognize the words, to their productive vocabulary, or their ability to utilize the words correctly in the context of the course (Faraj, 2015).

Afflerbach et al. (2013) contended that the instruction of phonemic awareness, vocabulary, fluency, phonics, and comprehension alone does not fully contribute to developing readers’ achievement or lack thereof. Instead, they insisted that metacognition, motivation and engagement, epistemic belief, and self-efficacy significantly impact students’ reading development. Yet, these factors do not receive enough attention in the classroom as literacy teachers often solely emphasize strategy and skill instruction, and disciplinary teachers focus on the delivery of content information (Afflerbach et al., 2013; Ness, 2009). To encourage students’ development of productive reading habits, content area teachers need training to provide students with a comprehensive, balanced approach that not only fosters the use of cognitive strategies and skills but also supports student motivation, engagement, and self-efficacy (Cantrell & Hughes, 2008). To provide further insight into the distinction between effective content area and disciplinary literacy instruction, I will next review the significance of using explicit literacy instruction for expository texts.

**The Explicit Instruction of Expository Text**

Students can continue to improve and develop their reading comprehension skills when they receive explicit instruction in reading comprehension practices, especially at the secondary level (Duffy, 2002; Duke & Pearson, 2002; Durkin, 1978/1979; Edmonds et al., 2009). Edmonds et al. (2009) explained that this is a significant phenomenon because many striving readers, especially those in secondary schools, do not receive effective, explicit reading comprehension instruction.
“Learning to Read” versus “Reading to Learn”

Students typically begin reading narrative, story-like texts with the purpose of following a plot or storyline. However, as they enter into content area courses, the goal begins to shift from following a storyline to understanding information (Akhondi et al., 2011; Lorch & Lorch, 1996). As students transition from "learning to read" to "reading to learn" they gain exposure to various forms of expository text. During this time, many students experience what is known as a transitional "slump" (Chall, 1996; Sanacore & Palumbo, 2008). Sanacore and Palumbo (2008) attributed this "slump" to the switch from narrative to expository texts, tasking content area teachers with teaching students the strategies and skills necessary to develop reading comprehension skills. Unfortunately, researchers have indicated that following teachers’ increased attention on expository texts in the early grades, the recent focus may not be enough as a majority of fourth- and eighth-graders in the U.S. are still not proficient readers (Green & Holman, 2021; Schugar & Dreher, 2017). According to Schugar and Dreher (2017), there are several factors that may continue to exacerbate the “slump,” including an absence of classroom discussions about expository texts, students’ lack of out-of-school reading experiences, and most importantly, students’ socioeconomic backgrounds.

Skills for Reading Complex Texts

Israel et al. (2005) found that less skilled readers have a smaller extent of metacognitive awareness than their proficient peers and need explicit instruction to engage in the cognitive process. The ability to read complex texts for understanding, such as those prevalent in content area courses, requires explicit instruction on identifying various text structures and the ability to utilize strategies and skills to monitor comprehension (Akhondi et al., 2011). In studying student comprehension and recall, Meyer et al. (1980) found that when readers could utilize signal words
and text cues to recognize the overall text structure, they were able to identify the essential ideas and generate a "gist." This "gist" increases students' understanding and ability to recall information after reading, indicating that students who are unaware of text structure may struggle with comprehension, as they approach their reading without a plan or expectation as to how the author intends to present the information (Akhondi et al., 2011; RAND Reading Study Group, 2002). Overall, comprehension is a coordinated method where readers can flexibly employ multiple strategies when attempting to read expository text and is successful when teachers "integrate instruction across the curriculum that uses authentic literature and authentic tasks" (Almasi et al., 2006, p. 61). In terms of authenticity, content area teachers can implement literacy instruction that correlates directly with how disciplinary experts in their fields interact with information (Fang, 2014; Shanahan & Shanahan, 2008).

**Comprehension Instruction Leads to Independent Readers**

As “reading to learn” requires students to independently comprehend complex texts, explicit comprehension instruction is necessary within content area courses (Chall, 1996; Sanacore & Palumbo, 2008). According to the RAND Reading Study Group (2002), reading comprehension is "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language," noting that reading comprehension involves three elements: (1) the reader who is attempting to comprehend what they are reading; (2) the text that is to be understood; and (3) the activity that requires comprehension (p. 11). In terms of comprehension instruction, Harvey and Goudvis (2013) asserted that comprehension instruction is most successful when students can flexibly utilize their cognitive strategies across various texts. In other words, skilled readers can identify different text structures and employ the appropriate strategy necessary for comprehension. As students learn to read, they must learn to
recognize various text structures and create a plan for their reading (Akhondi et al., 2011). As they progress through their education, other factors such as word recognition, background knowledge, and their individual utilization of reading strategies add to their overall comprehension of text (Kintsch & Kintsch, 2005). When students receive explicit instruction on the cognitive processes that teachers expect them to utilize while reading, they are more likely to employ their fix-up strategies and skills when they encounter a challenging text (Duffy, 2002; Duffy & Roehler, 1982; Duke & Pearson, 2002; Eilers & Pinkley, 2006). Implementing explicit literacy strategy and skill instruction into content area courses is especially important as a result of the increasing complexity of text (Fang, 2016). However, within the literature, a discrepancy exists between the implementation of content area versus disciplinary literacy approaches (Shanahan & Shanahan, 2008). As such, I will discuss the characteristics of content area and disciplinary literacy, and identify a hybrid approach that several researchers claim can meet the needs of all students through both a cognitive and sociocultural perspective (Brozo et al., 2013; Gee, 1990; Hinchman & O’Brien, 2019; Kushner & Phillips, 2020).

**Content Area Literacy**

According to Draper and Broomhead (2010), students typically do not enter content area classrooms with the tools and techniques necessary to independently comprehend disciplinary texts. From a pedagogical standpoint, advocates for content area instruction assert that teachers can implement general metacognitive reading strategies and processes during their instruction to improve students' overall comprehension of expository text (Akhondi et al., 2011; Bogard et al., 2017; Chauvin & Theodore, 2015; Di Domenico et al., 2019). Through direct, explicit instruction, Duke and Pearson (2002) found that students can learn how to model their teachers’ and peers’ processes to approach different text structures and independently comprehend texts.
Content Area Literacy Through a Philosophical Lens

Philosophically, proponents of content area literacy maintain that by teaching students to generalize their reading skills, readers can apply them across disciplines as a tool not only for understanding but also to gain access to the general curriculum (Puckett et al., 2009). To this extent, Vacca (2002) claimed that "content area teachers can make a difference in the school lives of adolescents when they incorporate reading strategy mini-lessons into their instructional repertoire" (p. 184). In doing so, content area teachers can provide the generalized instruction necessary for students to develop essential reading and writing skills that they can employ in various situations, applying their knowledge in a multitude of settings and removing barriers that may have otherwise limited their ability to initially interact with text. For example, if a student in a social studies class receives instruction on metacognitive strategies such as annotating and paraphrasing, they can transfer these skills to a science text that they may be striving to read (Chauvin & Theodore, 2015). By generalizing and implementing fix-up strategies to improve comprehension, the student has now gained access to a text that may have previously been too difficult to understand and can continue to utilize their skills to overcome future challenges.

Why is Content Area Literacy Important in Secondary Education?

Di Domenico et al. (2019) attested that content area literacy strategies and skills provide an important scaffold for students as they attempt to interact with disciplinary texts. However, Shanahan and Shanahan (2008) acknowledged that as students progress through their secondary education, there is an expectation that students have mastered generalized content area literacy skills. Unfortunately, they determined that this is not always the case, as many students at the secondary level do not possess the content area strategies and skills necessary to independently read complex expository texts and will continue to need further instruction. This developmental
gap stirs the debate as to who is directly responsible for continuing to develop secondary students' literacy skills, and what the goals should be of literacy implementation in the content areas.

According to Biancarosa and Snow (2004), administrators and policymakers expect secondary teachers to possess content knowledge and a solid foundation for pedagogical practice, as well as the ability to support students' development and application of literacy strategies and skills across various content areas. Also, Draper (2008) considered that along with its broad definition and generalized nature of implementation, literacy experts have not definitively settled on a singular goal for content area literacy instruction, describing multiple viewpoints where "content-area literacy should be a goal of instruction, whereas others suggest that it should be a tool to enhance or enable learning" (p. 61). For example, Vacca (2002) stated that "content area teachers can make a difference in the school lives of adolescents when they incorporate reading strategy mini-lessons into their instructional repertoire," advocating for literacy as the goal, where the advancement of literacy skills can improve students’ lives (p. 184). Conversely, Moje et al. (2004) described content literacy skills as "navigational tools for examining different discourse communities and learning different skills, and as tools for challenging and reshaping representations" during the learning process (p. 61). Whether teachers implement content area literacy as the goal of instruction or as a tool to facilitate learning, without a clear objective, content area instructors have been reluctant to assume the responsibility of literacy instruction (Cantrell et al., 2008; Shanahan & Shanahan, 2008).

**Teachers’ Resistance to Implementing Content Area Literacy**

Much of the literature on reading and writing in the content areas focuses on teachers' resistance to implementing literacy approaches, rather than how successful implementation
occurs (Cantrell et al., 2008). As advocates for a focus on disciplinary literacy over content area literacy, Shanahan and Shanahan (2012) stated that "content area reading approaches have not appealed to most content area teachers" (p. 14). A lack of appeal could be a result of the "every teacher, a teacher of reading" paradigm, where "resistance is often related to how generic strategies are offered to teachers… forced on teachers blindly and uncritically" (Brozo et al., 2013, p. 355). Cantrell et al. (2008) explained that teachers' resistance is "especially relevant in light of recent assessment results indicating that more than one in four adolescents is achieving below basic levels in reading and nearly one-third of students who graduate from high school are not prepared for college-level reading" (p. 77). As such, critics of content area literacy instruction contend that the focus on generalized literacy skills does not adequately recognize the different demands of each discipline, teacher agency, or the overall context of each classroom environment (Brozo et al., 2013). Instead, several literacy experts support the implementation of disciplinary literacy strategies and skills (Fang & Schleppegrell, 2008; Shanahan & Shanahan, 2012).

**Disciplinary Literacy**

Often referred to as a form of advanced literacy instruction, proponents of disciplinary literacy argue that for students to gain proficient knowledge in a specific subject area, their reading development must include an increased specialization in the way disciplinary experts interact with text (Fang, 2014; Shanahan & Shanahan, 2008). To become a member of a subject's academic community, students must first be aware of how disciplinary experts work within each respective field. In doing so, teachers and students explicitly talk about how disciplinary experts interact with domain vocabulary, how readers attend to the author and author's purpose of a text, and how functional linguistics, or the specific patterns and structures of language, help to
uniquely shape the ideas and concepts of each respective discipline (Shanahan & Shanahan, 2012). To this extent, Fang and Schleppegrell (2008) provided a linguistic analysis of a science text using nominalization to explain the action of water evaporating as a verb. However, they pointed out that as experts in the field, scientists study and write about the process of evaporation, which is a noun. By addressing how scientists view evaporation as a process, Fang and Schleppegrell (2008) explained that teachers can linguistically unpack concepts for students, making concepts less abstract and aiding students’ overall comprehension of a disciplinary text.

**Disciplinary Literacy Across Content Area Courses**

Pedagogically, disciplinary literacy strategies and skills look different within each subject area. Shanahan and Shanahan (2012) attested that the different disciplinary literacy approaches come from the differences in the subject areas themselves. According to Moje (2008), for successful disciplinary literacy implementation to occur, content area teachers need to be aware of what constitutes as knowledge and learning within their respective subject areas.

Utilizing this approach, teachers and students are aware that each discipline comes with its own norms and discourse (Graham et al., 2017). Content area texts utilize domain-specific vocabulary and often contain abstract topics, requiring the reader to go beyond generic reading strategies (Lawrence et al., 2019). Students interacting with text using disciplinary literacy skills carefully attend to language and meaning specific or unique to each content area. As Fang and Schleppegrell (2008) explained, readers in a science classroom, who are learning about a scientific process might begin by learning particular domain vocabulary words before reading the text. In contrast, readers in a social studies classroom may be evaluating sources for author’s bias. In a mathematics classroom, students may learn particular literacy skills regarding breaking down a word problem (Chauvin & Theodore, 2015; Lee & Spratley, 2010; Shanahan &
Shanahan, 2008). In terms of semiotics, students learning science or mathematics would pay close attention to processes dictated by symbols, visual representations, or technical language (Graham et al., 2017). However, while many literacy skills are generalizable in nature, when students or teachers utilize them in a disciplinary-specific way, they can be categorized as disciplinary literacy skills. For example, a metacognitive reading strategy that students often learn is to generate questions as they read. When looking through a disciplinary lens in a class such as social studies, this may require students to take on the role of a historian where they utilize questioning techniques to interact with historical artifacts (Monte-Sano et al., 2014).
Figure 1

Content Area Literacy versus Disciplinary Literacy Strategies and Skills

Note. This figure displays the strategies and skills that are specific to content area and disciplinary literacy approaches. Within the figure, there is a category for shared characteristics of generalized skills that instructors can utilize in discipline-specific capacities.
Content Area Teachers as Disciplinary Experts

Disciplinary literacy requires students to act as disciplinary experts when interacting with the text. Using social studies as an example, Monte-Sano et al. (2014) suggested that "generic reading comprehension and historical reading are in constant tension since generic reading comprehension emphasizes our present purposes for reading as well as the literal text" but does not account for significant aspects of historical reading such as sourcing, contextualization, and corroboration (p. 544). Nevertheless, middle-level content area courses do not always focus on disciplinary literacy as it "seems counter to the interdisciplinary nature of middle grades curriculum" (Graham et al., 2017, p. 64). Although researchers contend that content area teachers are often reluctant to infuse literacy strategies into their instruction, advocates for disciplinary literacy maintain that "content area teachers in secondary grades are best suited to teach reading in their respective disciplines because of their knowledge of the content and implicit knowledge of the structure and language of their discipline" (Zygouris-Coe, 2012, p. 38). As experts, content area teachers have the ability to model to students the discourse, processes, norms that are specific to each subject (Gee, 1990; Kushner & Phillips, 2020; Moje, 2008).

Infusion and Hybridity

By integrating reading strategies into the curriculum, teachers can add literacy instruction into their content area lessons to supplement content learning. However, critics of infusion dispute that this approach does not account for the complexities of curricula, school cultures, or discipline-specific epistemologies and processes (Hinchman & O'Brien, 2019; Kushner & Phillips, 2020; O'Brien et al., 1995). Currently, much of the current discussion surrounding disciplinary literacy implementation centers on infusion. From a cognitive perspective, as the instruction of specialized reading skills progresses within a specific discipline, students require
less generalizable skills and instead need to be able to attend to the more nuanced processes of the subject area (Brozo et al., 2013; Shanahan & Shanahan, 2008). From a sociocultural perspective, literacy is social practice “embedded in larger social and cultural relationships” (Kushner & Phillips, 2020, p. 232). Through this lens, teachers can utilize a blended approach within the context of their classrooms to emphasize the language, tools, and norms of the discipline (Kushner & Phillips, 2020). In doing so, teachers recognize the role of literacy in discourse communities and can attend to literacy skills as social practices (Moje, 2008).

Since students rely on both content area and disciplinary literacy strategies and skills as they navigate content area material, literacy instruction that includes both approaches is necessary for student success (Dobbs et al., 2016; International Literacy Association, 2017; O’Byrne et al., 2020). As content area teachers plan their instruction to meet their students’ needs, differentiating between content area and disciplinary literacy skills, while also examining how to blend the two approaches, will help create an effective framework for literacy instruction. However, to improve policy and provide adequate professional development for educators, administrators and policymakers could benefit from having a better understanding of a hybrid model of literacy instruction. They could also benefit from understanding what implementation looks like within each discipline and how teachers can utilize hybridity to improve student learning outcomes (Lee & Spratley, 2010). This deeper understanding begins with recognizing the reading process as an active construction of knowledge. As such, I will review the theoretical framework of this study, which is rooted in constructivism.

**Positionality**

As the researcher and primary investigator of this study, I aim to acknowledge how my identity, experiences, and beliefs as an educator have shaped my worldview. My research
focused on content area teachers’ dispositions toward literacy instruction, and therefore, my role as a middle school content area teacher combined with my educational background in literacy, have heavily influenced my positionality. Over the past nine years, I have worked in the building that serves as the setting and location of my study. My position as a classroom social studies teacher does not hold power or an authoritative role within my community of colleagues, which has allowed me to become part of the school culture. As such, I have built a positive rapport with my colleagues and administrators.

My Educational Background and Beliefs on Literacy Implementation

Personally, my educational background and teaching experiences have directly influenced my beliefs toward literacy implementation within content area courses. I hold a Bachelor’s Degree in secondary education and social studies and a Master’s Degree in literacy with a certification as a reading specialist. With training and education in both my content area discipline and in literacy instruction, I have been able to inform my pedagogical practices and build a constructivist worldview. To this extent, I believe that teachers can provide effective literacy instruction within content area courses through a comprehensive, balanced literacy approach utilizing a blend of both content area and disciplinary literacy strategies and skills. Within a hybrid framework that integrates both content area and disciplinary literacy strategies and skills, teachers can provide direct, explicit instruction in content area literacy skills to help scaffold students’ learning, as many students have not yet mastered these skills. In addition to content area literacy instruction, teachers can also provide direct, explicit instruction in disciplinary literacy strategies and skills to help students attend to the unique requirements of various content area texts.
My Prior Assumptions of Literacy Implementation

My prior assumption is that among content area teachers, there is a sense of discomfort when implementing literacy instruction. As such, I examined my participants’ pedagogical dispositions and self-efficacy beliefs within this area. Throughout my research, I discuss the practical implications of how school districts and teacher preparation programs can better equip content area teachers for literacy implementation.

Epistemology

Using a constructivist epistemological lens, I focused this study on the multiple worldviews of content area teachers and their pedagogical dispositions toward implementing content area and disciplinary literacy strategies and skills into their instruction. Content area teachers’ knowledge, beliefs, and implementation of literacy instruction are imperative to the framework of this study. As such, I utilized a framework that is based on what researchers deem as effective literacy instruction, built around metacognitive reading strategies and the construction of knowledge regarding student comprehension of expository text. As a framework that explores various phenomena, constructivism is a theory that often dominates the landscape of literacy research. Within a constructivist paradigm, each individual sees the world through our own construction of reality, allowing the construction of multiple realities within a study and correlating with the idea that the nature of learning is an active and recursive process where individuals acquire information through interaction with content instead of imitation or repetition (Kroll & LaBoskey, 1996; Litchman, 2006).

Similarly, constructivism often applies directly to literacy development in terms of how learners understand the material they are reading (Temple et al., 2011) and how readers actively build their knowledge and meaning from their experiences (Steffe & Gale, 1995). Multiple
theories support constructivist perspectives in terms of literacy development and the process in which students read and learn, specifically, metacognitive theory (Brown, 1978; Flavell, 1976), social constructivism (Vygotsky, 1978), and social cognitive theory (Bandura, 1977b, 1986). I used these frameworks to guide my study by utilizing a constructivist epistemological lens that focused on the active construction of knowledge, emphasizing the idea that reading is a recursive, metacognitive process, where students’ awareness of their thinking is imperative to the monitoring of their understanding. Throughout this study, I emphasize a constructivist worldview and its significance in literacy instruction.

Theoretical Framework

The nature of learning is an active process in which individuals acquire information through social interaction with content, and where the levels of efficacy for both the students and the instructors can influence the learning that occurs within the classroom (Almasi et al., 2006; Bandura, 1977a; Kroll & LaBoskey, 1996; Santa, 2006). As overarching and often concurrent theories, metacognitive theory, social constructivism, and social cognitive theory encompass various aspects of literacy development, linking them to correlating learning theories such as schema theory, transactional theory, and engagement theory.

The Origins of Constructivism

Constructivism is rooted in the works of cognitive theorists John Dewey, Jean Piaget, and Jerome Bruner, as well as social constructivist Lev Vygotsky. Tracey & Morrow (2017) claimed that along with the idea that constructivist learners are active builders of their knowledge, constructivist beliefs encompass three major concepts:

1. Learning takes place through internal mechanisms that are often unobservable.
2. Learning often results from an active hypothesis-testing experience conducted by the individual.

3. Learning results from a process known as “inferencing” in which the learner “fills in the gaps” or “reads between the lines” when trying to understand something that is not explicitly stated. (p. 56)

To add to the complex nature of literacy development, authentic learning is a social and collaborative activity where students create meaning through their interactions with one another and construct their view of the world around them. When multiple participants work together to build meaning, their social interactions allow various perspectives on the content and diversified representations of reality (Schreiber & Valle, 2013). These interactions are unique to their environment, and as such, “the interventions and experiments we do in classrooms are situated and must be interpreted on the basis of the dynamic interactions that occur as events unfold” (Dillon, 2005, p. 107). Therefore, to unpack the theoretical components of constructivist pedagogy, I will begin by tracing the constructivist origins to the works of John Dewey.

**Early Constructivist Philosophies**

Dewey’s notion of learning has roots in the early works of classical philosophers and educators such as Rousseau, Pestalozzi, and Froebel, widely known for their development of unfoldment theory in the 1700s and the early 1800s. Within unfoldment theory, the process of learning occurs “through a natural unfolding of the mind based on individual curiosity and interest” (Tracey & Morrow, 2017, p. 23). With Rousseau, Pestalozzi, and Froebel laying the groundwork, Tracey and Morrow (2017) claimed that Dewey “emphasized the growth of the individual, the importance of the environment, and the role of the teacher in students’ learning” (p. 237). According to Tracey and Morrow, his philosophy of inquiry learning, or problem-based
learning, emphasized students’ cognitive processes and their development of reasoning and decision-making skills to produce citizens who were able to competently participate in and contribute to a democratic society. Dewey (1916) maintained that for students to learn, the education system needed to promote cooperation, collaboration, and a democratic approach to education.

Classified as both a constructivist and a developmental theorist, Jean Piaget emphasized the importance of the learner’s active role in constructing meaning (Penn, 2008). However, much of his work used a developmental lens with his creation of the theory of cognitive development. Much like Dewey, Piaget proposed that learning is an active and dynamic process, claiming that learners proceed through successive stages of cognitive development in which the quality of a child’s thinking develops and changes over time. During these stages, learners actively construct their own ideas of the world by building knowledge from the information they are exposed to (Beilin, 1992).

While Piaget declared that cognitive development unfolds through a series of stages, Jerome Bruner contended that cognitive development is a continuous process regardless of a child’s age (Bruner, 1960). Something both theorists agreed on, however, is that children must be active participants in their individual construction of knowledge. Bruner affirmed that education systems and teachers themselves had a responsibility to foster and facilitate students’ thinking, reasoning, and problem-solving skills, which they can then transfer to a variety of situations (Bruner, 1961).

Parallel to Piaget’s cognitive constructivism, well-known social constructivist Lev Vygotsky focused on learners’ social interactions with others to foster cognitive development and cultivate knowledge, ideas, attitudes, and values (Woolfolk, 1998). He argued against
Piaget’s belief that one could remove learning from its social context. Vygotsky contended that “learning does not just take place within the individual” (Schreiber & Valle, 2013, p. 396). According to Vygotsky, learning is a social process where students create meaning through their interactions with one another and construct their view of the world around them.

**Theoretical Perspectives of Literacy Instruction**

Multiple theories support constructivist perspectives in terms of literacy development and the process in which students read and learn, specifically, social constructivism (Vygotsky, 1978) and metacognitive theory (Brown, 1978; Flavell, 1976). As an overarching theory, social constructivism encompasses various aspects of literacy development, linking it to schema theory, transactional theory, and engagement theory. In this section, I will review the literature supporting social constructivist theory, metacognitive theory, and social cognitive theory while also examining the subsequent correlating theories of schema theory, transactional theory, and engagement theory.
**Figure 2**

*The Reading Process*

Note. This figure illustrates the cyclical and recursive nature of the reading process, supported by elements of metacognitive theory, social constructivism, and social cognitive theory. Within the figure, the abbreviation ZPD refers to the zone of proximal development, and MKO refers to a more knowledgeable other.

**Metacognitive Theory**

Metacognition refers to the process of thinking about one’s own thinking. In the late 1970s, Flavell (1976) and Brown (1978) studied the development of children and their awareness and regulation of their own cognitive processes. Flavell (1976) used the term “metacognition” to refer to an individual’s awareness of their own thinking and learning, elaborating that “metacognition refers to one’s knowledge concerning one’s own cognitive processes and products or anything related to them, e.g., the learning-relevant properties of information or data” (p. 232). He later added that “metacognitive knowledge consists primarily of knowledge or beliefs about what factors or variables act and interact in what ways to affect the course and
outcome of cognitive enterprises” (Flavell, 1979, p. 907). Duke and Pearson (2002) indicated that successful readers are metacognitive by monitoring their comprehension and employing various strategies and skills as they read.

According to Brown (1987), Vygotsky’s social constructivist theory is a precursor to metacognitive theory through his discussion of a child’s growth and transfer from other-regulation to self-regulation. According to Vygotsky (1978), this is where a child’s self-regulation begins as other-regulation, in which someone else regulates the child or the child practices rules and expectations put in place by another person. As the child internalizes these rules, they become able to apply them independently to themselves, practicing self-regulation (Vygotsky, 1978). While Brown (1987) contended that initially, children experience many cognitive acts in social settings, it is through the process of internalization that children over time learn how to learn, essentially becoming capable of assuming the regulatory role for themselves (Louca, 2003). Brown (1987) also determined that students who approach learning with an awareness of their cognitive resources and the intention to control these resources are displaying primary aspects of their metacognitive ability (Campione et al., 1988). This awareness is imperative to students monitoring of their understanding so that they may intervene when they are not learning, or can expand on the learning process when they experience success.

**Explicit Reading Comprehension Instruction.** In regards to the reading process, an instructional focus on metacognition arose out of Dolores Durkin’s (1978/1979) seminal study in which she observed classroom reading comprehension instruction. Through her findings, Durkin declared that the directed reading lesson where the instructor guided the reading of the selected text, the method teachers most frequently utilized to develop reading comprehension, was ineffective in developing students’ abilities to independently comprehend texts, leaving the
reader in a teacher-dependent state (Durkin, 1978/1979). In essence, she found that teachers were assessing student comprehension but not instructing students on the skills needed to independently facilitate their learning, such as asking students to summarize, but not explicitly teaching students how to summarize. Using this research, Durkin asserted that students needed direct, explicit instruction of reading strategies and skills before their instructors could assess their application of the skills. To address this disconnect, researchers began to seek out new instructional strategies for teaching students how to comprehend texts independently, focusing on the metacognitive process largely for two reasons: (1) skilled readers utilize a variety of metacognitive strategies as they read that allow them to effectively understand the text and (2) teachers can use metacognition as a way to understand students’ reading processes as an explicit set of skills (Ambrose et al., 2010). For example, proficient readers would employ metacognitive strategies through self-monitoring when reading a complex disciplinary text. In doing so, the reader is aware of what they are and are not comprehending and can employ fix-up strategies such as rereading portions of the text, slowing their pace, or looking up domain vocabulary to ensure their understanding (Bereiter & Bird, 1985). Other metacognitive strategies for successful reading are an awareness of the purpose of reading, questioning, visualizing, predicting, clarifying, summarizing, and making connections or associations (Palinscar & Brown, 1984). Researchers have indicated that less skilled readers have a smaller extent of metacognitive awareness than their proficient peers and need explicit instruction in how to engage in this cognitive process (Duffy, 2002; Duke & Pearson, 2002; Fisher & Frey, 2008; Israel et al., 2005; Marin & Halpern, 2011).

Expanding on Durkin’s research, Eilers and Pinkley (2006) assessed the effectiveness of explicit instruction on readers’ comprehension, analyzing the use of specific metacognitive
strategies such as making predictions, sequencing, and accessing background knowledge. Eilers and Pinkley’s (2006) findings not only supported Durkin’s earlier conclusions by indicating that the direct, explicit instruction of metacognitive strategies drastically improved students’ abilities for reading comprehension, but that this type of instruction can benefit students as early as first grade, and should occur in the early stages of students’ reading development. As student progress in their education, disciplinary texts increase in complexity (Fang, 2016). Therefore, students require explicit instruction on utilizing their metacognitive strategies within each subject area (Shanahan & Shanahan, 2008).

**Direct Explanation Strategy Instruction.** In 1982, Duffy and Roehler found that students who receive explicit instruction in reading comprehension strategies are more likely to apply them. Twenty years later, Duffy (2002) conducted a follow-up study and found that successful literacy teachers were the ones considering metacognition during comprehension instruction. This type of reading instruction is called metacognitive instruction, and the objective is to assist readers in becoming more mindful of their thinking processes while reading. Duffy (2002) expressed that this type of instruction demands that teachers are especially intentional, thoughtful, and clear regarding the use of the metacognitive strategy they are explaining and the appropriate situations to apply the strategy. In terms of classroom application, an example of explicit instruction would be a teacher-modeled think-aloud of the metacognitive process. In a think-aloud, a teacher may stop while reading to discuss a connection with the text or share a moment when the text seemed unclear, revealing a fix-up strategy that helps to clarify the text. When students can hear and see a modeled thinking process, they learn how to independently engage in such reading practices (Davey, 1983). As students approach content area materials,
teacher modeling and think-alouds can reflect how disciplinary experts would interact with the text (Shanahan & Shanahan, 2008).

**Explicit Metacognitive Instruction.** By observing the habits of good readers, Duke and Pearson (2002) were able to determine that for students to utilize metacognitive skills, teachers need to explicitly teach their students to act metacognitively. They contended that in terms of the reading process, students act metacognitively when they engage in productive reading strategies such as creating goals, previewing the text, making predictions, questioning their meaning-making, integrating their prior knowledge, monitoring their understanding, and using different approaches for different kinds of text. Duke and Pearson (2002) affirmed that there is a substantial amount of research confirming that teachers can implement these strategies and processes to improve students’ overall comprehension of text. Within their research, Duke and Pearson (2002) presented a model of comprehension instruction following five specific components:

1. an explicit description of the strategy and how and when it should be applied;
2. teacher and/or students modeling of the strategy;
3. collaborative use of the strategy in action;
4. guided practice using the strategy with a gradual release of responsibility;
5. independent use of the strategy. (pp. 208-210)

When students can monitor their understanding and employ cognitive strategies and skills independently, they are acting metacognitively. As students actively participate in their learning by building knowledge and monitoring their comprehension, social interactions with others allow them to internalize their learning (Vygotsky, 1978). These interactions, such as scaffolding, modeling, and a gradual release of responsibility, directly link the metacognitive reading process to social constructivist theory.
Social Constructivism

In terms of reading and learning, Vygotsky (1978) theorized that learning is a social process, in which learners obtain knowledge from their interactions with others (Moll, 2013). He declared that learners are naturally social, and that opposite of Piaget’s theories, for children to internalize learning, the action must first occur socially.

One of the main components of Vygotsky’s theory is the idea of the zone of proximal development (ZPD). He described the ZPD as “a discrepancy between a child's actual mental age and the level a child could reach with assistance through a cognitive experience, where human beings learn through a highly empirical theory of intellectual development” (Powell & Kalina, 2009, p. 247). Essentially, the ZPD describes the ideal level of difficulty necessary for instruction to occur (Bigge & Shermis, 2004). The tasks students encounter should not be too easy or too frustrating, but should be considered just right. Once students can accomplish the objective of the original activity, their zone for instruction expands, and the students can achieve more on their own. Students first attempt the tasks they can accomplish independently, and then with support from the teacher, they learn the new idea or task based on their individual accomplishments (Powell & Kalina, 2009). Vygotsky’s ZPD has substantial implications for reading instruction. Instructors can begin by first determining their students’ instructional reading levels, whether this be through the use of a Qualitative Reading Inventory (Leslie & Caldwell, 2011) or other means of assessment, and use the information when selecting resources and activities to implement within their curriculum. Understanding students’ instructional levels is especially important when teaching content area courses as students may not have any prior knowledge of the material, which may impact their overall comprehension of the text (Akhondi et al., 2011; Edmonds et al., 2009).
Along with the ZPD, another essential component of Vygotsky’s social constructivist theory is the idea of scaffolding. Scaffolding is an instructional process that supports the ZPD. When using scaffolding, students who are challenged by a task receive support from a more knowledgeable other (MKO) such as the teacher or more competent peer to reach the next level of understanding (Powell & Kalina, 2009). Teachers can utilize scaffolding within their lessons in a multitude of ways, such as giving reminders, verbal or visual clues, the chunking of material or assignments, and providing examples. Vygotsky suggested that when students receive MKO support from the teacher and one another, their social interaction and collaboration promotes effective internalization of learning.

Combining aspects of Vygotsky’s theory, the belief that learning is social and that learning must occur within the ZPD, Fisher and Frey (2008) improved on Pearson and Gallagher’s (1983) gradual release of responsibility model for teaching by adding collaboration. The gradual release of responsibility model of instruction (I do it, we do it, you do it together, you do it independently) requires that the “teacher move from a situation in which they assume all the responsibility for performing a task … to a situation in which the students assume all of the responsibility” (Duke & Pearson, 2002, pp. 210-211). The gradual release of responsibility model provides teachers with a myriad of ways to ensure that students are gaining knowledge through social interactions, and enabling them to backtrack or skip ahead to stages of the model to work with students in their ZPD. Fisher and Frey’s (2008) gradual release of responsibility framework demands the use of flexible and small grouping, and is especially helpful in reading comprehension because often, readers within general education classrooms are at varying instructional levels and can offer different perspectives on texts. For students’ development
within the ZPD to occur, however, students must first be aware of their existing knowledge, which I will address through schema theory.

**Schema Theory.** Grounded in a constructivist mindset, or the idea that learning involves the active construction of knowledge through the integration of new and existing knowledge, schema theory addresses the notion that students must first be aware of their existing knowledge. While many consider Immanuel Kant to be the first to discuss schemas as organizing structures that determine how we interpret the world, the term schema was coined by British psychologist Sir Frederic Bartlett in 1932 (McVee et al., 2005; Radford, 2005). According to schema theory, individuals have mental file folders associated with networks of knowledge, memories, experiences, and background knowledge, allowing them to categorize everything they know into schemas or collections of knowledge (Brooks & Dansereau, 1983). We have schemata for everything we encounter - cooking, pets, restaurants, and even language, yet, everyone has different, individualized schemata (Mandler, 1984). According to this theory, differences in existing background knowledge and schema heavily influence learning because the more elaborate the existing schema is on a topic, the easier it is to develop and acquire new information on that topic (Rumelhart, 1984). Conversely, without existing schema, students may have difficulty gathering and processing information on a new topic.

Anderson and Pearson (1984) added to schema theory and its implications for reading instruction by examining how students not only have schemata for their background knowledge of concepts and content, but also for the reading process and different text structures. In their seminal study, they discovered that readers have three very important schemata for reading:

1. Content - people, places, things
2. Reading process - decoding, inferencing
3. Text structure - persuasive, expository, narrative

They suggested that the differences in readers’ schemata in the areas of content, process, and structure are associated with differences in their comprehension. A reader with an expansive schema on geography may comprehend a historical expository text on that specific subject differently from someone who does not. Similarly, well-developed schemata in reading skills and text structures will also influence reading comprehension. Unfortunately, when readers do not have much existing schema in any or all of these realms, they will likely struggle with comprehension (Anderson & Pearson, 1984). As students learn, they revise their schema and use it to support new experiences as they read and construct knowledge.

To enhance students’ reading comprehension, the instructor can survey what schema students already possess before beginning a reading, lesson, or unit. By assessing background knowledge, the teacher can gain valuable insight into what instruction needs to occur before reading to build the appropriate schema so that new learning can take place. A teacher can foster the expansion of schemata through graphic organizers that call on students to organize information before, during, and after reading or by using flexible grouping to interact and share various schemata (Dye, 2000). These strategies are duly advantageous because they allow for a deeper understanding and appreciation of the context surrounding a text. In other words, by building background knowledge on the cultural or historical context of a book, students can engage in and think critically about texts that may present various perspectives. When teachers help students elaborate on their existing schemata, they prepare them for higher-order thinking.

Without the skills necessary to develop and access schema, students will have greater difficulty applying comprehension strategies such as predicting, making connections, and inferencing. Schema is a fundamental building block for the comprehension of expository text. It
requires students to be active participants in their learning and provides a framework for which teachers can recognize differences in student knowledge (Torney-Purta, 1991). In continuing to examine constructivist theories in regards to literacy implementation, the following theories build off of schema theory as they integrate explicit instruction, transactions with text, and engagement.

**Transactional Theory.** Connell (2000) acknowledged the importance of Louise Rosenblatt’s (1938) contributions to literacy instruction in her seminal work, *Literature as Exploration.* Rosenblatt added to our understanding of reading comprehension with transactional theory, also known as the reader-response theory. She was influential in understanding the development and reasoning behind how we, as individuals, interact and respond to what we read. Aligning with constructivist views, Rosenblatt explained that the reader takes on an active role in the process of constructing meaning from a text (Tracey & Morrow, 2017). Most importantly, she argued that “the reader undergoes a lived-through experience with the text that serves as the basis for a personal response that is essential to the formation of aesthetic experiences” (Connell, 2000). During this process, the reader builds a relationship with the text through the transactional theory of reading. Although written in the 1930s, Connell (2000) affirms that Rosenblatt’s work is not only still relevant today, but highly regarded within current reading instruction.

Instructors can distinguish aesthetic responses from non-aesthetic responses as they provide: “(1) an organic immersion in the reader’s prior beliefs and experiences; (2) a connection to emotional drives; and (3) a stimulation of imagination” (Connell, 2000, p. 31). Through transaction with the text, students can connect emotions, needs, problems, and aspirations to their learning while also obtaining personal fulfillment. In other words, by expanding on schema theory, Rosenblatt stated that every reading experience is unique to individual readers based on
their background knowledge and experiences. As such, two students will make meaning and respond differently to the same text, whether it is a result of age differences, cultural differences, or different life experiences, since students engage in a transaction between a triad of factors: the reader, the context, and the text. Within content area courses, students’ background knowledge of the subject area can influence this transaction as well (Edmonds et al., 2009).

In addition to differing reader responses, Rosenblatt made a distinction within reader response by introducing the idea of efferent and aesthetic responses. Efferent responses are fact and information oriented, whereas aesthetic responses are personal and emotional (Rosenblatt, 1986). Connell (2000) affirmed that Rosenblatt’s work on aesthetic experiences goes beyond the instruction of reading and literature, stating that such experiences should be introduced within interdisciplinary studies to revitalize many different phases of the curriculum. Rosenblatt’s incorporation of aesthetic experiences within literacy instruction provides students with opportunities to become engaged, motivated readers. While most reading in content area classrooms tends to be efferent, if students can be encouraged to read and respond aesthetically to expository text, they may have more intrinsic motivation to read and respond. Rosenblatt’s transactional theory features the active role of the reader in the construction of meaning. It can create confidence in readers as it places value on all interpretations of the text. However, for purposeful and meaningful transactions to occur between the reader and the text, Rosenblatt advocated that the reader first must be engaged in what he or she is reading, therefore leading to engagement theory.

**Engagement Theory.** Guthrie (2004) studied and outlined the degree to which a reader seeks to understand, by making a distinction between "engaged" and "disengaged" readers. Engaged readers are more likely to comprehend text, as engagement and achievement are
reciprocal and grow together, and encouragement must come from both inside and outside the classroom (Guthrie, 2004). Guthrie (2004) acknowledged that students who experience success are more likely to see themselves as readers and will internalize literacy as part of their identity. Conversely, students who may not experience success as readers will seek fewer opportunities to read. According to Guthrie, engaged readers are intrinsically motivated to read and therefore read more often, utilize metacognitive strategies flexibly and independently to make meaning from the text, and socialize with others by talking freely about what they are reading and learning. Through engagement theory, Guthrie emphasized the importance of creating such readers because of the vast differences in the abilities of those who are engaged and those who are disengaged. To help guide teachers in their development of instructional practices for student engagement, Guthrie et al. (2004) developed the Concept-Oriented Reading Instruction (CORI) model, which incorporates:

1) Setting a theme-driven focus when reading.

2) Emphasizing student choice for texts read and responses given.

3) Using hands-on activities.

4) Providing a wide variety of texts and genres that capture student interests.

5) Integrating social collaboration into reading responses (Guthrie et al., 2004).

By incorporating student choice, social collaboration, and hands-on activities, the CORI model not only develops students’ comprehension and utilization strategies and skills but moves beyond traditional instruction to engage and motivate readers. Too often, we tell students what to read, how to respond, and how to demonstrate their understanding, yet we are left puzzled as to why many students dislike reading. If students like to read, have choices relating to their interests, and see the act of reading as a pleasurable task, they will read more frequently (Gambrell, 1996). In
experiencing success and internalizing their learning, students build their self-efficacy as readers, directly correlating to aspects of Bandura’s (1977b) social cognitive theory, also known as social learning theory.

**Social Cognitive Theory**

The concept of efficacy refers to “a person’s expectations about his or her own abilities to influence or achieve a desired outcome” (Cantrell & Hughes, 2008, p. 99). Self-efficacy is an essential factor in terms of students’ reading development as it relates not only to their comprehension and their ability to implement strategies as they read, but also builds their resilience when faced with challenges during the reading process (Afflerbach et al., 2013; McCrudden et al., 2005; Solheim, 2011). As students experience success as readers and internalize their learning, they build their confidence and are more willing to attempt difficult tasks and utilize reading strategies to help improve their comprehension (Afflerbach et al., 2013).

**The Importance of Teacher Self-Efficacy.** Efficacy is not only a significant factor in the reading process for students, but also for teachers as literacy practitioners. Researchers indicate that teacher efficacy, or a teacher’s beliefs in their ability to instruct their students, is the most important predictor for successful change implementation and has been linked to the successful implementation of reading and literacy instruction (Gibson & Dembo, 1984; RAND Reading Study Group, 2002; Tschannen-Moran & McMaster, 2009). According to O’Byrne et al. (2020), “Teachers will engage in tasks in which they feel competent and confident, avoiding tasks in which they do not” (p. 4). Although many teachers express that they are responsible for implementing literacy instruction within their content area courses, they are often unsure of their ability to do so in a way that meets the needs of their students (Bintz, 1997; Cantrell & Hughes,
2008; Mallette et al., 2005). Yet, for teachers to promote student motivation, engagement, and self-efficacy, researchers assert that teachers themselves need to demonstrate self-efficacy for teaching literacy strategies and skills (Cantrell & Hughes, 2008; Gibson & Dembo, 1984).

**Factors that Influence Teachers’ Self-Efficacy.** In examining the practices of content area teachers, Ness (2009) determined that while teachers acknowledged reading was a vital part of their classroom instruction, they ultimately did not determine themselves qualified or responsible for providing explicit reading comprehension instruction. To this extent, teachers expressed that literacy implementation was not only time consuming, but the pressure to cover content in preparation for state-mandated standardized testing took precedence over reading instruction (Moje, 2008; Ness, 2009).

In addition to the pressures of standardized testing, content area teachers with education and training primarily in their discipline may be ill-equipped to teach reading and writing within their curricula (McCoss-Yergian & Krepps, 2010). Because teachers' beliefs toward reading influence their planning and implementation (Nourie & Lenski, 1998; Richardson et al., 1991), researchers indicate several reasons for teachers’ lack of efficacy when teaching comprehension skills. These factors include secondary teachers' identification as content area specialists, minimal requirements for literacy instruction during teacher training programs, and teachers’ lack of opportunities for effective professional development (Cantrell & Hughes, 2008; Graham et al., 2017; Ness, 2009; O’Byrne et al., 2020). In discussing adult learning theories and their impact on professional development programs, Trotter (2006) attested that, “Teachers should be given latitude to form their own professional development. What interests them? What would they like to delve into more deeply? What do they feel they need to learn?” (p. 11). According to O’Byrne et al. (2020), “Too often, learning experiences for teachers are designed without
attention to what teachers themselves see as areas of strength and need” (p. 1). As such, teacher training and professional development are key aspects in promoting teacher efficacy. With proper training that is focused on their feedback and their needs, teachers can develop an understanding of effective literacy instruction and the differences between content area and disciplinary literacy.

Reaching beyond efficacy, Bandura’s (1977a, 1986) work connects metacognitive and social constructivist learning theories as it not only emphasizes the importance of social interaction during the learning process, but also incorporates aspects that are central to metacognitive theory such as awareness and the explicit modeling of behaviors, actions, or strategies that teachers want students to use themselves.

**Summary**

Overall, effective literacy instruction occurs when teachers emphasize the explicit instruction of cognitive literacy strategies and students are active participants in their construction of knowledge and the monitoring of their understanding. As such, I utilized a theoretical framework based on effective literacy development, rooted in a constructivist paradigm. As the reading process is not only recursive but concurrent, various theories blend together to provide an effective approach to literacy instruction. By encompassing the overarching theories of metacognitive theory, social constructivist theory, and social cognitive theory, I emphasized the explicit instruction of cognitive literacy strategies and skills where students are social, active participants in the construction of knowledge, and students internalize their success in reading, building efficacy, and promoting independence within content area courses.
Chapter 3: Methodology

In this study, I utilized a two-phase explanatory sequential mixed method design (quan → QUAL) where I collected quantitative data to inform the selection of participants for Phase II and gathered qualitative data from a smaller group of participants to provide a more in-depth analysis of the initial findings. In this chapter, I will (a) describe the setting and the selection of participants for each phase of the study, (b) provide an overview of the research methodology and instrumentation, (c) discuss the threats to internal and external validity, (d) specify my analysis procedures for the quantitative and qualitative components, (e) address the limitations and generalizability of the study, and (f) review the steps I took to ensure the protection of human subjects.

Description of the Setting

The setting of this study is a public, suburban middle school located in the mid-Atlantic region. The school district serves approximately 4,000 students in grades K-12 and has three primary schools, one middle school, and one high school. To maintain the school and the district’s anonymity, I refer to them using the pseudonyms “Southeast Middle School” and “Southeast School District,” respectively. The middle school houses grades 6, 7, and 8 and serves approximately 980 students.

Participants in Quantitative Data Collection

To begin, I recruited 26 middle school content area teachers from Southeast Middle School for Phase I of the study. The 26 teachers represented 65% of the full group of 40 teachers that I solicited to participate. To be eligible for consideration, teachers had to teach a core content area course (science, mathematics, ELA, or social studies). I recruited participants by contacting them through their Southeast School District email accounts, which are private and secure. Within this communication, all prospective participants received a research participant
consent form via Qualtrics that outlined the study’s purpose and procedures, acknowledged minimal risks, and ensured that all participants’ information was confidential and that their participation was voluntary. Exclusion criteria consisted of teachers who: (a) did not teach middle school, (b) did not teach a content area course, (c) did not provide informed consent, or (d) anticipated an extended absence during the school year.

**Participants in Qualitative Data Collection**

Building upon the study’s initial phase, I utilized the survey data to purposefully select four participants, one from each content area, who demonstrated high self-efficacy and knowledge of literacy implementation to analyze in greater depth. The purposeful sample of participants from the first phase of the study was essential as participants needed to have adequate experience using literacy strategies and skills in their content area classes to participate in the interviews; otherwise, they would not have the foundational background knowledge to answer the interview questions. Teachers who indicated that they are familiar with literacy strategies and skills best fit the needs of the study, as they, to an extent: (a) have attempted to implement literacy into their instruction, (b) were aware of literacy implementation strategies, and (c) had the knowledge and experience necessary to comprehend and speak to the interview questions during Phase II.

I designed the interview questions to help answer the second and third research subquestions: How do content area teachers describe their decision-making process regarding the implementation of content area literacy and disciplinary literacy strategies and skills within their planning and classroom instruction, and in what ways do their experiences and training inform their dispositions? In doing so, I aimed to provide insight into the quantitative findings by
conducting semi-structured interviews that gathered qualitative data and gave voice to participants’ pedagogical dispositions.

Methods

According to Creswell and Hirose (2019), “The ability to combine and integrate survey research into a mixed-methods study provides a more rigorous approach to research than conducting only a survey or conducting just a qualitative interview” (p. 1). As such, I conducted an explanatory sequential mixed methods design, utilizing two research methodologies (see Table 1). I began by administering a survey to 26 participants during the study’s quantitative phase (Phase I). Using descriptive statistics, I analyzed the participants’ overall scores of two instruments, the Teachers’ Sense of Efficacy for Literacy Instruction (TSELI; Tschannen-Moran & Johnson, 2011) and the Content Area Literacy Instruction Survey (CALIS), allowing me to identify the participants who demonstrated high self-efficacy for teaching literacy strategies and skills and purposefully select a participant from each content area (mathematics, science, social studies, and ELA) with the highest score. During the qualitative phase (Phase II), I conducted a case study analysis with the four participants. The ability to initially survey a larger sample of participants to provide a general picture of teachers’ beliefs towards literacy implementation and inform the purposeful selection for Phase II supports a rationale for a mixed methods research design.
**Table 1**

*Implementation Matrix*

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Sample</th>
<th>Goals</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative survey</td>
<td>Stratified random sample of middle school content area teachers (math, science, social studies, ELA).</td>
<td>Assess teachers’ self-efficacy beliefs and knowledge of content area and disciplinary literacy strategy and skill implementation.</td>
<td>Descriptive statistics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inform the purposeful selection for Phase II participants.</td>
<td>Inferential Statistics</td>
</tr>
<tr>
<td>Semi-structured interviews</td>
<td>Purposive: Four content area teachers from the quantitative sample who demonstrate high self-efficacy beliefs and knowledge of content area and disciplinary literacy strategy and skill implementation.</td>
<td>Uncover the decision-making processes of the participants regarding the planning and implementation of literacy strategies and skills.</td>
<td>Case study analysis utilizing <em>in vivo</em> codes and first and second-cycle coding.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explore how teachers' training and professional development sessions inform their dispositions toward literacy instruction.</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* This table is an implementation matrix, displaying the strategies, samples, goals, and analyses of the study.

**Survey**

Researchers utilize survey methodology for “collecting information about the social and economic world” (Groves et al., 2011, p. 1). Following No Child Left Behind (2001) legislation, experts involved in education and school intervention heavily emphasize the use of scientifically-based research, such as survey research (Berends, 2006). According to Berends (2006), “The aim of survey research is to describe relevant characteristics of individuals, groups, or organizations”
To sample part of the population of middle school content area teachers, I administered a survey intended to collect descriptive and inferential data about the participants during Phase I of the study (Berends, 2005; Groves et al., 2011).

Creswell and Hirose (2019) considered an explanatory sequential mixed method design that pairs a survey with interviews to be a “rigorous design that takes time for both the quantitative and qualitative components” (p. 6). By beginning my study with a survey, I was able to determine a general sense of the participants’ self-efficacy beliefs towards literacy implementation and utilize descriptive statistics to inform the purposeful selection of participants for Phase II.

**Case Study**

According to Crowe et al. (2011), a case study approach is “particularly useful to employ when there is a need to obtain an in-depth appreciation of an issue, event, or phenomenon of interest, in its natural, real-life context” (p. 100). For this reason, I conducted a case study analysis following the purposeful selection of participants based on the quantitative data from Phase I of the study. Yin (2002) defined a case as “a contemporary phenomenon within its real-life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context” (p. 13). While my own epistemological outlook is rooted in constructivist perspectives, where knowledge is a social construction and individuals create their own worldview through interaction, I utilized Yin’s positivist case study framework for my research as this framework provided me with a rigorous, structured design that allowed me to develop a methodic plan for a multiple holistic case study.

I chose to conduct a multiple holistic case study analysis as this approach allowed me to analyze within each setting and across settings (Baxter & Jack, 2008). I utilized Yin and
Campbell’s (2018) case study framework to analyze multiple cases, providing insight into middle school content area teachers’ perceptions of implementing content area literacy and disciplinary literacy strategies and skills into their instruction. According to Yin and Campbell’s (2018) approach to case study, there are three phases to a multiple-case study procedure: (1) define and design; (2) prepare, collect, and analyze; and (3) analyze and conclude (p. 58). Within the define and design stage, the researcher develops their theory, selects cases, and designs their data collection protocol. During the preparation, collection, and analysis phase, the researcher conducts multiple case studies while writing individual case reports. During this time, important discoveries may arise during the investigation of individual cases, requiring the researcher to “reconsider one or more the multiple-case study’s original theoretical propositions” (p. 57). Lastly, during the analysis and conclusion stage of the procedure, the researcher draws cross-case conclusions, modifies theory, develops policy implications, and writes cross-case reports (p. 58).

Aligning with the positivist nature of their case study framework, Yin and Campbell (2018) suggested that researchers create a logical sequence, or blueprint for their study, making only minimal changes along the way (p. 26). In creating my research design, I utilized Yin and Campbell’s five components of case study research:

1. Questions;
2. Propositions, if any;
3. Case(s);
4. Logic linking the data to the propositions; and
5. Criteria for interpreting the findings (p. 27)
In this two-phase study, I designed my second and third research questions for the qualitative, or case study, phase of my research. According to Yin and Campbell (2018), “Case study research is most likely appropriate for ‘how’ and ‘why’ questions” (p. 27). My second research question asked, *How do content area teachers describe their decision-making process in regards to the implementation of content area literacy and disciplinary literacy strategies and skills within their planning and classroom instruction?* The third question asked, *In what ways do teachers' experiences and training inform their dispositions toward literacy instruction?* These research questions examined how teachers described their decision-making, and how their experiences and training have informed the dispositions that impact those decisions.

Next, I developed my study’s propositions, or elements of the study that I intended to examine (p. 27). As my qualitative inquiry focused on the ‘how’ and ‘why’ teachers develop their pedagogical dispositions toward literacy implementation, a proposition of this study is that content area teachers’ experiences with education and training help to inform their dispositions. Utilizing semi-structured interviews, I examined teachers’ perspectives of content area and disciplinary literacy implementation, specifically asking about their education, training, and professional development opportunities.

Another essential component of Yin and Campbell’s (2018) case study framework is defining and bounding the case. Yin and Campbell emphasized that multiple-case study designs should utilize a replication logic rather than a sampling logic and that researchers choose each case carefully. For my study, I defined each case as an individual participant (p. 28). In bounding the case, I chose to examine participants from each content area course (mathematics, science, social studies, and ELA) and include interview questions regarding their planning and implementation of literacy strategies and skills, and how their experiences and training have
informed the dispositions that impact their implementation (see Appendix D). By including these interview questions, I designed my case study to link the data I collected to the study prepositions (p. 33).

Lastly, Yin and Campbell (2018) suggested that researchers identify criteria for interpreting their findings (p. 33). As such, I examined plausible rival explanations for the phenomenon in question during my case study’s design and planning phase (p. 172). While the proposition of the study is that teachers’ experiences with education and training help to inform their dispositions, I used purposeful selection to identify participants who demonstrated high self-efficacy for teaching literacy strategies and skills as to avoid the direct rival of teachers who do not attempt to implement literacy instruction during their instruction. Following semi-structured interviews and analyzing each participant’s experience, I conducted a cross-case analysis to identify themes across content areas.

**Instrumentation**

Using a two-phase explanatory sequential mixed method design (quan → QUAL), the collection of descriptive and inferential quantitative data provided a general picture of the research problem, while the collection of qualitative data from a smaller group of participants allowed me to explore the complexities of the initial findings with a more in-depth analysis. Throughout the study, I emphasized qualitative data and results.

**Quantitative Instrumentation**

To begin Phase I, I distributed a Qualtrics survey that blended one existing instrument and one instrument I developed specifically for this study. The existing instrument was the Teachers’ Sense of Efficacy for Literacy Instruction (TSELI; Tschannen-Moran & Johnson, 2011). The instrument I developed for the study was the Content Area Literacy Instruction
Survey (CALIS). Before participants answered the TSELI or CALIS questions, I gathered demographic data regarding participants’ gender, grade level they taught, their years of teaching experience, and their highest level of education. The authors of the TSELI (Tschannen-Moran & Johnson, 2011) granted their permission to use this instrument.

**The Teachers’ Sense of Efficacy for Literacy Instruction Survey.** The TSELI (Tschannen-Moran & Johnson, 2011) contains 22 items regarding literacy to determine a teacher’s sense of efficacy in literacy instruction. Within the survey, the items focus on various aspects of literacy instruction such as decoding and comprehension strategies, word study activities, modeling effective strategies, motivating students to value reading, and meeting the needs of both high ability and striving readers (see Appendix C). The TSELI is based on a nine-point Likert-type scale.

Using data from an exploratory factor analysis, the authors of the study determined two factors that explained 62% of the variance in TSELI. Tschannen-Moran and Johnson (2011) then conducted a second-order factor analysis, where they found that the “two factors converged into one strong factor” (p. 756). All 22 items “loaded on this single factor and all demonstrated strong factor coefficients, ranging from .83 to .63” and explaining 55% of the variance in TSELI, providing evidence of construct validity. The factor analysis enabled the researchers to determine that “the resulting 22-item measure had a Cronbach’s alpha reliability of .96” (p. 756).

**The Content Area Literacy Instruction Survey.** Along with the TSELI, I administered a separate questionnaire that I constructed, titled the Content Area Literacy Instruction Survey (CALIS). The CALIS survey focuses on specific details intended to provide data on teacher preparation, content area literacy instruction, and disciplinary literacy instruction (see Appendix C). Using a nine-point Likert scale, the questions allowed teachers to indicate how often they
incorporated content area literacy strategies and skills, such as previewing the text, anticipation guides, inference, visualizing, concept mapping, summarizing, annotating, paraphrasing, and note-taking into their instruction. Teachers also indicated how often they incorporated disciplinary literacy strategies and skills specific to their content area into their instruction—for example, utilizing data analysis, hypothesis, observations, and investigation in a science classroom, or author’s perspective and bias in a social studies classroom. These additional questions added to the quality of the study, as they allowed me to obtain data specific to my purpose.

Qualitative Instrumentation

Following the initial quantitative phase of the study, I purposefully selected four teachers to participate in Phase II of the study, which consisted of semi-structured interviews and artifact collection. Participants chose the time and location of each virtual interview, where I conducted each meeting using Zoom. Within each interview, I explored the complexities of the quantitative findings and provided the teachers with an opportunity to give voice to the context of their individual learning environments.

Each interview consisted of 11 questions regarding teachers’ knowledge and implementation of content area and disciplinary literacy strategies and skills, and their perceptions of their training and professional development experiences regarding literacy instruction (see Appendix D). I choose to limit my interviews to 11 questions to give participants the ability to speak to each item thoroughly and allow myself the ability to ask follow-up questions as necessary. To ensure the qualitative data’s reliability and validity, I utilized Zoom recordings of all interviews, memoed field notes during interviews, and provided transcripts to participants for member-checking (Creswell & Plano Clark, 2017).
Procedures

I conducted this study over the course of eight to 10 weeks, following a timeline that consisted of four components: (1) quantitative data collection, (2) quantitative data analysis, (3) qualitative data collection, and (4) qualitative data analysis (see Figure 3).

Figure 3

Study Timeline

Quantitative Component

I began by designating two weeks to gain participants’ consent and collect data from the Qualtrics survey addressing teachers’ self-efficacy regarding literacy implementation within their classroom practices. I administered this survey, containing the Teachers’ Sense of Efficacy for Literacy Instruction (TSELI) and the Content Area Literacy Instruction Survey (CALIS),
simultaneously. Because both instruments used the same nine-point Likert scale, I scored each instrument’s raw scores independently, and then together to produce an overall mean score for each participant. I initially sent the survey to participants via email and followed up with participants via email reminders. The survey took participants approximately 30 minutes to complete.

Qualitative Component

According to Yin and Campbell’s (2018) approach to case study, researchers should carefully select each case and “choose the case(s) that will most likely illuminate [their] research questions” (p. 26). Following an analysis of the survey data using descriptive and inferential statistics, I purposefully selected four participants who demonstrated high self-efficacy regarding literacy implementation to participate in interviews, with one participant representing each content area. I designated two weeks to conduct interviews with the selected participants, and also planned an additional week to accommodate participants’ schedules and account for the rescheduling of any interviews due to unforeseen circumstances. Interviews followed a semi-structured interview protocol, were recorded, and occurred virtually via Zoom at a time and location of the participants’ choosing. At the time of each interview, I collected a curriculum guide and two to three sample lesson plans via email to add context to the qualitative data.

Following participant interviews, I required an additional 4-6 weeks to interpret the data. At the conclusion of each interview, I transcribed the information onto my password-protected computer and input the data into Dedoose to code and identify themes using in vivo codes and first and second-cycle coding techniques (Saldaña, 2009). I transcribed the interviews by initially exporting the transcript from Zoom onto my computer and then reviewing the transcripts myself to ensure accuracy. I conducted interviews during 45-minute time frames and allotted time for
follow up questions as necessary. To add to the overall context of the research and in addition to document collection, I memoed and recorded field notes during each interview.

**Internal and External Validity**

According to Yin (2002), the researcher’s ability to maximize the conditions of validity and reliability determines the quality of a study’s design. As such, the planning, data collection, and data analysis of this study accounted for various threats to the construct, internal, and external validity and reliability (see Figure 4).
Note. This figure displays how the planning, data collection, and data analysis of the study accounted for threats to reliability and validity.

**Internal Validity**

Regarding the internal validity of this study, I triangulated the data using multiple sources to increase the validity and reliability of the research findings (Creswell & Plano-Clark, 2017; Yin, 2002). Additionally, by triangulating the data, I was able to minimize researcher’s bias within the study. The three sources of data included: (1) survey responses, (2) transcribed semi-structured interviews, and (3) artifact collection, memos, and field notes. To ensure
trustworthiness and reliability, I provided all participants with the transcripts of their interviews for member-checking (Yazan, 2015; Yin, 2002). To limit attrition, participants could select the time and location for their virtual interviews so that participation was convenient for them. Lastly, to control for natural changes, all teachers received the survey within a one-week window and participated in interviews within a subsequent two-week window. By purposefully administering the survey and conducting interviews within a similar time frame, I could limit maturation.

**External Validity**

In terms of external validity, I took several measures to control and acknowledge the inclusion and exclusion criteria for content area teacher participants. To limit selection bias, I opened the initial participation for Phase I of the study to all 40 content area teachers employed at Southeast Middle School. Utilizing the quantitative data from the 26 participants during Phase I, I was able to purposefully select participants based on their survey results, indicating teachers’ self-efficacy for literacy instruction. The self-efficacy scales helped me to identify teachers who currently implemented literacy strategies and skills within their content area instruction and would have the foundational knowledge necessary to be able to answer the interview questions during Phase II of the study. While this study was situated within the context of Southeast Middle School and is not generalizable beyond my population, replication could occur across various contexts and settings using this methodology.

**Researcher's Bias**

As I have acknowledged, I hold the assumption that there is a sense of discomfort when implementing literacy instruction among content area teachers. I also believe that a comprehensive, balanced approach to literacy implementation, utilizing both content area and
disciplinary literacy strategies and skills, is the most effective approach to literacy implementation in content area courses.

To control for selection bias, I aimed to limit researcher’s bias within my study by opening the initial participation for Phase I of the study to all 40 content area teachers employed at Southeast Middle School. Then, I purposefully selected four participants for Phase II of the study using the data from Phase I. Providing transcripts to all participants for member-checking also helped to control for researcher’s bias, allowing participants an opportunity to review and clarify the meaning of their statements.

**Analysis Procedures for the Quantitative Component**

I began analyzing the quantitative data by exporting the results into SPSS on my password-protected computer. For each survey instrument, the TSELI and CALIS, I utilized descriptive statistics to calculate the means and standard deviations for the subscales and total scores, and inferential statistics to make inferences about the population and variables. Several subscales included (a) assessment, (b) preparation, (c) meeting students’ needs, (d) oral reading, (e) motivation, and (f) implementation, alongside determining the overall means and standard deviations of responses by content area. As both the TSELI and the CALIS utilize nine-point Likert scales, I combined the participants’ responses to both instruments, analyzing their overall means. Once I calculated the overall means of each participants’ scores, I conducted an F-test and a Tukey Multiple Comparison test for each subject area and subscale (Rafter et al., 2002). I selected the F-test and Tukey Multiple Comparison test for analysis because I wanted to determine if there was a significant difference between subject areas within each subscale, and if so, which subject areas had a significant difference between them.
Integration in this explanatory sequential design consisted of utilizing the quantitative data to purposefully select participants to interview qualitatively. Once I analyzed the overall means of participants’ responses, I sorted them by their efficacy scores, high to low by subject area. The information from the survey allowed me to explore each individual participant’s self-efficacy beliefs and informed the selection of four participants, one from each content area of mathematics, science, social studies, and ELA for Phase II of the study. I also aimed to further explain the survey results with the qualitative interviews by “connecting the quantitative results with the qualitative data collection, displaying the results that link the survey results with the qualitative research questions and interpreting the results to help explain the survey results with information from participants who can best reflect on the survey results” (Creswell & Plano Clark, 2017, p. 298).

**Analysis and Coding Procedures for the Qualitative Component**

Following each semi-structured interview, I transcribed the information from the interview and used Dedoose to help with the coding and identification of themes. In this particular case study, I implemented Yin and Campbell’s (2018) case study framework to analyze multiple cases and provide insight into middle school content area teachers’ pedagogical dispositions towards literacy implementation. Following the analysis of each participant’s experience, I conducted a cross-case analysis to identify themes across content areas.

**Coding**

I incorporated the use of *in vivo* codes, or codes derived from words or short phrases using the participants’ own language, to capture the intent of a category using participants’ exact words (Creswell, 2012; Miles et al., 2014). To code the data, I used first and second cycle coding methods (Saldaña, 2009). During first-cycle coding, I determined subcategories for the data
using *in vivo* codes. Using second cycle methods, I utilized pattern coding to group the first cycle *in vivo* codes into a smaller number of categories, themes, and constructs (Miles et al., 2014).

**Identifying Themes**

Using this information, I was able to look for specific themes and identification of within-case and cross-case themes that emerged from the data collection (Creswell, 2012; Yin & Campbell, 2018). I also included direct quotes and passages from the participants, allowing for a more substantial representation of their voices and providing context to the findings. The coding categories allowed me to substantiate similarities or differences in knowledge of content area or disciplinary literacy strategies and skills among teachers and provide insight into areas of strength and areas of need regarding implementation, professional development, and training. To ensure reliability and validity, I supplied participants with transcripts of their interviews for member-checking (Creswell & Plano Clark, 2017).

**Limitations and Generalizability**

As I have discussed, this study is situated within the context of Southeast Middle School and is not generalizable beyond my population of participants. Additionally, the small sample size of teachers that participated in the qualitative interviews also limits the degree to which the findings are generalizable to the larger population of middle school content area teachers. In terms of data collection, I was unable to conduct classroom observations as this study occurred during the global COVID-19 pandemic. Classroom observations can provide a more detailed picture of teachers’ literacy implementation, contextualizing their planning and instruction to provide data on when and how teachers explicitly utilize literacy strategies and skills. Lastly, because the purposeful selection of participants for the study highlighted teachers who exhibited high self-efficacy and knowledge of literacy implementation to ensure that they had adequate
experience with using literacy strategies and skills in their content area classes, their interview responses are not generalizable across all content area teachers and are situated within the context of this particular study.

Informed Consent and the Protection of Human Subjects

To recruit participants for the study, I sent an email to all 40 content area teachers employed at Southeast Middle School (see Appendix B). The email contained the Qualtrics link to the survey where the first question provided participants the informed consent and assent form (see Appendix C). To confirm their participation and provide their consent, teachers selected the option stating, “I consent to participate in this study.” They were then able to complete the survey by answering the remaining questions.

Confidentiality

All related research documents pertaining to the study, such as consent forms, interview transcripts, and data, were stored on my password-protected computer located in my home. I de-identified the data by assigning each teacher a name-based pseudonym that I used throughout the study instead of their name. These precautions and procedures help to maintain secure confidentiality. I created a list of teacher names and pseudonyms to compare data from the first and second phases of the study. I also stored this list on my password-protected computer. I will destroy all data and related materials three years from the completion of the study.

Risks

The teachers participating in this study faced minimal potential for emotional and psychological harm as a result of stress or anxiety from the research condition. A minimal risk of the study was a loss of confidentiality. The teachers participating may also have experienced minimal discomfort or anxiety when being recorded during the interviews or when addressing
their knowledge of literacy strategies and skills or their self-efficacy beliefs regarding their planning or instruction.

To ameliorate the risks, I stored consents, data, and all other materials on my password-protected computer, which I held in a secure location. I removed all identifying data from documents and secured the list of names and pseudonyms on my password-protected computer. The teachers were aware that they were able to stop participating at any time.

**Benefits**

This study provided no direct benefits to the participants. However, by identifying teachers’ strengths and areas of need as literacy practitioners, this study can inform the development of more effective professional development and training. In regards to practical implications, researchers indicate that confident teachers make instructional decisions that support their students’ literacy needs and improve their reading and comprehension skills (Nourie & Lenski, 1998; Richardson et al., 1991). This knowledge may help districts, administrators, and teachers understand the most effective ways to implement literacy instruction and plan training and professional development opportunities.

**Summary**

This study utilized a two-phase explanatory sequential mixed method design (quan → QUAL). Within Phase I of the study, the collection of descriptive and inferential quantitative data provided a general picture of the research problem and informed the selection of participants for Phase II, where the collection of qualitative data from a smaller group of participants using Yin and Campbell’s (2018) cases study design provided a more in-depth analysis of the complexities of the initial findings. The first phase of the study involved the collection of quantitative data from 26 participants through survey responses to examine content area
teachers’ self-efficacy beliefs regarding literacy instruction and guided the selection of participants for Phase II of the study. Following the initial quantitative phase, I purposefully selected four teachers from Phase I, one from each content area, who identified a high self-efficacy in the implementation of literacy strategies and skills to participate in a case study analysis, conducting semi-structured interviews and document collection. I utilized semi-structured interviews to uncover the participants’ decision-making processes regarding the planning and implementation of literacy strategies and skills within their lessons and provide data on how teachers’ training and professional development sessions inform their dispositions toward literacy instruction.

Overall, utilizing mixed methodology allows researchers to explore quantitative findings and provide context to qualitative components of the study, making it a valuable asset to the body of knowledge. According to Yin (2002), “Regardless of whether one favors qualitative or quantitative research, there is a strong and essential common ground between the two” (p. 15). This study’s explanatory sequential mixed methods design provided a platform for teachers’ voices and share their experiences regarding the reading and instructional process. With this information, school districts and teacher preparation programs can better prepare content area teachers to provide effective literacy instruction. In order to identify and meet teachers’ needs, their voices need to be prevalent within the research (Shanahan, 2014). As literacy learning is a complex construction of knowledge, the methodologies utilized to research it must reflect such complexities and provide context to the authentic and individualized experiences of those involved in its implementation.
Chapter 4: Results

In this chapter, I will examine the data regarding middle school content area teachers’ pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction. Throughout this explanatory sequential mixed-methods study, I aimed to answer the following research questions:

1. What self-efficacy beliefs do content area teachers hold in regards to content area and disciplinary literacy strategies and skills?

2. How do content area teachers describe their decision-making process in regards to the implementation of content area literacy and disciplinary literacy strategies and skills within their planning and classroom instruction?

3. In what ways do teachers' experiences and training inform their dispositions toward literacy instruction?

During Phase I of the study, I collected quantitative data from 26 participants using a Qualtrics survey comprised of two instruments, the Teachers’ Sense of Efficacy for Literacy Instruction (TSELI; Tschannen-Moran & Johnson, 2011) and the Content Area Literacy Instruction Survey (CALIS). For teachers to promote student motivation, engagement, and self-efficacy, researchers have asserted that teachers themselves need to demonstrate self-efficacy for teaching literacy strategies and skills (Cantrell & Hughes, 2008; Gibson & Dembo, 1984).

Using the survey data, I answered my first research question regarding the self-efficacy beliefs that content area teachers hold in regards to content area and disciplinary literacy strategies and skills. Through descriptive statistics, I calculated participants’ overall scores and identified the participants who demonstrated high self-efficacy for teaching literacy strategies and skills. Then, I purposefully selected a participant from each content area (mathematics,
science, social studies, and ELA) with the highest score. Utilizing an analysis of variance, I compared the mean scores to see if there were statistically significantly different between: (a) the four subject areas, (b) the TSELI and CALIS instruments, and (c) the subscales within the survey. The subscales included: (a) assessment, (b) meeting students’ needs, (c) preparation, (d) oral reading, (e) motivation, and (f) implementation.

Following my collection of quantitative data and purposeful selection of participants, I gathered qualitative data through individual semi-structured interviews with each of the four participants. As a result of the COVID-19 pandemic, I conducted virtual interviews, utilizing Zoom at a time and location determined by each participant. Each interview consisted of 11 questions, with the goal of addressing my second and third research questions regarding how teachers describe their implementation and decision-making, and how their experiences and training have informed the dispositions that impact those decisions. At the conclusion of each interview, I collected a curriculum guide and several lesson plans from each participant to aid in the triangulation of data. In order to code the qualitative data, I used Dedoose and identified themes using in vivo codes and first and second-cycle coding techniques (Saldaña, 2009).

**Surveying the Self-Efficacy Beliefs of Content Area Teachers**

For the quantitative phase of the study, I used a Qualtrics survey that combined an existing instrument, the TSELI (Tschannen-Moran & Johnson, 2011), and an instrument I developed for the study, the CALIS. The survey aimed to address my first research question on the self-efficacy beliefs of content area teachers regarding content area and disciplinary literacy strategies and skills, and contained the following subscales: (a) assessment, (b) meeting students’ needs, (c) preparation, (d) oral reading, (e) motivation, and (f) implementation (see Table 2).
Table 2
Instrument Subscales with Corresponding Survey Questions

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>10, 11, 14</td>
</tr>
<tr>
<td>Meeting Students’ Needs</td>
<td>13, 30, 25</td>
</tr>
<tr>
<td>Preparation</td>
<td>34, 35, 36, 37, 38</td>
</tr>
<tr>
<td>Oral Reading</td>
<td>9, 12, 17</td>
</tr>
<tr>
<td>Motivation</td>
<td>21, 22, 29</td>
</tr>
<tr>
<td>Implementation</td>
<td>18, 19, 23, 24, 26, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51</td>
</tr>
</tbody>
</table>

Note. This table displays the six subscales of the TSELI and CALIS instruments and the survey questions that corresponded with each subscale.

Overall, of the 40 teachers I solicited to participate in the study, 26 participants completed the quantitative phase of the study (Phase I). Using descriptive statistics, I analyzed the participants’ overall mean scores of two instruments, the TSELI and the CALIS. As both the TSELI and the CALIS utilize the same nine-point Likert scales, I did not need to scale the data and could use the participants’ raw scores. By calculating the mean score of both instruments, I identified the participants who demonstrated high self-efficacy for teaching literacy strategies and skills and then purposefully selected four participants, one from each content area (mathematics, science, social studies, and ELA) with the highest score (see Table 3).
### Table 3
Participants’ TSELI, CALIS, and Overall Scores by Subject Area

<table>
<thead>
<tr>
<th>Name</th>
<th>Subject Area</th>
<th>TSELI</th>
<th>CALIS</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel</td>
<td>ELA</td>
<td>198</td>
<td>120</td>
<td>318</td>
</tr>
<tr>
<td>Adam</td>
<td>ELA</td>
<td>150</td>
<td>111</td>
<td>261</td>
</tr>
<tr>
<td>Rachel</td>
<td>ELA</td>
<td>142</td>
<td>111</td>
<td>253</td>
</tr>
<tr>
<td>Sarah</td>
<td>ELA</td>
<td>144</td>
<td>108</td>
<td>252</td>
</tr>
<tr>
<td>Margaret</td>
<td>ELA</td>
<td>132</td>
<td>100</td>
<td>232</td>
</tr>
<tr>
<td>Danielle</td>
<td>ELA</td>
<td>149</td>
<td>69</td>
<td>218</td>
</tr>
<tr>
<td>Andrew</td>
<td>ELA</td>
<td>128</td>
<td>67</td>
<td>195</td>
</tr>
<tr>
<td>John</td>
<td>Mathematics</td>
<td>155</td>
<td>114</td>
<td>269</td>
</tr>
<tr>
<td>Kalin</td>
<td>Mathematics</td>
<td>121</td>
<td>101</td>
<td>222</td>
</tr>
<tr>
<td>Kelley</td>
<td>Mathematics</td>
<td>112</td>
<td>88</td>
<td>200</td>
</tr>
<tr>
<td>Andres</td>
<td>Mathematics</td>
<td>107</td>
<td>86</td>
<td>193</td>
</tr>
<tr>
<td>Damien</td>
<td>Mathematics</td>
<td>86</td>
<td>90</td>
<td>176</td>
</tr>
<tr>
<td>Seth</td>
<td>Mathematics</td>
<td>69</td>
<td>80</td>
<td>149</td>
</tr>
<tr>
<td>Evelyn</td>
<td>Mathematics</td>
<td>62</td>
<td>61</td>
<td>123</td>
</tr>
<tr>
<td>Peter</td>
<td>Mathematics</td>
<td>34</td>
<td>52</td>
<td>86</td>
</tr>
<tr>
<td>Anne</td>
<td>Science</td>
<td>144</td>
<td>90</td>
<td>234</td>
</tr>
<tr>
<td>Miles</td>
<td>Science</td>
<td>142</td>
<td>90</td>
<td>232</td>
</tr>
<tr>
<td>Patrick</td>
<td>Science</td>
<td>117</td>
<td>102</td>
<td>219</td>
</tr>
<tr>
<td>Grace</td>
<td>Science</td>
<td>114</td>
<td>75</td>
<td>189</td>
</tr>
<tr>
<td>Parker</td>
<td>Science</td>
<td>77</td>
<td>73</td>
<td>150</td>
</tr>
<tr>
<td>Lyla</td>
<td>Science</td>
<td>62</td>
<td>46</td>
<td>108</td>
</tr>
<tr>
<td>Michael</td>
<td>Social Studies</td>
<td>148</td>
<td>99</td>
<td>247</td>
</tr>
<tr>
<td>Charles</td>
<td>Social Studies</td>
<td>152</td>
<td>89</td>
<td>241</td>
</tr>
<tr>
<td>James</td>
<td>Social Studies</td>
<td>136</td>
<td>102</td>
<td>238</td>
</tr>
<tr>
<td>Sadie</td>
<td>Social Studies</td>
<td>101</td>
<td>82</td>
<td>183</td>
</tr>
<tr>
<td>Dennis</td>
<td>Social Studies</td>
<td>101</td>
<td>74</td>
<td>175</td>
</tr>
</tbody>
</table>

*Note.* This is a table of the TSELI, CALIS, and Overall scores grouped by subject area and arranged from highest to lowest (in each subject area).

* I have de-identified all participants’ information by assigning each teacher a name-based pseudonym.

*Participant identified using purposeful selection for Phase II.*
Analysis of Variance between Subscales

Following my analysis of the overall means of the instruments and a one-way ANOVA F-test to determine that there was a statistical significance, I used the Tukey Multiple Comparison test to compare the mean scores of the subscales as well as the TSELI and CALIS scores by subject area (Rafter et al., 2002). I chose to conduct this analysis to see if there was a significant difference between the four subject areas. The subscales included: (a) assessment, (b) meeting students’ needs, (c) preparation, (d) oral reading, (e) motivation, and (f) implementation. I will now expand on the areas in which there were statistically significant results.

Using a significance threshold of p < .05, I was able to determine that there was a statistically significant difference in mean assessment scores between math and ELA (p = 0.004), but there was not a statistically significant difference in mean assessment scores between any other subject areas (see Figure 5).
Figure 5

*Tukey Multiple Comparisons of Means: Assessment Scores by Subject Area*

<table>
<thead>
<tr>
<th>Subject Areas</th>
<th>diff</th>
<th>lwr</th>
<th>upr</th>
<th>p adj</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math - ELA</td>
<td>-10.982</td>
<td>-18.776</td>
<td>-3.188</td>
<td>0.004*</td>
</tr>
<tr>
<td>Science - ELA</td>
<td>-6.190</td>
<td>-14.569</td>
<td>2.188</td>
<td>0.200</td>
</tr>
<tr>
<td>SS - ELA</td>
<td>-5.857</td>
<td>-14.675</td>
<td>2.960</td>
<td>0.280</td>
</tr>
<tr>
<td>Science - Math</td>
<td>4.792</td>
<td>-3.341</td>
<td>12.925</td>
<td>0.380</td>
</tr>
<tr>
<td>SS - Math</td>
<td>5.125</td>
<td>-3.460</td>
<td>13.710</td>
<td>0.369</td>
</tr>
<tr>
<td>SS - Science</td>
<td>0.333</td>
<td>-8.786</td>
<td>9.452</td>
<td>0.100</td>
</tr>
</tbody>
</table>

*Note.* This figure shows the Tukey Multiple Comparisons of Means test for math, science, social studies (SS), and English language arts (ELA) for the assessment subscale. The value “diff” = mean difference between groups; “lwr” = lower end point of the interval; “upr” = upper end point; “p adj” = p-value after adjustment for the multiple comparisons.

* p < .05.
While not statistically significant using the p < .05 threshold, the mean scores for meeting students’ needs in math and ELA were approaching significance (p = 0.057) (see Figure 6).

**Figure 6**

*Tukey Multiple Comparisons of Means: Meeting Needs Scores by Subject Area*

<table>
<thead>
<tr>
<th>Subject Areas</th>
<th>diff</th>
<th>lwr</th>
<th>upr</th>
<th>p adj</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math - ELA</td>
<td>-6.464</td>
<td>-13.071</td>
<td>0.143</td>
<td>0.057*</td>
</tr>
<tr>
<td>Science - ELA</td>
<td>-4.881</td>
<td>-11.983</td>
<td>2.221</td>
<td>0.253</td>
</tr>
<tr>
<td>SS - ELA</td>
<td>-1.314</td>
<td>-8.789</td>
<td>6.161</td>
<td>0.961</td>
</tr>
<tr>
<td>Science - Math</td>
<td>1.583</td>
<td>-5.311</td>
<td>8.478</td>
<td>0.919</td>
</tr>
<tr>
<td>SS - Math</td>
<td>5.150</td>
<td>-2.128</td>
<td>12.428</td>
<td>0.231</td>
</tr>
<tr>
<td>SS - Science</td>
<td>3.567</td>
<td>-4.163</td>
<td>11.297</td>
<td>0.584</td>
</tr>
</tbody>
</table>

*Note. This figure shows the Tukey Multiple Comparisons of Means test for math, science, social studies (SS), and English language arts (ELA) for the meeting students’ needs subscale.*
While there was a statistically significant difference in mean preparation scores between science and ELA (p = 0.019), there were no statistically significant differences between the other subject areas (see Figure 7).

**Figure 7**

*Tukey Multiple Comparisons of Means: Preparation Scores by Subject Area*

<table>
<thead>
<tr>
<th>Subject Areas</th>
<th>diff</th>
<th>lwr</th>
<th>upr</th>
<th>p adj</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math - ELA</td>
<td>-3.268</td>
<td>-9.384</td>
<td>2.848</td>
<td>0.464</td>
</tr>
<tr>
<td>Science - ELA</td>
<td>-7.643</td>
<td>-14.217</td>
<td>-1.068</td>
<td>0.019*</td>
</tr>
<tr>
<td>SS - ELA</td>
<td>-1.743</td>
<td>-8.662</td>
<td>5.177</td>
<td>0.896</td>
</tr>
<tr>
<td>Science - Math</td>
<td>-4.375</td>
<td>-10.757</td>
<td>2.007</td>
<td>0.255</td>
</tr>
<tr>
<td>SS - Math</td>
<td>1.525</td>
<td>-5.212</td>
<td>8.262</td>
<td>0.922</td>
</tr>
<tr>
<td>SS - Science</td>
<td>5.900</td>
<td>-1.256</td>
<td>13.056</td>
<td>0.131</td>
</tr>
</tbody>
</table>

*Note.* This figure shows the Tukey Multiple Comparisons of Means test for math, science, social studies (SS) and English language arts (ELA) for the preparation subscale.

* p < .05.
There were no statistically significant differences in mean scores between the subject areas for oral reading, motivation, and implementation at the $\alpha = 0.10$ significance level. Lastly, there was a statistically significant difference in mean TSELI scores and subject areas. I chose to utilize an F-test, because an F-test can compare two standard deviations of two samples and check the variability (Steiger, 2004). The p-value for the global F-test was 0.016, meaning that there is a significant difference in the means between subject areas. I then wanted to know where the difference was between subject areas. Since the value was less than 0.05, a Tukey Multiple Comparison of Means test allowed me to check for the pairwise comparisons. This method also adjusts the p-values for making multiple comparisons. From the data, I was able to determine that there was a significant difference between math and ELA ($p = 0.012$) (see Figure 8).
Figure 8

*Tukey Multiple Comparisons of Means: TSELI Scores by Subject Area*

<table>
<thead>
<tr>
<th>Subject Areas</th>
<th>diff</th>
<th>lwr</th>
<th>upr</th>
<th>p adj</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math - ELA</td>
<td>-55.750</td>
<td>-100.771</td>
<td>-10.729</td>
<td>0.012*</td>
</tr>
<tr>
<td>Science - ELA</td>
<td>-39.667</td>
<td>-88.063</td>
<td>8.730</td>
<td>0.134</td>
</tr>
<tr>
<td>SS - ELA</td>
<td>-21.400</td>
<td>-72.336</td>
<td>29.536</td>
<td>0.653</td>
</tr>
<tr>
<td>Science - Math</td>
<td>16.083</td>
<td>-30.896</td>
<td>63.063</td>
<td>0.778</td>
</tr>
<tr>
<td>SS - Math</td>
<td>34.350</td>
<td>-15.241</td>
<td>83.941</td>
<td>0.247</td>
</tr>
<tr>
<td>SS - Science</td>
<td>18.267</td>
<td>-34.408</td>
<td>70.941</td>
<td>0.771</td>
</tr>
</tbody>
</table>

*Note.* This figure shows the Tukey Multiple Comparisons of Means test for math, science, social studies (SS) and English language arts (ELA) for the TSELI instrument.

* * p < .05.
The global F-test p-value for the CALIS scores was 0.341, meaning that there were no significant differences between subject areas. Therefore, I did not use a Tukey Multiple Comparisons of Means test (see Table 4).

**Table 4**

*Global F-test for Subject Area CALIS Scores*

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>Sum Sq</th>
<th>Mean Sq</th>
<th>F-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Areas</td>
<td>3</td>
<td>1283</td>
<td>427.8</td>
<td>1.177</td>
<td>0.341</td>
</tr>
<tr>
<td>Residuals</td>
<td>22</td>
<td>7996</td>
<td>363.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* This table shows the global F-test for the CALIS instrument, with no significant differences between subject areas (p = 0.341).

* p < .05.

Once I was able to look at the boxplot in Figure 8, I wanted to see if Daniel, an ELA teacher who scored much higher than the rest of the participants, accounted for the significant difference in mean TSELI scores between math and ELA. The reason his score may have impacted the TSELI and not the CALIS is because the maximum score of the TSELI is higher than the maximum score of the CALIS. Daniel is considered an outlier in terms of the TSELI scores, but is not considered an outlier in terms of the CALIS scores.

With this in mind, I removed Daniel’s scores and conducted a global F-test with the remaining TSELI scores, determining that there was still a statistically significant difference in mean scores between one pair of subject areas (p = 0.041) (See Table 5).
Table 5

*Global F-test for Subject Area TSELI Scores with Daniel Removed*

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>Sum Sq</th>
<th>Mean Sq</th>
<th>F-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Areas</td>
<td>3</td>
<td>8771</td>
<td>2923.7</td>
<td>3.268</td>
<td>0.041*</td>
</tr>
<tr>
<td>Residuals</td>
<td>21</td>
<td>18789</td>
<td>894.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* This figure shows the global F-test for subject area TSELI scores, with the highest-scoring individual, Daniel, removed.

* p < .05.

Using another Tukey Multiple Comparisons of Means test, I was able to determine that a statistically significant difference still existed between the subject areas of math and ELA (p = 0.036), even after I had removed Daniel’s scores from the analysis (see Table 6).

Table 6

*Tukey Multiple Comparisons of Means: TSELI Scores with Daniel Removed*

<table>
<thead>
<tr>
<th>Subject Areas</th>
<th>diff</th>
<th>lwr</th>
<th>upr</th>
<th>p adj</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math - ELA</td>
<td>-47.583</td>
<td>-92.610</td>
<td>-2.556</td>
<td>0.036*</td>
</tr>
<tr>
<td>Science - ELA</td>
<td>-31.500</td>
<td>-79.635</td>
<td>16.636</td>
<td>0.290</td>
</tr>
<tr>
<td>SS - ELA</td>
<td>-13.233</td>
<td>-63.718</td>
<td>37.252</td>
<td>0.884</td>
</tr>
<tr>
<td>Science - Math</td>
<td>16.083</td>
<td>-28.943</td>
<td>61.110</td>
<td>0.753</td>
</tr>
<tr>
<td>SS - Math</td>
<td>34.350</td>
<td>-13.180</td>
<td>81.880</td>
<td>0.214</td>
</tr>
<tr>
<td>SS - Science</td>
<td>18.267</td>
<td>-32.219</td>
<td>68.751</td>
<td>0.746</td>
</tr>
</tbody>
</table>

*Note.* This table shows the Tukey Multiple Comparisons of Means test for math, science, social studies (SS) and English language arts (ELA) for the TSELI instrument with the highest scoring individual, Daniel, removed.

* p < .05.
Principal Component Analysis

Following the analysis of variance between subject areas for each subscale and instrument, I conducted a principal component analysis (PCA), or a factor analysis, to identify patterns and emphasize variation among the variables (Abdi & Williams, 2010).

To conduct the PCA, I removed all non-Likert scale questions from the data, along with Question 36 (Q36), as it had missing values. In doing so, I was left with 36 total questions, or variables. Using the PCA I aimed to group the questions together, or separate them, based on how participants answered each question while still capturing as much of the original variation in the responses as possible. According to the PCA, the first three principal components capture approximately 70% of the original variation, and the first ten principal components capture approximately 90% of the original variation. Each principal component is a linear combination of the original questions. The weight of each question explains how important that question was for that component. Additionally, the first component explains the most variation, the second component explains the second most, and so forth.

The first principal component, or latent variable, determined that the weight of each question was marginally similar, except for Q50 and Q51. Q50 asked about note-taking, and Q51 asked about disciplinary literacy implementation. These questions did not have a lot of variation and tended to be answered very differently from the rest, with teachers selecting a relatively high number for each Likert-scale question. In terms of their standard deviation (SD), Q51 had the least amount of variation, with teachers scoring the highest. While Q50 was not as drastic as Q51, it did on average have the second-highest score following Q51, and was one of the questions with a smaller amount of variation.

Table 7 includes the second through the tenth principal components, each containing six questions. The first three questions show the three highest positive weights and the final three
questions show the three highest negative weights. The table shows which questions were answered similarly, the three positive and the three negative, and which questions were answered differently, positive versus negative, for each component.

**Table 7**

*Principal Component Analysis: Questions Answered Similarly and Differently*

<table>
<thead>
<tr>
<th>PC</th>
<th>Questions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC2</td>
<td>Q49 Q45 Q50 Q27 Q24 Q23</td>
<td>0.331</td>
</tr>
<tr>
<td>PC3</td>
<td>Q44 Q47 Q49 Q21 Q26 Q35</td>
<td>0.168</td>
</tr>
<tr>
<td>PC4</td>
<td>Q11 Q37 Q12 Q43 Q46 Q48</td>
<td>0.253</td>
</tr>
<tr>
<td>PC5</td>
<td>Q44 Q35 Q45 Q11 Q46 Q26</td>
<td>0.265</td>
</tr>
<tr>
<td>PC6</td>
<td>Q22 Q35 Q50 Q45 Q42 Q21</td>
<td>0.301</td>
</tr>
<tr>
<td>PC7</td>
<td>Q39 Q48 Q35 Q50 Q21 Q46</td>
<td>0.151</td>
</tr>
<tr>
<td>PC8</td>
<td>Q42 Q49 Q37 Q46 Q44 Q13</td>
<td>0.261</td>
</tr>
<tr>
<td>PC9</td>
<td>Q39 Q28 Q9 Q20 Q47 Q25</td>
<td>0.229</td>
</tr>
<tr>
<td>PC10</td>
<td>Q13 Q40 Q37 Q26 Q22 Q17</td>
<td>0.250</td>
</tr>
</tbody>
</table>

*Note.* This table includes the second through the tenth principal components as well as the weights, either positive or negative, of each question for that component. PC = Principal Component; Q = Question.

To provide context to the principal component analysis, Appendix E includes a table (Table E1) representing the second through the tenth principal components with the content of the questions, in order of their weight. Within the order, Table E1 represents which questions were answered...
similarly, the three positive and the three negative, and which questions were answered differently, positive versus negative, for each component.

**TSELI and CALIS Scores**

In regards to the TSELI and CALIS scores, individuals who scored higher on the TSELI tended to also score higher on the CALIS, and vice versa (see Figure 9). There was a significant linear relationship between the two scores ($p = 0.000$).

**Figure 9**

*TSELI versus CALIS Scatterplot*

![TSELI versus CALIS Scatterplot](image)

*Note.* This figure is a scatterplot of the TSELI versus CALIS scores. Each point represents an individual. The value along the horizontal axis is their TSELI score and the value along the vertical axis is their CALIS score.

**Clustering of Participants’ Responses**

To show the clustering of teachers’ overall scores on the survey, I used a hierarchical clustering with complete linkage, grouping individuals together based on their question responses (see Figure 10).
Figure 10

Cluster Dendrogram

<table>
<thead>
<tr>
<th>Cluster Assignment</th>
<th>ELA</th>
<th>Math</th>
<th>Science</th>
<th>Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. This figure is a cluster dendrogram representing individuals’ responses. As the height increases, individuals and groups merge together. Also, as the height increases, the more dissimilar were individuals’ responses. A cut at a height of 17 produced four distinct clusters. The cut at 17 reflects such that the individuals within each cluster are as similar as possible but individuals between the clusters are as different as possible. Each label in the dendrogram represents that individual’s subject area.
Again, the ELA teacher, Daniel, was put in his own cluster because he scored significantly higher than the other participants. The second cluster contained the remaining six ELA individuals, along with two math, three science, and three social studies teachers. The third cluster had four math, one science, and two social studies teachers, while the last cluster, the fourth, had two math and two science teachers. The clustering shows that for the most part, there was a link between ELA and social studies teachers as they were clustered together, responding similarly and scoring higher on the questions, while math and science teachers were clustered on the other side. A mix of science, social studies, and math teachers were spread throughout the middle. Although researchers have indicated that ELA and social studies are the content areas with the most direct connections to literacy (Lee & Spratley, 2010; Swanson et al., 2016), the link between ELA and social studies could also have been a result of the school’s approach to social studies education, where the social studies teachers directly emphasize aspects of historical literacy within their curricula.

Next, I attempted to reveal if there were significant differences in the mean TSELI and CALIS scores between the individuals assigned to the different clusters. I removed Cluster 1 from the analysis because it only contained one individual, Daniel. Again using the Tukey Multiple Comparisons of Means test, I determined that there were significant differences in the mean TSELI and CALIS scores between each pair of cluster assignment groups. Figure 11 shows the Tukey Multiple Comparisons of Means test for Clusters 2, 3, and 4 in terms of the TSELI instrument, where there was a significant difference in the mean TSELI score between each cluster assignment.
**Figure 11**

*Tukey Multiple Comparison of Means: TSELI and Cluster Assignment*

![Box plot showing Tukey Multiple Comparison of Means for TSELI and Cluster Assignment.]

<table>
<thead>
<tr>
<th>Clusters</th>
<th>diff</th>
<th>lwr</th>
<th>upr</th>
<th>p adj</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 and 3</td>
<td>-41.429</td>
<td>-57.626</td>
<td>-25.231</td>
<td>0.000*</td>
</tr>
<tr>
<td>2 and 4</td>
<td>-81.250</td>
<td>-101.088</td>
<td>-61.412</td>
<td>0.000*</td>
</tr>
<tr>
<td>3 and 4</td>
<td>-39.821</td>
<td>-61.753</td>
<td>-17.890</td>
<td>0.000*</td>
</tr>
</tbody>
</table>

*Note.* This figure shows the Tukey Multiple Comparisons of Means test for Clusters 2, 3, and 4 in terms of the TSELI instrument.

* p < .05.

Similar to Figure 11, Figure 12 shows the Tukey Multiple Comparisons of Means test for Clusters 2, 3, and 4 in terms of the CALIS instrument, where there was a statistically significant difference in the mean CALIS score between each cluster assignment. Overall, the clusters are generally grouped by subject area with the second cluster containing six ELA individuals, two math, three science, and three social studies teachers, the third cluster containing four math, one science, and two social studies teachers, and the fourth cluster containing two math and two...
science individuals. Figures 11 and 12 show the statistically significant differences not only in the mean scores between clusters on both the TSELI and the CALIS, but in relation to a statistically significant difference between subject areas as well.

**Figure 12**

*Tukey Multiple Comparison of Means: CALIS and Cluster Assignment*

<table>
<thead>
<tr>
<th>Clusters</th>
<th>diff</th>
<th>lwr</th>
<th>upr</th>
<th>p adj</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 and 3</td>
<td>-14.500</td>
<td>-28.897</td>
<td>-0.103</td>
<td>0.048*</td>
</tr>
<tr>
<td>2 and 4</td>
<td>-38.643</td>
<td>-56.275</td>
<td>-21.011</td>
<td>0.000*</td>
</tr>
<tr>
<td>3 and 4</td>
<td>-24.143</td>
<td>-43.636</td>
<td>-4.650</td>
<td>0.013*</td>
</tr>
</tbody>
</table>

*Note.* This figure shows the Tukey Multiple Comparisons of Means test for Clusters 2, 3, and 4 in terms of the CALIS instrument.

* p < .05.

**Summary of Quantitative Findings**

Most importantly, my analysis of the quantitative data allowed me to purposefully select my participants for Phase II of the study. However, the small sample size of teachers that
participated in the survey (n=26) does limit the degree to which the findings are generalizable to the larger population of middle school content area teachers. Using the overall mean scores of the TSELI and the CALIS instruments, I selected teachers from each subject area with the highest self-efficacy scores. Of the 26 participants’ responses regarding their self-efficacy beliefs towards literacy instruction, I selected Michael, a social studies teacher, Anne, a science teacher, John, a math teacher, and Daniel, an ELA teacher, to participate in semi-structured interviews and artifact collection.

**Patterns and Variations Among the Variables**

To look for patterns and variations among the variables, I used a principal component analysis. I was able to determine that the first principal component contained questions regarding note-taking and teachers’ implementation of disciplinary literacy strategies and skills into instruction. Since note-taking is a common practice in secondary level content area courses and is closely related to disciplinary instruction, this result was not particularly surprising (Shanahan & Shanahan, 2008). Within the analysis, several other latent variables followed a similar pattern, as items referring to (a) content area literacy strategy and skill implementation (PC2, PC3, PC4); (b) writing (PC2); (c) oral reading and word study (PC4, PC5, PC9, PC10); and (d) meeting students’ needs (PC9) all related to one another, respectively.

**Differences Between Subject Areas**

Overall, I found the differences between participants’ responses based on their subject area interesting, but largely reflective of previously documented trends in the field (Spires et al., 2018). The biggest statistically significant differences were between the subject areas of ELA and math, where I found a significant difference between the two subjects in mean scores for assessment (p = 0.004), meeting students’ needs (p = 0.057), and the TSELI instrument (p =
The difference in responses between these two subject areas was also apparent in the
clustered dendrogram, where all ELA teachers were in cluster assignments 1 and 2, while math
teachers were spread throughout cluster assignments 2, 3, and 4, with the highest number of
teachers in cluster 3. Although science, math, and social studies teachers were spread throughout
the clusters, the fact that ELA weighed heavily to one side, while math weighed heavily to the
other emphasizes the difference in responses between the two subject areas, reinforcing the
analyses of variance between subscales by subject area.

A Case Study of Teachers’ Pedagogical Dispositions

Following my collection of quantitative data and purposeful selection of four participants,
I conducted semi-structured interviews and collected artifacts for case study analysis. To analyze
the qualitative data, I began by following the theoretical propositions that led to my case study
(Yin & Campbell, 2018). The qualitative inquiry in this study focused on ‘how’ and ‘why’
teachers develop their pedagogical dispositions toward literacy implementation. An assertion of
this study is that content area teachers’ experiences with education and training help to inform
their dispositions toward literacy instruction. For students to internalize their learning and
independently apply reading strategies and skills, teachers need to be able to provide explicit
instruction on employing fix-up techniques and monitoring their understanding (Akhondi et al.,
2011; Duffy, 2002; Duke & Pearson, 2002; Durkin, 1978/1979; Fang 2016; Fisher & Frey,
2008). As students enter content area courses, utilizing reading strategies and skills is especially
important because the disciplinary reading material increases in complexity and often requires
reading and rereading for comprehension (Fang, 2016).

Within the semi-structured interviews, I aimed to examine my second and third research
questions. My second research question asked, How do content area teachers describe their
decision-making process in regards to the implementation of content area literacy and
disciplinary literacy strategies and skills within their planning and classroom instruction? The
third question asked, In what ways do teachers’ experiences and training inform their
dispositions toward literacy instruction? As such, my research questions focused on how
teachers describe their decision-making, and how their experiences and training have informed
the dispositions that impact those decisions.

Using Dedoose and first and second-cycle coding techniques (Saldaña, 2009), I analyzed
the data through pattern-matching logic (Yin & Campbell, 2018). According to Yin and
Campbell (2018), pattern-matching logic is a technique that researchers often apply to
explanatory studies, as the “patterns may be related to the ‘how’s’ and ‘why’s’ of [the] case
study” (p. 175). For the study, I defined each case as an individual participant. In bounding the
case, I chose to examine participants from each content area course (mathematics, science, social
studies, and ELA). Through the use of pattern-matching, I was able to identify themes that
emerged from participants’ interviews.

Participants

The four teachers who participated in the semi-structured interviews were teachers from
each of the four content areas (mathematics, science, social studies, and ELA) who had the
highest overall scores on the Qualtrics survey containing the TSELI and CALIS instruments,
demonstrating high self-efficacy for teaching literacy strategies and skills. Of the four
participants, three participants identified as male, and one identified as female. All participants
had earned both a bachelor’s and a master’s degree at the time of each interview.
**Michael: Social Studies**

Michael was one of five social studies teachers from Southeast Middle School that participated in Phase I of the study. At the time of the interview, Michael had experience teaching social studies as well as a remedial reading course. On the Qualtrics survey, Michael scored a 247, demonstrating the highest self-efficacy score out of the five social studies teachers at Southeast Middle School who participated in the survey.

**John: Mathematics**

John was one of eight mathematics teachers from Southeast Middle School that participated in Phase I of the study. At the time of the interview, John had experience teaching various grades throughout elementary and middle school, specifically teaching mathematics at the middle level. On the Qualtrics survey, John scored a 269, demonstrating the second-highest self-efficacy score out of all 26 teachers at Southeast Middle School who participated in the survey and therefore also demonstrating the highest score out of the eight math teachers.

**Anne: Science**

Anne was one of six science teachers from Southeast Middle School that participated in Phase I of the study. At the time of the interview, Anne had experience teaching reading, mathematics, and science classes across various grade levels. On the Qualtrics survey, Anne scored a 234, demonstrating the highest self-efficacy score out of the six science teachers at Southeast Middle School who participated in the survey.

**Daniel: English Language Arts (ELA)**

Daniel was one of seven ELA teachers from Southeast Middle School that participated in Phase I of the study. At the time of the interview, Daniel had experience teaching both middle and high school ELA courses. On the Qualtrics survey, Daniel scored a 318, demonstrating the
highest self-efficacy score out of all 26 teachers at Southeast Middle School who participated in the survey and therefore also demonstrating the highest score out of the seven ELA teachers as well.

**Teachers’ Dispositions Towards Literacy Instruction**

Researchers have indicated that teachers’ beliefs toward reading influence their planning and implementation and that efficacy is a significant factor in the reading process for students and teachers as literacy practitioners (Nourie & Lenski, 1998; Richardson et al., 1991). Through semi-structured interviews, I provided a platform for teachers to voice their experiences within the reading and instructional processes. From individual interviews and artifact collection, several overarching themes emerged, including teachers’: (a) approaches to metacognitive reading strategies and reading comprehension, (b) perceptions of literacy instruction, (c) classroom implementation, (d) uses of formative and summative assessment, (e) uses of specific strategies and skills, and (f) educational and professional experiences.

**The Importance of Metacognitive Reading Strategies and Reading Comprehension**

In conjunction with reading comprehension and decoding skills, content area teachers are asking students to utilize their skills to address information in discipline-specific ways by reading complex texts for understanding, identifying various text structures, and utilizing strategies and skills to monitor their comprehension (Akhondi et al., 2011; Fang, 2014; Wright & Gotwals, 2017). As texts at the secondary level increase in difficulty and complexity, students need to incorporate both content area and disciplinary literacy skills as they transition from "learning to read" to "reading to learn” (Fang, 2016). As such, the use of metacognitive reading strategies and reading comprehension emerged as an important theme within participants’ interviews, curriculum guides, and lesson planning.
The Use of Metacognitive Reading Strategies. When students can monitor their understanding and employ cognitive strategies and skills independently, they are acting metacognitively. According to participants’ interviews and document analysis, teachers’ explicit instruction of metacognitive reading strategies and skills occurred in various ways. As Michael discussed, his students often utilized close reading strategies, previewed texts, and annotated regularly, especially when working with primary or secondary sources (Michael Interview). Throughout his lesson plans and curriculum guide, his instruction focused on the scaffolding of skills where he would model strategies for students and chunk the material he was asking them to learn (Artifact Collection). For example, Michael’s lesson plans detailed him reviewing with students how to skim and scan text for information, while modeling for them how to look for keywords and ideas within the text (Artifact Collection).

In John’s math class, he regularly previewed the text with his students, introducing and previewing important vocabulary words that students would encounter throughout the lesson (John Interview). Within John’s lessons, he planned time for students to have a discussion of vocabulary words as they read directions, also noting to monitor students’ understanding of vocabulary by asking questions (Artifact Collection). By providing students an opportunity to reflect on their understanding of each term, John implemented metacognitive practices that students could internalize and employ individually as they moved forward in their reading.

Reading Comprehension. According to John, reading comprehension also played a significant role in student achievement in his math class. When talking about students interacting with the material, specifically word problems, he noted that students needed “a general understanding of how to analyze text and how to be able to then use that information to problem-solve” (Interview). He continued, “If students have reading comprehension issues...that's
something you need to take a look at as far as, you know, helping them through those in your
content area class” (John Interview). According to Bryce (2011), textbooks can be a valuable
source of information in content area courses but can pose a challenge to students’ reading
comprehension as they lack organization, use difficult technical vocabulary, and incorporate
abstract concepts. As such, both John and Anne admitted that their math and science courses
tended to stray away from course text because of issues with reading comprehension. “Geometry
was definitely, but that was a high school level course, was more literacy and like having a read
than the other ones, and I think that that's why they don't use the textbook as much here at the
middle school because it doesn’t challenge students in that way” (John Interview). He continued
on to discuss how selecting the appropriate materials and resources to use with his students has
sometimes been a struggle for him and his colleagues. Referring to the complex math textbook
for his course, he stated:

This year we don't teach from the textbook. It's been kind of a battle between me and the
other grade-level teachers. We teach through a note packet that we do actually include
notes and vocabulary in, rather than just like a text, that would have the remaining
vocabulary terms and an example of what it looks like. Ours is a little bit more extensive,
but the way that [we] broke down the curriculum is [we] teach the base skills first, and
then go back and use those skills to weave in the problem-solving. So we really with this
unit we just started working through, [it’s] word problems and problem-solving (John
Interview).

Echoing John’s sentiment, Anne discussed the science text for her classes, revealing:

The text that we have for science is a pretty advanced text, and so a lot of how we use the
text is broken down into smaller segments so that students can understand what they're
learning about. We don't often put the textbook in front of them and say, you know, read these pages because there's a lot of difficult passages and so a lot of times what we do is, is we take a section of the textbook and break it down specifically for vocabulary and smaller concepts, and then we use the text closer to the end of the learning in order to kind of reinforce and reiterate what we have already learned. (Anne Interview)

Reflective of Anne’s statements, the science curriculum and lesson plans did not incorporate the textbook often, but Anne did have her students answering comprehension questions during warm-up activities by “reading aloud every once in a while,” as well as “tak[ing] a section of the textbook and break[ing] it down, specifically for vocabulary” (Anne Interview & Artifact Collection). In lieu of a textbook, Michael pulled leveled articles from several online resources for his social studies classes, allowing students with various reading abilities access to information about his subject area material and also providing them with interactive reading tools that aid in comprehension (Artifact Collection).

As the participants indicated, reading comprehension was an important aspect of students’ learning within their content area classes. However, with several core textbooks providing more of a challenge for students in terms of reading comprehension and accessibility (Bryce, 2011), teachers worked to scaffold their instruction, chunk their texts, and even supplement their classes with alternative reading materials to structure their lessons in ways that were manageable for their students.

**Reading Comprehension as an Area of Need.** As the teachers noted, reading comprehension was a large factor in students’ abilities to perform well in their classes, indicating that aside from complex texts, reading comprehension as a whole was a significant area of need for many of their students (Interviews). To John, reading was synonymous with analysis in his
classroom. He stated, “analysis is probably the biggest thing, and I think that that's something that's tough for people” (John Interview). For Daniel, he was able to identify when a student possessed the habits of a good reader. He explained:

> Reading. I mean literally, literacy. I mean just basic literacy, like in terms of historical literacy, in terms of cultural literacy, like reading as much as possible because, you know… you can always tell when one of the kids is a reader, because they write differently. (Daniel Interview)

Reading comprehension continues to be an area of need for many middle school students, especially as the material increases in depth and complexity (Fang, 2016; Shanahan & Shanahan, 2008). As such, teachers’ selection of material and resources, their direct and explicit instruction of literacy strategies and skills, and their ability to provide students with opportunities to apply their reading strategies and skills in authentic, meaningful contexts, is crucial to students’ development as content area readers and as disciplinary experts.

**Teachers’ Perceptions of Literacy**

As experts in their disciplines, content area teachers face the task of planning their instruction to meet their students’ needs while also implementing a comprehensive balance of content area and disciplinary literacy strategies and skills. Alongside a foundational knowledge of the reading process and the habits of good readers, content area teachers must also have an understanding of what content area literacy versus disciplinary literacy looks like within their subject area. Although different from one another, teachers often use the terms *content area literacy* and *disciplinary literacy* interchangeably (O’Byrne et al., 2020). As such, I wanted to know how the participants of my study defined each approach in their own words.
Teachers’ Definitions of Content Area Literacy. Content area literacy refers to strategies and skills that readers can generalize and apply across disciplines, often categorized synonymously as metacognitive reading strategies where readers are thinking about their thinking (Palincsar & Brown, 1984). Examples of content area literacy strategies include setting a purpose for reading, annotating, questioning, visualizing, predicting, summarizing, paraphrasing, or making connections or associations.

Of the four participants, all exhibited a general understanding of literacy implementation within their subject areas but did not demonstrate that they could definitively differentiate between content area literacy and disciplinary literacy. As far as their own personal definitions, several participants described the characteristics of content area literacy in ways that reflected their classroom instruction, with an emphasis on vocabulary (John & Anne Interviews). For example, John described his idea of content area literacy regarding his math classes:

Content-specific literacy, to me, is just making sure that students understand key vocabulary terms that are going to help them comprehend what they need to do. So as far as math is concerned, [content-specific literacy is] key vocabulary terms or clue words in word problems that would allow them to then use the skills necessary to solve the problem. (John Interview)

Like John, Anne also placed an emphasis on vocabulary in her science classes, as well as in her definition of content area literacy (Interview & Artifact Collection). She explained:

I think content area literacy has to do a lot with understanding content material in terms of grade-level content, as well as being able to understand and decode vocabulary, and using that vocabulary in reading and writing. (Anne Interview)
Different from John and Anne’s definitions, Daniel and Michael referred to content area literacy through a disciplinary literacy lens, focusing on discipline-specific strategies and skills. According to Daniel, content area literacy meant “the skills that a student would have to understand, how information is presented in a particular subject” (Daniel Interview). He continued to explain, “For me it's, you know, a lot of novels and short stories, poetry, things like that. So, I guess just the sort of ability for a student to have tools to interpret and make conclusions about certain content” (Daniel Interview). Similarly, Michael discussed content area literacy through the act of sourcing, which is a disciplinary literacy skill that historians use to contextualize a document or provide information on where someone acquired information.

So in a historical or social studies setting, it would mean learning the skills that a historian actually uses. So like, how to source a document, what the verb sourcing is versus the noun sourcing. How to close read it with an understanding of historical context and how to research to find that context. If you’re reading something without it, those sorts of skills. Content area literacy would be specific to what I’m teaching them this year. (Michael Interview)

Although the participants did not provide accurate or specific definitions of content area literacy strategies and skills, which are generalizable skills that students can transfer across disciplines, the teachers’ quantitative survey responses, lesson plans, and curriculum guides reflected that they do in fact implement content area literacy strategies and skills into their instruction. From their interviews, the teachers’ responses indicated that they know how to use content area literacy strategies and skills, but may be unaware that they are doing so, or unsure of how those strategies and skills fit into a comprehensive, balanced literacy approach to content area instruction.
**Teachers’ Definitions of Disciplinary Literacy.** Disciplinary literacy refers to instruction that is discipline-specific and attends to the unique ways that experts in each respective field approach and interact with text (Shanahan & Shanahan, 2008). Examples of disciplinary literacy skills can include identifying an authors’ bias in a social studies class, interacting with word problems in a math course, following the scientific process in a science class, or discussing characterization in an ELA course.

Much like their responses when discussing content area literacy, the participants showed a general sense for literacy instruction but were unable to provide accurate descriptions of disciplinary literacy strategies and skills for their subject areas. As they attempted to define disciplinary literacy, several participants had to pause and think back to how they had described content area literacy in order to form their response for disciplinary literacy (Michael & Anne Interviews). Anne attempted to explain, but showed signs of confusion:

> So, disciplinary literacy, I guess, would be specifically content focused. Writing… I don't know. I guess, it would be a little bit more specific then, so, content area focus[es] on, you know, science as a whole. Disciplinary reading, literacy, writing specific to, you know, a specific sector of science. So, biology, chemistry, etcetera. (Anne Interview)

In her definition, Anne correctly alluded to aspects of disciplinary literacy as being specific to the subject area, however, she could not elaborate on what exactly that looked like in terms of strategy or skill instruction. Similarly, John broadly referred to disciplinary literacy as “weaving in English language arts skills [in]to your content-specific classes,” although he did not elaborate on what specific ELA skills he was referring to. He continued with his definition of disciplinary literacy by mentioning the implications of reading comprehension, stating, “If students have reading comprehension issues, that's something you need to take a look at as far as, you know,
helping them through those in your content area class. If that makes sense” (John Interview).

Although reading comprehension is a significant part of literacy instruction, John’s definition did not mention any specific information that would constitute disciplinary literacy strategies or skills.

While Anne and John struggled to express their understanding of disciplinary literacy, Daniel discussed his idea of disciplinary literacy through a content area literacy lens, switching the meaning of the two terms. He explained:

[It’s] the tools, the actual tools that they're using and the interfaces that students are using. I'm hardly an expert on any of it, but my understanding of it is essentially that while there should be content-specific literacy, there should also be sort of a standard by which all academic thought is funneled. I mean that's kind of my very layman’s understanding of it. I'm not a writing and reading expert or anything like that, but my understanding is that basically there should be at least some sort of standard, sort of cross-disciplinary. How do I put it? Like, a basis of tools, a basis of ‘a student should be able to understand this, this, this, and this,’ and there should be transfer across disciplines, and they should be able to use different tools for different areas of content. (Daniel Interview)

When Daniel alluded to disciplinary literacy skills as skills that can be transferred across disciplines, he is actually referring to content area literacy skills. Daniel’s response is an example of a common misconception where teachers use the terms content area literacy and disciplinary literacy interchangeably and do not understand the unique differences between the two approaches (O’Byrne et al., 2020).
One participant did, however, provide an accurate description of disciplinary literacy, and how an expert in their content area would use disciplinary literacy strategies and skills to interact with text. Michael began with a very vague description, stating, “Disciplinary literacy then would be the improvement of those skills that they're going to use through the discipline of history” (Michael Interview). He continued on to discuss what that means to him, explaining that disciplinary literacy is “discussing what it means to actually act like, think like, behave like a historian, when you're given a source” (Michael Interview). Michael’s description truly embodies disciplinary literacy, as students in a social studies class would attempt to behave like an expert in that subject area. When Michael described students approaching and interacting with a historical text using the unique skills of a historian, he affirmed his understanding of disciplinary literacy strategies and skills.

Much like their responses to content area literacy strategies and skills, and aside from Michael’s response, three of the four teachers did not provide accurate or specific definitions of disciplinary literacy strategies and skills. Yet, once again, the teachers’ quantitative survey responses, lesson plans, and curriculum guides reflected that they do in fact implement disciplinary literacy strategies and skills into their instruction. From their interviews, the teachers’ responses indicated that they know how to use disciplinary literacy strategies and skills, but again may be unaware of what they are, that they are implementing them, or how those strategies and skills fit into a comprehensive, balanced literacy approach to instruction in their subject areas.

According to O’Byrne et al. (2020), much of teachers’ pushback against content area and disciplinary literacy “stems from a lack of familiarity with these terms or misunderstandings about how to design pedagogies that support content area and disciplinary literacy” (p. 5).
Overall, while participants’ responses to the initial survey of the study, their lesson plans, and their curriculum guides provided evidence that they do implement both content area and disciplinary literacy strategies and skills into their instruction, their interview responses attempting to define either approach did not show a solid understanding or ability to differentiate between the two terms. As I selected the four participants for Phase II of this study as a result of their high self-efficacy beliefs in literacy instruction and their responses indicating their implementation of literacy strategies and skills, their inability to provide accurate or detailed descriptions of content area or disciplinary literacy instruction shows that even though they are confident practitioners and regularly implement literacy strategies and skills in their classrooms, they may not have a solid foundational understanding of either approach, or are purposeful or intentional in their planning or implementation.

**What Does Classroom Implementation Look Like?**

While the participants may not have been able to provide accurate or detailed definitions of content area or disciplinary literacy, the teachers did provide evidence that they implement both content area and disciplinary literacy strategies and skills into their instruction. During the interviews with participants, I wanted to know what teachers were asking students to do within a given class period, and what literacy instruction looked like within their classrooms. Through participants’ responses and an analysis of their lesson plans and curriculum guides, I found several components that went into their daily implementation: (a) planning, (b) building lessons to meet curriculum standards and assessments, (c) scaffolding and building background knowledge, and (d) modeling strategies and skills.

**Planning.** At Southeast Middle School, each grade (6, 7, and 8) is divided into three teams, with each team having four content area teachers, and each subject area following the
same curriculum across teams (Artifact Collection). Each participant submitted lesson plans and curriculum guides for artifact collection and document analysis, and indicated that they all plan their instruction with their grade-level content area partners. Their plans and curriculum guides outlined the state standards, student learning targets, and big ideas or questions for each lesson (Artifact Collection). In his interview, Michael discussed what a typical class might look like as he plans:

So implementation usually looks like within a given class period, they are provided the opportunity to read something, whether it be new material or based on material that we have discussed in class, and then they're also given the opportunity to reflect on that, or sometimes it's answering questions to help them with their annotation or close reading strategies…and that is pretty much every day that we're doing this. (Michael Interview)

Although Michael planned his classes using an organized, consistent structure, he also emphasized the practice of strategies and skills, repeating assignments or activities but changing the content or readings each time (Artifact Collection). Several examples of these lessons or activities included assignments where students completed content directed reading thinking activities (DRTAs), identified main ideas and supporting details, annotated selections of text, completed close reading question and answer activities, or completed content dictation activities followed by writing focus summaries where students would read a selection of text, summarize it in their own words to another individual who would then write it out, and they would work together to use that information to write a focused summary of the text. The COVID-19 pandemic, however, has limited the interaction in schools and in classrooms, requiring much of the learning to become an individual activity for students.
In terms of planning for her science classes, Anne also had to accommodate for the pandemic, limiting students’ interactions with one another. While her science class is usually an interactive course for students by promoting group work during labs and experiments, Anne and her colleagues have had to create new ways to engage their students (Artifact Collection). She reflected, “We're trying to figure out better ways to get them to be active with that kind of stuff, but it makes it hard right now when they can't really work together” (Anne Interview).

Although the teachers noted that their planning has changed to accommodate new COVID-19 precautions in their classrooms, the standards and assessment for their courses remain the same (Artifact Collection). Following a backwards by design approach, the teachers plan and implement lessons to meet the needs of their students, curriculum standards, and standardized assessments (Graff, 2011).

**Building Lessons to Meet Curriculum Standards and Assessments.** At Southeast Middle School, students in grades 6, 7, and 8 take standardized math and ELA tests each spring, and in 8th grade, students complete a standardized science test as well. Although not a tested subject, social studies classes at Southeast Middle School incorporate expository texts and persuasive writing prompts to help prepare students in those areas for the standardized ELA assessment (Artifact Collection). As such, the teachers’ interviews, lesson plans, and curriculum guides provided evidence that they built their lessons to meet the state standards and assessments. For example, according to Michael’s curriculum guide, the social studies standards he utilized most often in his classes are structured around reading and writing skills such as citing textual evidence, determining central ideas, providing summaries, writing informative or explanatory texts, and writing arguments focused on discipline-specific content (Artifact
Collection). When I asked him what a typical social studies lesson might look like, Michael explained:

[Students] are provided the opportunity to read something, whether it be new material or based on material that we have discussed in class… close reading, annotating, previewing texts we use, I would say, pretty much daily… any lesson where there is a reading we are doing those and that is pretty much every day that we're doing this, or doing readings, I should say. (Michael Interview)

As Michael noted, students regularly work with several key content area literacy skills such as close reading, annotating, and previewing texts that help them to monitor their understanding of the social studies content material. According to Daniel, these skills are also reinforced in his ELA classes with different content material. In his interview, Daniel echoed a similar pattern to his instruction:

[They’re] annotating the texts, chunking out the texts, looking at it, comparing, contrasting. For example, [taking] two parts of the texts and asking students to cite from the text. That’s another one, citing from the texts over and over again comes up. Give me an exact quote. Give me the exact citation from this, and then drawing [sic] a quotation, and then, no matter what the question is, coming to a conclusion about it. How does this quotation support the thing that you're arguing? (Daniel Interview)

While Michael and Daniel’s social studies and ELA lessons followed a similar format in their use of close reading, annotating, and previewing texts, John and Anne’s math and science lessons also showed patterns of similarity, as they both discussed the previewing of vocabulary and annotating as the strategies and skills that they used most frequently when planning instruction to meet curriculum standards and assessment needs (John & Anne Interviews,
Artifact Collection). However, as the teachers discussed literacy implementation in their classrooms, planning their instruction, and crafting their lessons, they stressed the importance of scaffolding students’ learning and building students’ background knowledge as they progressed through their material.

**Scaffolding and Building Background Knowledge.** According to social constructivist learning theory, students internalize their learning from their interactions with others, and through scaffolding and the building of background knowledge, students who are challenged by a task receive support from a more knowledgeable other and can participate in the active construction of knowledge through the integration of new and existing knowledge (Moll, 2013; Powell & Kalina, 2009; Vygotsky, 1978). Additionally, Di Domenico et al. (2019) affirmed that content area literacy strategies and skills provide an important scaffold for students as they attempt to interact with disciplinary texts. Scaffolding and building background knowledge are important aspects of instruction for teachers to include as they plan their implementation, supporting students’ internalization of knowledge through both social constructivism and schema theory.

As participants discussed their literacy implementation, they continued to emphasize how they scaffolded their lessons and attempted not only to tap into students’ prior knowledge, but to help build a base for their knowledge so that students could continue to integrate new learning (Interviews). According to Daniel, much of the scaffolding in his class came from helping his students to build their writing responses as they went, step by step. He elaborated,

[We] build that graphic organizer, build that response, build that argument, and then the hope would eventually then go to, now let’s take the pieces of the graphic organizer and put them into a paragraph, and then that paragraph starts to become more useful to them,
and then they start to be able to build a full response, and just sort of build, like scaffold one skill on top of the other. (Daniel Interview)

Similarly, John also used a constructivist approach where learning is a social process and students work to create meaning through their interactions with one another. He reflected on how he asks his students to work through their thought processes together, “so that they can bounce [their] ideas off each other. I think that this is something that individually, is something that would take a while” (John Interview). In fostering their social interactions, John provides his students with opportunities to add to their existing knowledge, or clear up any misconceptions they may have.

Anne also discussed several ways that she helps her students to build their understanding. At times, she begins by first teaching the important terms and vocabulary. “When we start a new unit, there's some introduction of the topic as well as a general overview of what they're going to be learning about, then we focus specifically on vocabulary” (Anne interview). Once her students have enough background knowledge, she allows them to participate in inquiry-based learning. She explained, “Depending on the length of the unit, we usually have one or two labs where students will apply their knowledge of the content in order to then write a CER, claim evidence reasoning paragraph” (Anne Interview). However, there are times when Anne places the inquiry-based learning first, allowing students to participate in self-discovery, forming a foundation of experiential knowledge for the learning that is to come (Interview & Artifact Collection). She described:

We'll start automatically with a lab, even when they don't really know a lot about the topic yet and they do a lot of discovery on their own, even though they might not know
what it's called, and then we go back and apply the terms to what they learned. (Anne Interview)

As students work through the lab, they are able to learn and build their knowledge through authentic discovery and within the context of the class (Pedaste et al., 2015). While the teachers noted that providing students with opportunities to build their foundational knowledge and scaffold their learning was an important part of their classroom implementation, another theme that emerged from their conversations was taking the time to model specific strategies and skills for their students.

**Teachers’ Modeling of Strategies and Skills.** Students’ abilities to monitor their understanding as they read is a significant aspect of metacognitive theory, and as such, effective instruction of metacognitive strategies and skills incorporates the explicit modeling of behaviors, actions, or strategies that teachers want their students to use themselves (Davey, 1983; Shanahan & Shanahan, 2008). Evident in both the teachers’ lesson plans as well as their interviews, the explicit modeling of strategies and skills was an important component to teachers’ classroom implementation. All four participants’ lesson plans frequently listed action verbs such as show, practice, discuss, model, explain, and review, indicating that the teachers intended to provide direct, explicit instruction modeling how to utilize specific strategies and skills in their classes (Artifact Collection). Referencing a particular lesson that he teaches from year to year, John discussed how he models the lesson for his students for a class period or two, until through a gradual release of responsibility, the students are ready to attempt the work together in groups. He explained:

One of the things that I’ve really liked to do in the past is take word problems and have students annotate them and then match them with the skills that people need to solve
them. So, they might get an envelope with word problems and then operations that they would need to solve, and they would read through and highlight the key information and then match it with what they think they would need to do to solve a problem. Then we would go through each of those problems and discuss like, did you match them correctly, what needed to stand out to you, and they would explain their thinking, and then we would talk about whether they were correct or not…I would model how to do it for maybe a class period or two, until I felt like they got a good grasp of it, and then after modeling that would be something that we do…like kind of a group activity. (John Interview)

Daniel also often incorporated modeling and think-alouds into his instruction. Like John, he modeled several different skills for his students before asking them to attempt the work on their own (Interview). In his interview, he vocalized some of his think-aloud speech that he encourages his students to use themselves, prompting them to set a purpose for reading, re-read, and annotate:

So let's say we're doing like an article or something shorter, we would put the text in front of them, we would start by annotating, you do a first read… you would probably want to start by annotating the text, looking for a target in mind, like, so what are we reading the text for? Usually, there'd be some kind of central question, some kind of aim that we've got. (Daniel Interview)

By conducting a think aloud and showing his students his own metacognitive process when approaching a text, students can see how Daniel expects them to interact with his content material.
Overall, through an analysis of the data from interviews and artifact collection, several key components of the participants’ daily implementation emerged: (a) planning, (b) building lessons to meet curriculum standards and assessments, (c) scaffolding and building background knowledge, and (d) modeling strategies and skills. As these components influenced what the classroom implementation looked like on a regular basis, they are areas of consideration for content area teachers as they build purposeful lessons that foster the habits of good readers and work to integrate explicit strategy and skill instruction into their daily instruction.

**Teachers’ Uses of Formative and Summative Assessment**

Building their lessons to meet curriculum standards and assessments was an influential part of how the teacher’s formed their classroom implementation. In their interviews, Michael, John, Anne, and Daniel discussed several ways that assessment occurs within their classrooms as well as how assessment influenced the structure and planning of their classes. On the Qualtrics survey, participants reported that assessment occurs frequently at Southeast Middle School and is something that I found the teachers heavily emphasized throughout their curriculum guides and lesson plans. Through artifact collection and document analysis, teachers’ planning and instruction utilized a backwards by design approach (Graff, 2011) where instruction led up to each formative or summative assessment, and was reflective of the content and skills that the teachers intended to assess.

**Formative Assessment.** In science, social studies, and ELA classes, formative assessment occurred mainly through responses that students completed during class time through a variety of platforms. Daniel discussed several different ways he allows students to respond to prompts in his class, especially when it comes to striving readers who may face academic difficulties regarding their reading and writing development (Groff, 2014). He said:
We've done different kinds of responses. We've done written responses. We've done Flip Grids where students can present the information visually… they've been able to sort of just, especially for students who have issues when it comes to any kind of SDI [specially designed instruction], when it comes to something like typing a response, or writing a response, they've been able to just sort of speak it out, following a script, writing a script. (Daniel Interview)

Similarly, Michael expressed that much of the formative assessment in his class came from daily classwork and writing responses where he asked students to make a claim and support their claim with evidence and reasoning (Interview). He elaborated:

A lot of times it's not so much comprehension, as it is like, making an argument of sorts? Not always an argument, but there's always a claim of some sort. We do a lot of claim evidence and reasoning. So, I'll ask them a question that's not necessarily meant to ruffle feathers, but it's a question that they have to take a side on, and then provide evidence to support that side. (Michael Interview)

Teachers’ planning also reflected the use of written responses as a form of regular formative assessment, as Anne had her science classes constructing arguments to describe scientific processes, while Michael’s social studies students submitted summary responses and worked on comparing and contrasting historical people, places, and events (Artifact Collection). According to Michael, “Literacy obviously goes beyond just reading, it’s writing as well” (Interview).

As all four participants indicated that they used reading and written responses almost daily to assess students’ knowledge of the material, it is not surprising that it was a prevalent theme in both the interviews as well as the document analysis (Interviews & Artifact Collection).
**Summative Assessment.** In terms of teachers’ summative assessment of students, the structure of Daniel’s ELA and John’s math courses overwhelmingly outweighed Michael’s social studies and Anne’s science classes’ use of formal assessment measures (Artifact Collection). As subjects that are formally assessed by the state each year, ELA students completed several text-dependent analyses (TDAs), curriculum checks, and vocabulary assessments, while math students were assessed through unit assessments, benchmark assessments, and quizzes (Artifact Collection). Daniel spoke to the summative assessment of his ELA classes, stating that “a lot of it [assessment] is structured through TDAs” (Interview). He went on to explain:

> We frame everything using the ICE model, introduce, site, and explain, so it’s a lot of analysis paragraphs. It’s a lot of response… Right now we’re doing central idea. So, we’re focusing on identifying a central idea in one part of the text, uh, and finding um, supporting details in the text that will uh, support that central idea and then over the course of the text building um, an argument based on each central idea, to come to a conclusion about the text. (Daniel Interview)

Reflecting on how his course is structured and how he viewed his planning and implementation of literacy strategies and skills leading up to a TDA, Daniel stressed how important he believed it was for students to have the ability to formulate and defend an argument within the context of the material:

> [We] then go to the building of a new argument and then sort of solidifying and, well, defending, I mean, honestly, defending that argument, in the end, because when it comes to the assessment part of it, it's okay, how well did you meet the criteria of what was presented to you? (Daniel Interview)
Compared to the TDAs that Daniel implemented in his ELA course, Anne’s science classes utilized lab reports and claim, evidence, reasoning (CER) responses to assess students’ skills, where “[students] write a CER, claim evidence reasoning paragraph where they will show their understanding of the vocabulary terms and backup their evidence with reasoning and scientific principles and vocabulary” (Interview). While Michael indicated that similar to Anne, some of the formative assessment in his class came from CER responses, like Daniel, he utilized TDAs as a form of summative assessment (Interview). However, the social studies classes attempted a limited number of TDAs compared to the ELA classes, and did not have any formal curriculum checks, benchmark assessments, or unit assessments (Artifact Collection).

Overall, summative assessment was most prevalent in the ELA and math courses, with frequent curriculum checks and benchmark assessments to monitor students’ progress (Artifact Collection). As the teachers utilized similar forms of assessment, such as TDAs and CER responses, they attempted to incorporate shared language to help students transfer their skills between content areas (Interviews & Artifact Collection). Daniel shared:

[We’re] using consistent terminology, framing everything the same way, introduce cite explain, introduce cite explain, central idea, thesis statement, really trying to hammer home that terminology, so that no matter what they are, no matter what the text is, we should be able to transfer that, you know, vocabulary term that should be part of their literary vocabulary. (Daniel Interview)

Although teachers structured their assessments to monitor students’ mastery of content material, their use of shared language and emphasis on transferable skills provides evidence of their use of content area literacy strategies and skills. As such, the teachers’ approaches to literacy implementation and their decision-making processes regarding how and why they choose the
skills they implement was reflective of their cross-curricular approach to the language and the
terminology they use, and the emphasis that they place on assessment across content areas at
Southeast Middle School.

*Teachers’ Uses of Specific Strategies and Skills*

Throughout their interviews, lesson plans, and curriculum guides, the teachers used
various strategies and skills, providing their students with opportunities to apply their reading
strategies and skills in authentic, meaningful contexts. Although their own definitions of content
area and disciplinary literacy strategies and skills did not reflect a solid understanding of the
differences between either term, the teachers did implement both approaches within their
planning and classroom instruction.

*Content Area Literacy Strategies and Skills.* Among the content area literacy strategies
and skills that the teachers indicated they used, several specific strategies stood out among the
rest as ways the teachers utilized content area literacy most often. These strategies included: (a)
previewing and discussing domain vocabulary, (b) annotating text, and (c) using graphic
organizers to help students plan for their writing.

*Previewing and Discussing Domain Vocabulary.* For teachers of any content area
course, vocabulary is a crucial part of their instruction. According to Flanigan et al. (2017),
“Teaching any content area… is akin to teaching your students an entirely new language. This is
because much of the disciplinary knowledge in any domain is vocabulary-driven” (p. xxi). For
the teachers in this study, previewing and discussing vocabulary words that were specific to their
class and content area was one of their most common practices (Interviews & Artifact
Collection). For Daniel, he dedicated time in each ELA lesson to focus on vocabulary (Artifact
Collection). For Michael’s social studies classes, domain vocabulary was something that he
worked in at the beginning of each unit so that students had an understanding of what they would be reading about (Artifact Collection).

In their interviews, Anne and John specifically stressed the importance of vocabulary instruction in their classes. In Anne’s science classes, much of her instruction focused on reading smaller sections of the text to discuss important vocabulary words, investigating the origins of the words, and helping her students “to connect to vocabulary words specifically, like stems and roots and things like that” (Anne Interview). She discussed how she chunked her students’ learning, explaining, “We don't cover all of the vocabulary at first. We start off with a few terms, make understanding of those terms” (Anne Interview). For her, “linking vocabulary terms together” was integral for her students “in order to gain contextual understanding” (Anne Interview). In John’s math classes, pre-teaching vocabulary was something he expressed was imperative to his students’ success. By providing his students with an opportunity to work with the vocabulary terms before they are expected to use them, he has given them the tools necessary for comprehension. He explained that when his students “see those vocabulary terms come up, they are able to understand what they are and how they're used and applied in math” (John Interview).

Through their interviews, lesson plans, or curriculum guides, all four participants showed evidence of pre-teaching and discussing domain vocabulary in their classrooms, placing an emphasis on students’ exposure to unfamiliar vocabulary prior to new learning. Vocabulary instruction is necessary in content area classes so that students can identify and understand domain-specific words and apply them to the context of the big ideas of the subject (Flanigan et al., 2017). As part of the reading process, once students have an understanding of the vocabulary,
they must then be able to read and comprehend the text, metacognitively monitoring their understanding, possibly by annotating, as they go.

**Annotating Text.** According to the teachers, annotating was another one of the most common content area strategies they had their students use within their classes. While I found teachers’ use of annotating to be taking place primarily in the ELA and social studies classes (Interviews & Artifact Collection), John’s math classes also heavily relied on annotating when it came to his students’ comprehension of word problems. As he discussed his lessons, he often asked his students to “read through and highlight the key information” (John Interview). He explained:

We really work on annotating word problems, circling clue words and phrases, underlining key information that needs to be pulled out. It's almost like working through a TDA in a way, to solve what they need to do. So, highlighting and doing all those things to just help them understand the problem first, because I think that's one of the biggest issues with math, word problems, and you know problem-solving, is that students don't really understand what they need to do to solve the problem. They might have the skills to be able to, but without annotating and pulling out that information, it's tough for them (John Interview).

While John’s students used annotating strategies to help them understand what they needed to do to solve a word problem, Daniel’s students used annotating to help them find passages that they could use to “cite from the text” and “find a supporting detail to support [their] thesis statement” (Daniel Interview). Similarly, Michael created lessons where his students also used annotating strategies to cite from the text and highlight supporting facts and details, specifically noting that the “teacher and students should practice annotation strategies” and that the teacher should
model the strategy by “show[ing] students how to highlight text on a Google Doc if necessary” (Artifact Collection). In Michael’s classes, he often paired close reading and annotation strategies together, working with students to analyze the text while modeling his metacognitive behaviors so that his students could see how they were supposed to implement the strategies independently (Interview & Artifact Collection). According to the teachers, most of the time they asked their students to annotate, they requested them to do so because they wanted their students to locate information to form a written response, leading them to then implement the use of graphic organizers (Interviews & Artifact Collection).

**Using Graphic Organizers.** Since Anne, Michael, and Daniel all assessed their students through written responses, graphic organizers were an important tool that they often used during their instruction. In Daniel’s words, “Graphic organizers are definitely the biggest thing” (Daniel Interview). For him, they enabled his students to have an organized way in “assembling all this evidence… using that same sort of graphic organizer structure, and then eventually transferring that graphic organizer structure into essay form, paragraph form” (Daniel Interview). In Anne’s science classes, her students often utilized graphic organizers for their CER responses (Artifact Collection). Similarly, Michael also used graphic organizers for his students’ CER responses, but also used them to help students in writing prediction paragraphs, summary paragraphs, and organizing information when comparing and contrasting historical people, places, and events (Artifact Collection). To the teachers, graphic organizers seemed to be a consistent way to help their students identify the information they needed to successfully respond to a given prompt, and to in turn organize a structured written response.

**Other Content Area Literacy Skills.** Along with pre-teaching and discussing domain vocabulary, modeling and implementing annotating strategies, and providing students with
graphic organizers to help structure their written responses, the participants noted several other content area literacy skills they utilized in their classes. In ELA and social studies, Daniel and Michael encouraged their students to analyze text structures before they began their reading (Artifact Collection). According to Daniel’s lesson plan, he specifically asked his students to “analyze the structure an author uses to organize a text, including how major sections and text features contribute to the whole and to the development of the ideas” (Artifact Collection).

Other helpful strategies and skills included previewing the text, anticipation guides, questioning and making predictions, note-taking, synthesizing, and summarizing (Michael Interview & Artifact Collection).

Overall, all four teachers implemented various content area literacy strategies and skills into their instruction as a means of helping their students to understand and interact with their content material. While the teachers specifically discussed their prominent use of vocabulary, annotating, and graphic organizers, their instruction also incorporated the use of consistent terminology and generalizable skills that they intended their students to transfer across content areas (Interviews & Artifact Collection). However, along with their implementation of content area literacy strategies and skills, the teachers also indicated that they frequently utilized disciplinary literacy strategies, specific and unique to their content area, during their instruction.

**Disciplinary Literacy Strategies and Skills.** Disciplinary literacy strategies and skills are specific and unique to each subject area, reflecting how a disciplinary expert would interact with subject-area text. As such, each participant described the disciplinary literacy strategies and skills that they implemented in their classes in very different ways.

In Daniel’s ELA classes, students looked at text through the lens of an author, analyzing how an author develops a prologue to establish the purpose for writing a memoir, determining an
author’s point of view or purpose in a text, analyzing how authors distinguish their position from that of others, and explaining how elements of a story or drama interacted and affected one another (Artifact Collection). Using thematic units and an author’s lens, Daniel’s classes “framed identity around parts of a character, what makes up a character, [and] characterization” (Daniel Interview). Daniel also incorporated aspects of critical literacy into his ELA instruction as he encouraged his students to use a critical lens as they approached certain texts, asking them to “identify when something is credible, looking and having that sort of internal or sort of intrinsic ability to doubt, to find a different source” (Daniel Interview).

Conversely, Anne had her students working through a scientific lens, making observations, identifying possible evidence, determining how to test evidence, and using scientific principles to connect the evidence to a claim or prediction (Artifact Collection). Like Anne’s students, Michael’s students also worked to identify evidence and make observations, however, he encouraged his classes to instead use the lens of a historian by sourcing documents, identifying primary and secondary sources, and “developing an understanding of historical context and how to research to find that context” (Michael Interview & Artifact Collection). For Michael’s students, the ability to contextualize information by understanding where, when, and why an author created a source was key to acting as a disciplinary expert (Michael Interview). Lastly, in John’s math classes he also asked his students to approach information using the lens of a disciplinary expert. Similar to their other classes, John asked his students to search for evidence in the text, however, because John’s students acted as mathematicians they instead looked for “clue words in word problems,” wrote mathematical expressions to represent their answers, and explained to their peers the processes they used to find their answers (John Interview & Artifact Collection).
Overall, the teachers discussed and planned for disciplinary literacy implementation in ways that were unique and specific to their subject areas, attempting to provide their students with opportunities to see their content through the lenses of disciplinary experts. While teachers’ interviews suggested that they were more familiar and comfortable with implementing specific content area literacy strategies and skills, their lesson plans, standards, and curriculum guides were more heavily based on teachers’ uses of disciplinary literacy strategies and skills.

**Teachers’ Educational and Professional Experience**

Content area teachers at the secondary level often receive their education and training primarily in their discipline, and therefore may be ill-equipped with the knowledge or skill set required to teach reading and writing, or do not see themselves as literacy practitioners (Hinchman & O’Brien, 2019; McCoss-Yergian & Krepps, 2010; O’Byrne et al., 2020). As teachers’ self-efficacy influences their planning and implementation of literacy instruction, the amount of training and preparation teachers receive is connected to the development of their self-efficacy beliefs (Bandura, 1977a; Cantrell & Hughes, 2008; Graham et al., 2017). As such, I wanted to know the educational and professional experiences that led the four participants to demonstrate a high sense of self-efficacy for literacy instruction on the initial survey of the study.

**Education.** At the time of the interviews, all participants had received both their bachelor’s and master’s degrees. Michael, Anne, and John all earned both their undergraduate and graduate degrees in education, while Daniel received his undergraduate degree in English, and his graduate degree in education. As content area practitioners, all of the participants experienced the implementation of educational policies and standards stemming from No Child Left Behind (2001). Over the last 20 years, school districts across the country have emphasized state and local assessments as well as teacher accountability for students’ reading outcomes. In
turn, universities have increased teachers’ preparation programs regarding literacy and literacy instruction, and newer teachers are now entering the field with more experience and training as literacy practitioners (Lenski et al., 2013; Oliveira et al., 2019). As recipients of their education following universities’ increased attention to literacy education, all of the participants indicated that during their educational experiences they took classes that directly related to literacy instruction (Interviews).

When discussing his undergraduate experience, Michael specifically reflected back on his program’s curriculum, where he perceived that he received adequate instruction on literacy implementation. He also explained his motivation for taking additional literacy courses. He recalled:

I think I took 12 credits that were specific to literacy strategies and I think six of those, but it might have been three, were specific to literacy within social studies. My undergrad was actually super heavy on literacy classes. I also took a couple classes that were extra outside of the curriculum… The idea of teaching someone to read, which when I was in my undergrad for special education seemed like a much more realistic possibility for me, that was very overwhelming to me. (Michael Interview)

Similar to Michael’s experience, Anne described her undergraduate experience in a program that also provided classes specific to literacy instruction. She elaborated:

They did a great job of providing lots of different classes in terms of kind of helping to build that literacy background in all content areas, so that’s why I think I feel so confident about this. I was not a literacy or a language arts major. I was a math and science major. But I took many classes that helped me to understand literacy as a basis of teaching all content areas. (Anne Interview)
Both Michael and Anne were enrolled in undergraduate teacher education programs that included literacy instruction as a requirement for teacher preparation. In terms of graduate degrees, John received his master’s in literacy and believed that taking courses on literacy instruction was a turning point in his professional career. He recalled how it changed how he viewed his students’ learning. He explained:

I didn't really see how decoding skills and all that… I mean, I knew when students struggled to [read], but I didn't understand why they struggled until I took those types of classes, and I think that that's been a big benefit… even just seeing, you know, the deficits that kids have reading and then using those skills to try to implement into their math class. (John Interview)

Although the majority of the math teachers were clustered at the lower end of the self-efficacy scales based on their responses to the survey during Phase I of the study, John’s scores placed him second-highest out of all of the participants, behind Daniel. John’s high score that separated him from the other math teachers may have been because of his educational background in literacy, or his previous teaching experiences.

Of the four participants, Daniel is the only one who did not receive his undergraduate degree in education; however, he discussed how his master’s program prepared him for literacy implementation:

My master's is in secondary English and so I started to get into the content area teaching stuff in graduate school, and that was where you get more into the student-centered stuff, more into the delivery stuff, more into the scaffolding and teaching and building a lesson and all that, and learning about, literally, I mean literacy strategies, just the actual helping students learning part. That's where that came in. (Daniel Interview)
Unsurprisingly, since all four participants did take classes that were specific to literacy instruction, their responses during Phase I of the study reflected their knowledge and levels of self-efficacy. However, there are many in-service teachers who may have received their education prior to universities emphasizing literacy education as a requirement for pre-service teachers. As such, school district administrators may benefit from taking into account their teachers’ levels of education regarding literacy implementation when planning professional development sessions.

**Teaching Experience.** Another factor that may have led to the participants’ self-efficacy scores is that although Daniel is the only current ELA teacher, all four participants had experience teaching in an ELA setting early on in their teaching career, contributing to their knowledge of literacy implementation. While Daniel has always taught ELA, John and Michael also discussed how teaching in an ELA setting influenced their instruction in their current subject areas (Interviews). According to John, his experience was beneficial regarding his views on his overall approach to instruction. He elaborated, “I think if I was just math-specific my entire career, I might not view problem-solving in the way that I do” (John Interview). In her interview, Anne reflected how her experience teaching ELA also helped her to better understand literacy implementation in other content area classes. She explained:

I had an opportunity to teach in a language arts class, and that really helped me a lot too. I was thinking that I never ever wanted to be a language arts teacher but I learned a lot about not just teaching language arts, but bringing that into other content areas. You can even do it in math, you know, and they don't have to write a lot in order to be able to work that in. (Anne Interview)
Having the opportunity to teach in a literacy-specific setting prior to their current teaching assignments is something that all the participants had in common, and may have influenced their self-efficacy scores. However, due to licensing and certification requirements, there are many teachers who have not had the opportunity to teach outside of their primary discipline. As district administrators look to hire content area teachers, finding teachers with experience teaching multiple subjects may be beneficial in terms of a more balanced approach to literacy instruction.

**Professional Development.** According to the teachers, professional development that focused on literacy implementation was an area that was lacking in terms of frequency, relevancy, and usefulness (Interviews). Daniel reported that he could not recall participating in any professional development sessions that discussed literacy or the instruction of literacy strategies and skills (Interview). As Anne reflected on the amount of literacy-based professional development that the teachers received, she recalled, “I'm not gonna lie, it's not much. I think in my school district it was a focus for a short amount of time. There were some good things about it and some not so good things about it” (Anne Interview). She expressed that the lack of professional development sessions were not necessarily impacting her instruction, but she did think it would be beneficial for her colleagues that did not have the same educational background and previous teaching experiences that she did. She explained:

To be honest with you, I wish there was more… I've had many more opportunities because I don't always think that literacy in the content area was a focus, let's say 15-20 years ago, and now it is so much more important and so much more of a drive for our state testing that now I think school districts are kind of saying, ‘Oh, well, you know, we have this population of teachers that are in their 40s and 50s and when they were in college, the focus was on their content only and not necessarily looking at literacy across
the content areas.’ So, I think many school districts are having a hard time figuring out how they’re going to get that information to their teachers, and I do not feel as though our school district has done a great job of that so far. (Anne Interview)

Much like Anne, Michael expressed that while he did not see the frequency of sessions as an issue, he perceived the professional development sessions he received as more beneficial for teachers who did not have the educational background that he had, which was specific to literacy instruction. He noted:

> We had a decent amount of professional development, but it was mostly, kind of review of things that I had just finished doing in my undergrad. I didn't think it was necessarily super helpful to me, but I saw the value in it for people that have been out of school for a long time and might be less accustomed to talking about it. (Michael Interview)

John also echoed Anne and Michael’s sentiments regarding their district’s approach to professional development sessions, stating that the district needed to start with a basic, foundational knowledge of literacy and how children learn. “Something that needs to be improved in our district is professional development that gives us base skills” (John Interview). He continued on, stating:

> A lot of what we do has been focused on [our] own content area and kind of not building a base knowledge of just child development overall, and how they develop as students, and yeah, I couldn't really remember or recall a professional development opportunity that’s done that. (John Interview)

While the teachers were critical of their professional development opportunities, or lack thereof, Michael did report a positive experience. He recalled a professional development session he participated in before the start of a school year:
Before the year even began, we had a professional development seminar about
disciplinary literacy and discussing what it means to actually act like, think like, behave
like a historian when you're given a source. That was a very, I think, more helpful
professional development because it was very specific to what we were doing. [It] kind of
shored up my understanding of what it was that I was expected to teach in social studies
class, to be honest. (Michael Interview)

Aside from Michael’s positive experience, the teachers described their overall experiences with
professional development as lacking, and something that the district needed to improve upon in
order for teachers to gain a better understanding of literacy implementation within different
content areas.

**Teachers’ Perceptions of Ideal Professional Development.** In their interviews, the
teachers discussed professional development regarding literacy implementation as the biggest
area of need for the teachers in their district. O’Byrne et al. (2020) attested that “many secondary
educators have not received substantive training in literacy strategies or interventions and may
not feel confident in their abilities to critically evaluate curriculum and teach them without
proper professional development” (p. 4). As such, I wanted to know how the participants would
derscribe their ideal professional development session, and what that would look like to them.

John, Anne, and Michael all emphasized that their ideal professional development session
would involve time to work within their subject area with a literacy coach to integrate literacy
instruction into their planning. John stated:

I think an ideal one would be something like a literacy coach coming in and helping to
show math teachers how they can help their students read math and understand math in
that way, and then working with colleagues to do it, like model it. The teacher would
model it and then we would do it, acting as if the students and then that would give us an opportunity to then work together to come up with lessons that would do that for our students. (John Interview)

Like John, Anne also thought it would be beneficial to have a literacy specialist, ELA, or writing teacher work with content area teachers to provide input and feedback. For Anne, they could provide information by saying, “This is what we look at for… these are our expectations and this is how you can implement it into your content area” (Anne Interview). She continued to discuss how she perceived that in the past, the individuals conducting professional development sessions were unaware of their audience and that a focus of successful sessions would be to make implementation seem more manageable for teachers. She also emphasized the importance of allowing teachers to then take what they’ve learned and work within their content areas to plan (Anne Interview).

In elaborating on her perception of the trainers’ unfamiliarity with their audience, Anne described the teachers in her building as a “large gamut of individuals who have a lot of different levels of content area literacy knowledge.” She stressed the need for the trainers to “meet everyone at the same place” by focusing on “the basics of what content area literacy is, and some simple ways that [the teachers] can implement that” (Anne Interview). Anne also expressed her concern that for many teachers, literacy implementation could be an overwhelming task, however, to her, content area literacy did not necessarily mean “reading and writing in your classroom every day,” but rather an implementation approach where teachers “can spend 5 or 10 minutes focusing on some small things and still have that be a large part of [their] class, as well as helping students to just have a better knowledge of reading and writing and fluency” (Anne Interview). She explained that ideally, “the basics would be a good start, and then [the trainers]
need to break everyone out into their content areas” and allow the teachers to then conceptualize how they can turn what they’ve learned into something that they can focus on in their specific discipline (Anne Interview).

Similar to Anne’s response, Michael also discussed how his ideal professional development would also incorporate time to work with his subject area colleagues to plan and implement strategies. To him, a beneficial activity would be to have teachers share strategies that they are currently and successfully implementing in their classes. For Michael, his experience “would not be what it typically is,” which he perceived as “sitting and listening to strategies being taught to you” (Michael Interview). He explained that ideally, he would prefer to “work with coworkers [in] similar subjects and beyond even the same subject,” and in doing so, have the opportunity to “actually plan how you would implement strategies that you already know of, that you already are teaching” (Michael Interview). Michael expressed that while he did think that the teachers in his building were implementing literacy strategies and skills during their instruction, he questioned whether or not they were aware they were doing so (Interview). He attested that if the teachers had the opportunity, they could benefit from sharing “the practices they already have, and improv[ing] on them” (Michael Interview).

Michael continued on to discuss how he perceived that many of his colleagues have the knowledge necessary to implement literacy strategies and skills in their classes, but might need advice on how to use it in their classes. He elaborated:

I think a lot of our coworkers know what an anticipation guide is and they know what previewing the text looks like, but I don't know how many actually do those things before starting the new reading. So, how would you lesson plan and actually implement those
skills is what I would like to do, and then kind of review with other people, ‘Did we
lesson plan it correctly? Does it look good? Would it work?’ (Michael Interview)
Like John and Anne, Michael also stressed the importance of common planning time, feedback,
and making literacy implementation manageable for teachers who may avoid it because they find
it overwhelming or time-consuming.

For Daniel, his ideal professional development session was less about literacy instruction,
feedback, or common planning time, and instead focused on best practice, implementation, and
realistic expectations for his students. He explained:

For example, if I'm presenting a reading assignment to a student, how long, what is the
typical length of time that an average student of my age range can stick with that? You
know, is it wrong of me to assign five chapters of reading over the course of three nights?
Is it more helpful for me to assign one chapter in one night and immediately follow up
with them the next day, rather than create the next expectation that they're going to have
to read and retain 60 pages of knowledge? You know, like, what is the benchmark, what
is the most helpful in terms of their particular demographic needs? Like you know,
looking at adjusting our demographic, for example, how long are they typically able to
read, what interface are they typically using? Is it easier for students to read on a laptop?
Should I be presenting more audiobooks or Kindles or things like that? Like, should I be
giving an actual physical book anymore? You know, those kinds of things will vary
across disciplines, I guess, but it would just be about the delivery system and best
practices for the amount of time. (Daniel Interview)

He continued to discuss how he would benefit from more guidance in understanding his
students’ capabilities during independent activities, and how much responsibility he should place
on them in regards to their learning (Interview). Prioritizing his instruction and the time spent in class with his students were areas of concern for him. He said:

I guess the second part of it would be what, what they're able to do alone, and what I should be supporting them in, in terms of in the classroom? What should I be spending the most time doing in the classroom? Because a lot of times, the time that we do spend to talk about the text is spent just regurgitating the plot of the text, for everybody who didn't read it, or for everybody who's lost about what they were reading, ‘Here's what happens in the book,’ and I end up standing in front of a classroom reciting, you know, a chapter of a book and it's like, well, what did they really learn, and how much of the onus is on them to retain that, if they know that they're just going to come to me? So, I guess just yeah, sorting out the delivery system of the information and then what skills I should focus on, and what skills I should leave to them. (Daniel Interview)

As the participants indicated that professional development was the biggest area of need for the teachers in their district, I wanted to provide them with an opportunity to describe the kinds of professional development opportunities they perceived would be the most beneficial to them. O’Byrne et al. (2020) suggested that “to ensure that professional learning opportunities for teachers emphasize what teachers see as relevant to their work, the field needs to continually involve teachers’ voices” (p. 2). From their responses, the participants were able to verbalize their concerns regarding their past professional development sessions and provide suggestions for future opportunities that could potentially benefit not only their individual approaches to literacy instruction, but their colleagues’ approaches as well.
Summary

In this chapter, I triangulated data from survey responses, semi-structured interviews, and artifact collection regarding middle school content area teachers' pedagogical dispositions toward literacy instruction. From the quantitative data that I collected during Phase I of the study, I was able to provide an overview of participants’ self-efficacy beliefs toward literacy instruction and purposefully select my participants for Phase II of the study. Upon further analysis, I was able to determine that there were significant differences between the subject areas of math and ELA in mean scores for assessment (p = 0.004), meeting students’ needs (p = 0.057), and the TSELI instrument (p = 0.012), as well as in the clustering of participants’ responses.

In Phase II of the study, I collected data from participants using semi-structured interviews and artifact collection. Using in vivo codes and first and second-cycle coding techniques (Saldaña, 2009), several overarching themes emerged from the qualitative data: including teachers’: (a) approaches to metacognitive reading strategies and reading comprehension, (b) perceptions of literacy instruction, (c) classroom implementation, (d) uses of formative and summative assessment, (e) uses of specific strategies and skills, and (f) educational and professional experiences. Through a case study analysis, I provided a platform for teachers’ voices and the opportunity to share their experiences within the reading and instructional processes.
Chapter 5: Discussion

In this study, I examined content area teachers' pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction. Over the course of several weeks, I gathered data through a survey, semi-structured interviews, and artifact collection. The quantitative data revealed that there were several statistically significant differences between mean subject area scores, specifically between the dispositions of teachers in the subject areas of math and ELA. From the triangulation of the three data sources, I was able to determine patterns within teachers’ planning, implementation, and preparation. However, while several teachers exhibited high levels of self-efficacy regarding their knowledge and implementation of content area and disciplinary literacy instruction, they were unable to accurately define or describe the differences between either approach.

The findings of this study indicate that it may be important for future research to consider the knowledge and implementation of literacy strategies and skills for teachers who report less self-efficacy or literacy training, as the teachers that demonstrated high levels of self-efficacy regarding literacy implementation proved to have difficulty distinguishing between content area and disciplinary literacy. School districts and teacher preparation programs may also benefit from this study’s findings as they attempt to prepare content area teachers to provide effective literacy instruction through professional development opportunities and educational programs. In this chapter, I will do the following in regards to this study: (a) summarize the findings, (b) apply the theoretical framework to the results, (c) analyze and discuss the results, (d) identify limitations, (e) discuss practical implications, and (f) provide suggestions for future research regarding teachers’ pedagogical dispositions and their implementation of content area and disciplinary literacy strategies and skills.
Summary of the Study

This study utilized a two-phase, explanatory sequential mixed method design (quan → QUAL), where in Phase I of the study I collected descriptive and inferential quantitative data to provide a general picture of my first research question, *What self-efficacy beliefs do content area teachers hold in regards to content area and disciplinary literacy strategies and skills?* During Phase II, I collected qualitative data to answer my second and third research questions, *How do content area teachers describe their decision-making process in regards to the implementation of content area literacy and disciplinary literacy strategies and skills within their planning and classroom instruction?*, and *In what ways do teachers’ experiences and training inform their dispositions toward literacy instruction?* Using the information I gathered, I used descriptive and inferential statistics to answer my first research question, and a case study analysis to answer my second and third research questions.

The Self-Efficacy Beliefs of Content Area Teachers

To be eligible to participate in Phase I of the study, teachers had to teach a core content area course (science, mathematics, ELA, or social studies) at Southeast Middle School. After providing their consent, 26 of the 40 eligible participants completed a Qualtrics survey that blended one existing instrument, the Teachers’ Sense of Efficacy for Literacy Instruction (TSELI; Tschannen-Moran & Johnson, 2011), and one instrument that I developed specifically for this study, the Content Area Literacy Instruction Survey (CALIS). Using SPSS, I calculated the mean overall scores for participants and identified the participants who demonstrated high self-efficacy for teaching literacy strategies and skills. Then, I purposefully selected a participant from each content area (mathematics, science, social studies, and ELA) with the highest score to participate in Phase II.
To continue my analysis of the quantitative data during Phase I, I utilized a global F-test one-way analysis of variance (ANOVA) to determine if there were any statistically significant differences between: (a) the four subject areas, (b) the TSELI and CALIS instruments, and (c) the subscales within the survey. The subscales included: (a) assessment, (b) meeting students’ needs, (c) preparation, (d) oral reading, (e) motivation, and (f) implementation. In instances where I determined a statistically significant difference, I conducted a Tukey Multiple Comparison test to identify where there were differences (Rafter et al., 2002).

**Teachers’ Dispositions Towards Literacy Instruction**

During Phase II of the study, four teachers participated in semi-structured interviews and provided lesson plans and curriculum guides for artifact collection. Using *in vivo* codes, first and second cycle coding methods (Saldaña, 2009), and pattern-matching, I analyzed the qualitative data and identified the following themes that emerged from participants’ interviews, including teachers’: (a) approaches to metacognitive reading strategies and reading comprehension, (b) perceptions of literacy instruction, (c) implementation of literacy strategies and skills in the classroom, (d) uses of formative and summative assessment, (e) uses of specific strategies and skills, and (f) experiences during educational and professional development opportunities. Within these overarching themes, I was also able to identify several subthemes for the codes based on participants’ interviews, lesson plans, and curriculum guides.

**Application of Theoretical Framework to Findings**

In Chapter II, I used a constructivist epistemological lens to review the reading process and discuss the habits of good readers. The habits of good readers are important for content area teachers to understand, so they can purposefully plan and integrate explicit strategy and skill instruction into their daily lessons. Using this framework, I summarized the theoretical and
empirical evidence that contributes to our knowledge of the reading process through multiple theories that support constructivist perspectives in terms of literacy development and the process in which students read and learn, specifically, metacognitive theory (Brown, 1978; Flavell, 1976), social constructivism (Vygotsky, 1978), and social cognitive theory (Bandura, 1977b, 1986), as well as their implications for content area reading instruction. In this section, I connect each of these theories to the data I collected in my study and describe how each theory is relevant to my findings (see Figure 13).

**Figure 13**
*Components of the Theoretical Framework Evident in the Findings of the Study*

*Note.* This figure illustrates the cyclical and recursive nature of the reading process, supported by elements of metacognitive theory, social constructivism, and social cognitive theory. Bolded phrases indicate components of the theoretical framework that were evident within the participants’ survey responses, interviews, lesson plans, or curriculum guides.
Metacognitive Theory

Metacognition refers to the process of thinking about one’s own thinking. According to Duke and Pearson (2002), successful readers are acting metacognitively when they monitor their comprehension and employ strategies and skills as they read. Monitoring their understanding as they read allows students to intervene when they are not learning, or expand on the learning process when they experience success (Campione et al., 1988). As disciplinary texts increase in complexity (Bryce, 2011; Fang, 2016), students require explicit instruction on utilizing their metacognitive strategies within each subject area. The use of metacognitive strategies aids in their comprehension of the disciplinary material (Shanahan & Shanahan, 2008), thus making metacognitive theory a central focus of this study.

Using a metacognitive approach to literacy implementation in content area classrooms was an important framework for this study, as teachers’ survey responses, interviews, and artifacts provided evidence that they were aware of the importance of metacognition during the reading process, and were attempting to provide direct, explicit instruction to their students to aid in their reading comprehension when working with disciplinary texts. During Phase I of the study, the participants indicated through their survey responses that they implemented metacognitive strategies and skills in various ways, most frequently through note-taking, visualizing, summarizing, and paraphrasing (Principal Component Analysis).

During Phase II of the study, the four participants provided a more in-depth understanding of their instructional approaches by elaborating on their planning and implementation of metacognitive strategies and skills. Through their interviews, lesson plans, and curriculum guides, the teachers provided evidence that they often asked their students to act metacognitively by actively monitoring their understanding. Together with their classes, they
utilized explicit instruction that included teacher modeling and think alouds, showing their students how they expected them to monitor their comprehension (Artifact Collection). In doing so, they often implemented specific metacognitive reading strategies during their lessons, such as previewing texts, practicing annotating strategies, and using close reading techniques to provide their students with the skills they need to interact with content area texts (Interviews & Artifact Collection). As the teachers fostered interactions with text through modeling and scaffolding, they encouraged their students to independently employ their strategies and skills through a gradual release of responsibility, directly linking the metacognitive reading process to the next theory in my framework, social constructivist theory.

**Social Constructivism**

Vygotsky (1978) theorized that learning is a social process in which students internalize their learning through their interactions with others (Moll, 2013). Important components of Vygotsky’s social constructivist theory that relate to classroom instruction include lessons where teachers provide their students with opportunities to learn within their zone of proximal development (ZPD), and support students’ learning through scaffolding and the building of background knowledge (Fisher & Frey, 2008; Powell & Kalina, 2009). When teachers provide scaffolding and build upon their students’ existing knowledge, they are connecting social constructivist practices to schema theory, where students revise what they already know and are more easily able to acquire new information on the topic (Brooks & Dansereau, 1983; McVee et al., 2005; Radford, 2005; Rumelhart, 1984). Additionally, Di Domenico et al. (2019) attested that content area literacy strategies and skills provide an essential scaffold for students as they attempt to interact with complex disciplinary texts. Within this study, I utilized a social constructivist framework as a lens to view and interpret participants’ classroom implementation
of literacy strategies and skills. More specifically, the participants discussed how they frequently attempted to support their students’ comprehension by employing scaffolding techniques and building background knowledge (Interviews & Artifact Collection).

During Phase II of the study, the teachers described their decision-making processes regarding the implementation of literacy strategies and skills within their planning and classroom instruction. The participants demonstrated their understanding of the learning and reading process as they discussed instances where they utilized constructivist practices in their instruction. Specific instances included the teachers introducing domain vocabulary, building lessons around their students' existing knowledge and skills, using graphic organizers to scaffold students’ written responses, and explicitly modeling the strategies and skills that they expected their students to utilize independently (Interviews & Artifact Collection). Through their explicit instruction, the participants delivered new learning by taking on the role of a more knowledgeable other (MKO) and gradually releasing the responsibility of employing literacy strategies and skills through the ‘I do it, we do it, you do it together, you do it independently’ model of instruction (Duke & Pearson, 2002; Fisher & Frey, 2008). After modeling the activity, they asked their students to work together, and then independently, to complete content-specific tasks (Interviews & Artifact Collection). In providing their students with authentic opportunities to experience success and internalize their learning, the teachers encouraged their students to become more engaged in their learning and build their self-efficacy as readers (Afflerbach et al., 2013; Guthrie, 2004). In turn, teachers then build their own self-efficacy as literacy practitioners, directly correlating to aspects of Bandura’s (1977a) social cognitive theory (Gibson & Dembo, 1984).
Social Cognitive Theory

Bandura’s (1977a) social cognitive theory also provided an essential lens for this study, as this theory links an individual’s perceived self-efficacy with their behaviors and actions. Using this framework, I examined how teachers promote their students’ self-efficacy beliefs and their own self-efficacy beliefs regarding their knowledge and implementation of content area and disciplinary literacy strategies and skills.

In terms of the reading process, students who experience success as readers will internalize their learning, building their confidence and encouraging them to continue to utilize reading strategies to help improve their comprehension (Afflerbach et al., 2013). Using a social cognitive lens to explore literacy implementation, the teachers in this study provided evidence of activities that encouraged their students to collaborate with one another and experience success as readers (Interviews & Artifact Collection). Building upon social constructivist principles, the teachers described activities where their students worked together and shared their learning with their peers (Interviews). In doing so, they were able to act as the more knowledgeable others (MKO) themselves while building their self-efficacy beliefs.

Using social learning theory to view classroom discourse, peer collaboration, and group work, the global COVID-19 pandemic hindered many of the teachers’ lessons where they initially intended to have students working together with one another (Interviews). However, the teachers continued to create new ways for their students to collaborate, working together to experience success and internalize their learning (Interviews & Artifact Collection). Within the context of virtual and hybrid classrooms, the teachers’ interviews and lesson plans reflected their attempts to incorporate discussion and collaboration in ways that promoted both content area and disciplinary literacy.
In her interview, Anne discussed how during a normal school year her students would frequently work together during labs to learn about the scientific process through self-discovery. However this year, as a result of distanced learning, her lesson plans reflected that much more of the collaboration in her room came from discussion, using a jigsaw approach to piece together scientific processes (Carroll, 1986). For example, within her lessons, Anne used a content literacy approach she called “BUCK” as a warm-up or beginning activity. When responding to a question, the “BUCK” method requires students to “Box the question, Underline important info, Circle any data or keywords, Knock out what’s not important” before answering (Artifact Collection). Then students provide a 2-sentence explanation as to why they selected their respective answer. Although her students worked independently to complete their warm-up, they eventually shared their annotations and explanations with the class, using discourse to build upon one another’s responses. As the lessons progressed, they followed a similar format where students shared their individual responses to construct a class-wide response. However, following the warm-up Anne asked her students to use disciplinary literacy skills to act as scientists for the remainder of the class. The students worked together to make observations, identify evidence, and provide reasoning to connect evidence to a claim. As students shared, they again utilized classroom discourse to build off of one another’s responses, composing experimental questions and forming hypotheses (Artifact Collection).

Like this specific example from Anne’s lesson plans, John, Michael, and Daniel also utilized discourse to promote content area and disciplinary literacy skills during their instruction. In terms of content area literacy, Michael’s social studies classes shared the notes they took as they examined a resource, building discussion on summarizing the main points of the text, where John’s math classes discussed their annotations to word problems, identifying clues or key words
for problem solving (Artifact Collection). Regarding disciplinary literacy, Daniel structured his lesson plans around “preplanned higher-level depth-of-knowledge questions,” where his students utilized discourse to piece together their analyses of character traits or interpretations of author’s tone and point of view (Artifact Collection). Overall, the teachers’ incorporation of classroom discussions within the context of the global COVID-19 pandemic provided students with opportunities to build upon or adjust their knowledge based on their collaboration with their peers.

Regarding teachers’ self-efficacy beliefs toward literacy implementation, researchers have attested that a teacher’s beliefs in their ability to instruct their students is the most important predictor for the successful implementation of reading and literacy instruction (Gibson & Dembo, 1984; RAND Reading Study Group, 2002; Tschannen-Moran & McMaster, 2006). As a more pertinent focus of this study, I examined teachers’ self-efficacy beliefs regarding their knowledge and implementation of content area and disciplinary literacy strategies and skills. Beginning with their responses to the survey, I was able to determine statistically significant differences between the self-efficacy beliefs of teachers who teach the subject areas of ELA and math, particularly between their beliefs regarding assessment, meeting students’ needs, and their TSELI scores measuring an overall self-efficacy for literacy instruction.

Following my purposeful selection of participants for Phase II of the study, the teachers’ interview responses revealed that while they scored highly on the self-efficacy scales, there were discrepancies in their ability to properly define or describe content area and disciplinary literacy (Interviews). Within the findings of this study, there were several specific ways in which the teachers conflated or misconceived content area literacy and disciplinary literacy. For example, both John and Anne provided definitions where they combined content area and disciplinary
literacy into one approach, vaguely discussing skills they perceived their students would need to decode vocabulary, identify key words in a text, and understand discipline-specific material (Interviews). Conversely, Daniel and Michael mixed up their descriptions of content area and disciplinary literacy. In doing so, Daniel described content area literacy as skills specific to a particular subject, and Michael used sourcing, a disciplinary literacy skill that historians use to contextualize a document, to specifically discuss his perception of content area literacy.

While at the cognitive level, the teachers could name, identify, or recall specific literacy strategies and skills, they could not demonstrate the ability to differentiate between the application of either approach (Sivaraman & Krishna, 2015). According to social cognitive theory, teachers' beliefs toward reading influence their planning and implementation (Nourie & Lenski, 1998; Richardson et al., 1991). With the participants who scored the highest on the self-efficacy scales unable to distinguish these differences, the inconsistency in their responses demonstrates that there is room for growth in teachers’ knowledge regarding the application of content area literacy and disciplinary literacy strategies and skills. When teachers are fully able to understand the differences in either approach, they will be able to purposefully plan their implementation.

Discussion of Results

As a result of the increasing complexity of text in content area courses, teachers’ implementation of explicit literacy strategy and skill instruction is especially important for students’ overall comprehension (Fang, 2016). Because students rely on both content area and disciplinary literacy strategies and skills as they navigate content area material, a hybrid model of literacy instruction that includes both approaches is necessary for student success (Dobbs et al., 2016; International Literacy Association, 2017; O’Byrne et al., 2020). However, within both
the literature and the findings of this study, a discrepancy exists between the implementation of content area versus disciplinary literacy approaches (Shanahan & Shanahan, 2008). The findings of this study indicate that while content area teachers are implementing literacy strategies and skills during their instruction, they may not have the knowledge necessary to differentiate between a content area or disciplinary literacy approach, leaving them unable to distinguish the purpose behind their planning and implementation. In this section, I will explain the results of my data collection regarding my three research questions and the implications regarding content area teachers’ pedagogical dispositions toward literacy implementation.

**Content Area Teachers’ Self-Efficacy for Literacy Instruction**

Within the quantitative phase (Phase I) of the study, 26 participants recorded their responses to a survey indicating the self-efficacy beliefs content area teachers hold regarding content area and disciplinary literacy strategies and skills, providing data to answer my first research question, *What self-efficacy beliefs do content area teachers hold in regards to content area and disciplinary literacy strategies and skills?* The main objective for my analysis of the survey data was to purposefully select the participants for Phase II of the study using descriptive statistics; however, further analysis using inferential statistics enabled me to determine interesting results regarding the differences between participants’ responses based on their subject area.

Personally, I did expect to see differences between subject areas, predicting that the ELA teachers would most likely have a high self-efficacy for teaching literacy strategies and skills as most of the standards and ELA curricula focus on tasks that require students to read and write. Reflective of previously documented trends in the field (Spires et al., 2018), the majority of statistically significant differences were between the ELA and math teachers, as “mathematics
teachers often resist generic literacy strategies because they do not seem relevant to math learning” (Brozo & Crain, 2018, p. 7). As one ELA participant, Daniel, scored much higher than the rest of the participants, I wanted to see if his individual score accounted for the significant difference in mean TSELI scores between math and ELA. By removing his data from the analysis, I determined that there was still a statistically significant difference in mean scores between math and ELA.

There was also one instance of a statistically significant difference between ELA and another subject area, science, regarding the subscale for preparation. The preparation subscale included questions about the quality of teachers’ undergraduate, graduate, and professional development experiences regarding their preparation for literacy implementation. Within this subscale, the science teachers indicated that they did not perceive to have had adequate training that prepared them for literacy implementation, compared to the ELA teachers’ perceptions of their preparation.

An interesting finding regarding the content area teachers’ self-efficacy for literacy instruction was the overall clustering of participants based on their subject areas. Pairing these results with the statistically significant differences between ELA and math indicates that the different subject areas within this study held different beliefs regarding literacy instruction. As school districts and teacher preparation programs plan to educate both in-service and pre-service teachers, their planning and instructional approaches may benefit from examining each subject area as its own entity with different levels of literacy knowledge and efficacy, and providing adequate training to help teachers implement content and discipline-specific literacy tasks into their instruction.
**Teachers’ Dispositions Towards Literacy Instruction**

During Phase II of the study, I collected qualitative data through semi-structured interviews and artifact collection to provide insight on ‘how’ and ‘why’ teachers develop their pedagogical dispositions toward literacy implementation. In doing so, I was able to use the teachers’ responses, lesson plans, and curriculum guides to answer my second and third research questions, *How do content area teachers describe their decision-making process in regards to the implementation of content area literacy and disciplinary literacy strategies and skills within their planning and classroom instruction?*, and *In what ways do teachers’ experiences and training inform their dispositions toward literacy instruction?*

**Metacognitive Reading Strategies and Reading Comprehension.** Referring to the process of thinking about one’s own thinking, metacognitive theory provides a central framework for this study. Durkin (1978/1979) found that teachers’ assessment of student comprehension was ineffective without the teachers’ explicitly teaching their students how to use the strategies and skills they were assessing. As such, the explicit instruction of metacognitive reading strategies within content-area classes benefits student learning (Wright & Gotwals, 2017). Within this study, qualitative data revealed that the teachers were aware of the need for explicit instruction of metacognitive reading strategies and how their direct instruction aided their students’ reading comprehension.

The teachers revealed various ways they provided their students with explicit metacognitive instruction, discussing activities where they showed their students how to actively think about their thinking through strategies such as previewing the text, annotating, or summarizing (Interviews & Artifact Collection). However, according to the teachers, the most significant area of need for their students continued to be their overall reading comprehension.
Even when incorporating strategy and skill instruction, the teachers indicated that their content area textbooks were often too challenging for their students and were a resource they tended to avoid in their classes (Interviews). In describing the challenges their students faced when interacting with their course textbooks, John and Anne both indicated that they perceived the textbook passages as too difficult for their students (John & Anne Interviews). According to John, the textbook required students to read more than the other resources he employed, making an already challenging subject like geometry even more difficult, as students attempted to navigate the text while also learning new concepts (John Interview). Aside from their course textbooks, teachers also employed additional types of text resources such as word problem packets in mathematics, news articles in social studies, lab reports in science, and core novels in ELA (Artifact Collection). Alongside the fact that content area material increases in complexity and often requires reading and rereading for comprehension (Fang, 2016), the participants’ responses revealed that even though teachers can implement literacy strategies and skills within their content area classes, teachers’ and school districts’ selection of resources is an important factor regarding students’ abilities to read and comprehend disciplinary text.

While the complexity of the course resources may have been the biggest factor hindering their students’ comprehension, teachers might also benefit from taking a hybrid approach to teaching the course material. In doing so, they would intentionally and explicitly implement content area literacy strategies and skills to help students monitor their understanding as they read, and disciplinary literacy strategies and skills to aid students in understanding how experts in each subject area take a unique approach when reading disciplinary texts. When students participate in instruction that prepares them to apply generalized reading skills, coupled with strategies and skills that help them to attend to the nuances of each specific subject area, they
will be better prepared to interact with the text in authentic and meaningful ways (Brozo et al., 2013; Hinchman & O’Brien, 2019; O’Byrne et al., 2020).

**Teachers’ Perceptions of Literacy Instruction.** Content area literacy and disciplinary literacy differ in their implementation and application within the reading process. Within the field, there is a clear tension over their effective application and infusion into secondary content area courses (Graham et al., 2017). In the past, teachers often viewed content area and disciplinary literacy as synonymous or interchangeable (Spires et al., 2019); however, current researchers have clarified the differences between the two approaches and their intended outcomes for student learning (Brozo et al., 2013; Dobbs et al., 2016; International Literacy Association, 2017; Kushner & Phillips, 2020; O’Byrne et al., 2020). As the approaches are “founded upon very different theoretical bases and have different goals,” researchers have posited that they are “complementary but not interchangeable” (O’Byrne et al. 2020, p. 4).

The four teachers that participated in the qualitative phase of this study (Phase II) were the teachers that scored the highest on the quantitative self-efficacy scales within their respective subject areas. One of the most interesting and influential findings of this study was that although the four teachers demonstrated a high self-efficacy for literacy instruction and exhibited a general understanding of literacy implementation within their subject areas, they did not demonstrate that they could differentiate between content area literacy and disciplinary literacy. This pattern of high self-efficacy coupled with difficulty differentiating between content area literacy and disciplinary literacy may again be a result of representations within the field where professionals use the terms interchangeably, rather than identify them as separate approaches with different goals and outcomes (O’Byrne et al., 2020). Another possible reason for the teachers’ difficulties in distinguishing between the two approaches may be because of recent
evolutions in the field that have not yet become prevalent in classroom pedagogy. As Stanovich and Stanovich (2003) noted, “Sadly, scientific research about what works does not usually find its way into most classrooms” (p. 2). As researchers continue to develop their interpretations of literacy implementation, in-service teachers who have not participated in recent professional development opportunities may not have exposure to current research or practices. As such, the teachers’ definitions indicated that because they could not distinguish between either approach, their planning and implementation of literacy strategies and skills may not have been purposeful regarding the specific outcomes of content area versus disciplinary literacy instruction.

Teachers’ abilities to purposefully make the distinction between content area literacy and disciplinary literacy are important as they plan for literacy implementation within their content area courses. According to Tirri et al. (2016), “Meaning emerges when the content is enacted in a classroom based on the methodological decisions of a teacher” (p. 527). In other words, if the teachers themselves do not fully understand the purpose or intended outcome when they are implementing a specific literacy strategy or skill, their students will not know how or when to utilize what they have learned. For example, if a teacher does not explicitly discuss with their students that they can generalize content area literacy strategies and skills across disciplines, their students may not understand that they can then transfer their knowledge and apply certain strategies and skills to different content area classes. Conversely, if a teacher does not explicitly discuss with their students how disciplinary experts in their subject area interact with text, students may not understand how to use disciplinary literacy strategies and skills, differentiating between how scientists approach a text versus the way a historian would. Without teachers having the ability to distinguish their application of content area and disciplinary literacy skills, they cannot purposefully plan a hybrid approach to literacy instruction, nor meet instructional
outcomes where they would then expect their students to be able to identify the appropriate situations to employ different types of reading strategies and skills.

As teachers’ overall understanding of literacy strategy and skill implementation was the foundation of this study, their difficulty differentiating between content area literacy and disciplinary literacy was evident throughout the qualitative data. This evidence reveals that although the teachers in this study demonstrated a high self-efficacy for literacy instruction, there is room for growth regarding their knowledge and implementation of content area and disciplinary literacy approaches. As for the other teachers from Phase I of the study who reported less self-efficacy or literacy training, an examination of their understanding and implementation of literacy strategies and skills could provide further insight into areas of need for content area teachers.

**Teachers’ Implementation of Literacy Strategies and Skills in the Classroom.**

Although there were discrepancies regarding the participants’ descriptions of content area and disciplinary literacy, they did provide evidence of various ways that strategy and skill instruction takes place in their classrooms. According to the teachers, their implementation of strategies and skills occurred in the following ways: (a) planning, (b) building lessons to meet curriculum standards and assessments, (c) scaffolding and building background knowledge, and (d) modeling strategies and skills.

In their interviews, the teachers reported that much of their planning and instruction focused on meeting state standards and preparing their students for assessments. In doing so, they implemented various literacy strategies, scaffolded their students’ learning, and modeled the specific strategies and skills that they wanted their students to use. When the teachers described their lessons and provided their lesson plans and curriculum guides, they demonstrated a solid
foundational understanding for literacy implementation through scaffolding and explicit strategy and skill instruction. However, while their structured and organized approaches to lesson planning and implementation provided evidence of their intent to provide literacy instruction, their planning and implementation could benefit from a more robust understanding of content area and disciplinary literacy, resulting in a more purposeful approach where they can differentiate between and then apply the appropriate literacy strategy and skill instruction. When teachers are able to clearly define and apply content area and disciplinary literacy instruction, they can purposefully plan for the intended outcomes of each approach, utilizing a comprehensive, balanced, hybrid model of instruction (Tirri et al., 2016). Through a hybridity model, teachers can ensure that their students receive explicit instruction that encompasses both generalized literacy strategies and skills, enabling them to comprehend texts across content areas, as well as strategies and skills that are specific to each discipline, allowing them to attend to the unique characteristics of each subject area (Brozo et al., 2013; Hinchman & O'Brien, 2019; O’Byrne et al., 2020).

**Teachers’ Uses of Formative and Summative Assessment.** Much like the teachers’ implementation of strategies and skills during their classroom instruction, the teachers’ uses of formative and summative assessment reflected their curriculum standards and preparation for state standardized assessments. In their interviews, lesson plans, and curriculum guides, the teachers provided evidence of their attempt to incorporate shared language as they prepared their students for assessments to help their students transfer their skills between subject areas (Interviews & Artifact Collection). Although the teachers did not verbalize that they identified their use of shared language and their emphasis of transferable skills as evidence of content area literacy implementation, their cross-curricular approach demonstrated an understanding of the
importance of students’ abilities to generalize and transfer their skills to various situations, regardless of the material. With a better understanding of content area literacy, teachers can be more purposeful in applying transferable skills and can verbalize to their students how and when to employ such literacy strategies.

**Teachers’ Uses of Specific Strategies and Skills.** Although the participants did not demonstrate a solid understanding of the differences between content area literacy and disciplinary literacy approaches, their interviews, lesson plans, and curriculum guides showed evidence of each teacher implementing both content area and disciplinary literacy strategies and skills into their instruction. Regarding content area literacy, the teachers utilized several strategies such as previewing and discussing domain vocabulary, annotating text, and using graphic organizers to help students plan for their writing. In terms of disciplinary literacy, the participants implemented strategies and skills that were specific and unique to their respective subject areas, such as examining story elements in ELA, making observations in science, sourcing documents in social studies, and identifying clue words in word problems in math. While each participant provided evidence that they utilized both content area and disciplinary literacy strategies and skills within their instruction, their planning and implementation may not have been purposeful because of their difficulty differentiating between each approach. For content area teachers, a more definitive understanding of both literacy approaches could lead to more purposeful, hybrid implementation of content area and disciplinary literacy strategies and skills. When they can intentionally blend their use of strategies and skills into a hybrid model, they can continue to scaffold their students’ learning, while also emphasizing the language, tools, and norms of the discipline (Kushner & Phillips, 2020).
Teachers’ Educational and Professional Experiences. Researchers attest that several factors may influence teachers' lack of efficacy regarding literacy implementation, including secondary teachers' identification as content area specialists, minimal requirements for literacy instruction during teacher training programs, and teachers’ lack of opportunities for effective professional development (Cantrell & Hughes, 2008; Graham et al., 2017; Ness, 2009). They also affirm that the amount of training and preparation teachers receive is connected to the development of their self-efficacy beliefs (Bandura, 1977a; Cantrell & Hughes, 2008; Graham et al., 2017). As all four participants scored the highest on the self-efficacy scales within their content areas, I was interested in their educational backgrounds and their professional experiences as in-service teachers. During their interviews, all four participants indicated that they had taken literacy courses during their undergraduate or graduate teacher preparation programs. They also revealed that in regards to their professional experiences, they all either had some teaching experience that intersected with literacy instruction or had taught at both the elementary and middle school levels. The teachers’ educational training and their experiences teaching subjects and grade levels outside of their current positions may explain their high self-efficacy scores regarding literacy instruction. As such, school districts and administrators could potentially use this information in their hiring practices as they attempt to employ teachers capable of implementing literacy instruction within their content area courses.

While all four teachers had experience teaching multiple subject areas and received literacy instruction during their teacher training programs, they also expressed that they perceived professional development to be a significant area of need. The teachers vocalized that their professional development sessions lacked frequency, relevancy, and usefulness. Instead, they outlined their ideal professional development training that included explicit instruction of
literacy implementation and time to work with their colleagues to then plan the implementation of the strategies and skills themselves. To promote teacher efficacy and engagement during professional development sessions, school districts and administrators could benefit from providing their teachers with more authentic opportunities aligned to the teachers’ needs. With adequate training, teachers can develop a deeper understanding of the differences between content area and disciplinary literacy, what literacy implementation looks like within each discipline, and how they can utilize a hybrid approach to improve student learning outcomes (Lee & Spratley, 2010).

Limitations

As with all research studies, this study had limitations that may have influenced the results, including: (a) researcher bias, (b) the survey instruments, and the (c) generalizability of the sample size. In this section, I describe these limitations and their implications for the study.

Researcher Bias

Over the past nine years, I have worked as a content area teacher in the building that serves as the setting and location for my study. My educational background in literacy also serves as an important influence on my own planning and classroom implementation. In Chapter II, I stated my positionality, acknowledging that I hold the prior assumption that there is a sense of discomfort among content area teachers when implementing literacy instruction. I also believe that a comprehensive, balanced approach to literacy implementation, utilizing both content area and disciplinary literacy strategies and skills, is the most effective approach to literacy implementation in content area courses.

In terms of external validity, I took several measures to control and acknowledge the inclusion and exclusion criteria for content area teacher participants. To control for selection
bias, I extended the opportunity to participate in Phase I of the study to all content area teachers employed at Southeast Middle School. For Phase II, I utilized a purposeful selection of participants based on their mean overall self-efficacy scores from the quantitative data I gathered during Phase I.

To minimize researcher bias and ensure the internal validity of this study, I triangulated three sources of data: (1) survey responses, (2) transcribed semi-structured interviews, and (3) artifact collection, memos, and field notes. To establish trustworthiness and reliability, I provided all of the Phase II participants with the transcripts of their interviews for member-checking, confirming with each individual that their interview transcript was an accurate reflection of our conversation (Yazan, 2015; Yin, 2002). As a content area teacher in the building, bias could have influenced my role in the semi-structured interviews. To minimize any potential bias, I asked participants open-ended questions that allowed them to determine the trajectory of their answers and provided myself with the opportunity to explore each interviewee’s perceptions (Barriball & While, 1994).

**Survey Instrument**

During Phase I of the study, I distributed a Qualtrics survey that blended one existing instrument and one instrument I developed specifically for this study. The existing instrument was the Teachers’ Sense of Efficacy for Literacy Instruction (TSELI; Tschannen-Moran & Johnson, 2011). The instrument I developed for the study was the Content Area Literacy Instruction Survey (CALIS).

**The Teachers’ Sense of Efficacy for Literacy Instruction.** According to the authors of the TSELI, they designed the instrument to measure teachers’ sense of efficacy for literacy instruction, demonstrating both content and construct validity. To test the construct validity of
the TSELI, Tschannen-Moran and Johnson (2011) conducted a factor analysis, revealing that all 22 items converged into one single factor, demonstrating strong factor coefficients, explaining 55% of the variance in TSELI, determining that the instrument had a “Cronbach’s alpha reliability of .96” (p. 756). With the authors’ permission, I was able to use a published, existing instrument to help ensure the data’s validity and reliability.

**The Content Area Literacy Instruction Survey.** Along with the TSELI, I also administered an instrument that I created, which I titled the Content Area Literacy Instruction Survey (CALIS). The CALIS focused on specific details intended to provide data on teacher preparation, content area literacy instruction, and disciplinary literacy instruction, and utilized the same Likert-scale as the TSELI instrument. The addition of the CALIS questions to the existing TSELI added to the quality of the study, as they allowed me to gather data specific to my purpose, however, because the CALIS is not an existing instrument that other researchers have used in the past, it does not demonstrate the same validity or reliability as the TSELI. As such, I analyzed the quantitative data for the TSELI and the CALIS separately before analyzing the overall mean scores of participants’ responses.

**Generalizability**

The 26 teachers that participated in Phase I of the study represented 65% of the full group of 40 teachers that I originally solicited to participate. The small sample size of teachers that responded to the survey, as well as the semi-structured interviews and artifact collection (n=4), limits the degree to which the findings are generalizable to the larger population of middle school content area teachers, contextualizing the results of this study within the parameters of Southeast Middle School. A group of teachers who teach high school or at another middle school who may participate in this same study could yield different results.
Additionally, my purposeful selection of participants for the study focused on teachers who exhibited high self-efficacy and knowledge of literacy implementation to ensure that they had adequate experience with using literacy strategies and skills in their content area classes, which is not generalizable across all content area teachers. This purposeful sample was essential to the study for individuals to participate in the semi-structured interviews, however, teachers who did not demonstrate a high self-efficacy for literacy implementation could also yield different results, influencing the overall findings of this study. More so, all four participants in Phase II of the study either had some teaching experience that intersected with literacy instruction or had taught at both the elementary and middle school levels. The participants’ levels of self-efficacy, alongside their educational and teaching experiences, also limit the degree to which this study’s findings are generalizable to the larger population of middle school content area teachers.

**Practical Implications**

The findings of this study provide several practical implications for content area teachers, school districts, and administrators. In this section, I will discuss how my results could inform teachers’ implementation of literacy strategies and skills and how school districts and administrators can better prepare their teachers for literacy instruction.

**Implications for Content Area Teachers**

Regarding literacy implementation, content area teachers can benefit from having a better understanding of the habits of good readers. In doing so, they can plan and integrate explicit strategy and skill instruction into their daily lessons. In addition to a foundational knowledge of literacy implementation, teachers require a deeper understanding of content area and disciplinary literacy approaches as they plan their instruction to meet their students’ needs. However, this
study’s findings revealed that although teachers may exhibit a general understanding of literacy implementation within their subject areas, they could not definitively differentiate between content area literacy and disciplinary literacy. Without knowing the differences between content area and disciplinary literacy, teachers’ difficulties distinguishing between literacy approaches poses a problem because they cannot purposefully plan explicit literacy implementation or expect student outcomes to reflect their students’ abilities to independently utilize and employ their skills in the appropriate situations. Therefore, teachers would greatly benefit from having a deeper understanding of content area and disciplinary literacy approaches, allowing them to purposefully plan their instruction, determining when, why, and how they could implement either approach. In addition to their ability to plan deliberately, teachers possessing a greater understanding of content area and disciplinary literacy approaches could also inform their implementation of a hybrid model of literacy instruction, where they can appropriately blend the approaches to meet their students’ needs.

**Implications for School Districts and Administrators**

To provide adequate professional development for educators, school districts and administrators would also benefit from acquiring a deeper understanding of content area literacy, disciplinary literacy, and how teachers can blend both approaches into a hybridity model to meet their students’ needs. During Phase I of the study, the science teachers also indicated that, compared to their ELA counterparts, they did not perceive their training to be sufficient in preparing them for literacy implementation. To better prepare their content area teachers, districts would benefit from providing opportunities for educators to form a solid foundation for literacy instruction. The findings regarding statistically significant differences between subject
areas also indicate that school districts and administrators could benefit from considering teachers’ subject areas in developing training sessions for their respective departments.

Additionally, many professional development sessions do not adhere to the teachers’ perceived needs (O’Byrne et al., 2020). In planning future professional development sessions, school districts could benefit from listening to their teachers’ needs and incorporating their suggestions on what they think would help them not only in their implementation of literacy strategies and skills, but in their overall approach to teaching. Having their input reflected in their professional development sessions could increase teacher engagement and their willingness to implement literacy instruction within their content area courses.

**Suggestions for Future Research**

This study resulted in significant findings in exploring content area teachers’ pedagogical dispositions toward implementing content area and disciplinary literacy strategies and skills into their instruction. Participants’ survey responses revealed statistically significant differences between subject area teachers’ self-efficacy beliefs, while interviews and artifact collection provided evidence of teachers’ literacy implementation while simultaneously illuminating their misconceptions of content area and disciplinary literacy approaches. However, this study did not address all aspects of content area teachers’ pedagogical dispositions or their implementation of literacy strategies and skills. In this section, I will summarize my suggestions for future research regarding content area teachers and their implementation of content area and disciplinary literacy strategies and skills.

**Content Area Teachers’ Implementation of Literacy Strategies and Skills**

As a result of the global COVID-19 pandemic, classroom observations during the course of this study were not feasible. However, future research could explore teachers’ classroom
instruction, observing the literacy implementation taking place throughout the lesson. By observing teachers’ actual instruction, researchers could gather a more detailed picture of their literacy implementation. Classroom observations can contextualize teachers’ planning and instruction, providing data on when and how teachers explicitly utilize literacy strategies and skills and determine any differences between their planned implementation and their physical implementation.

**The Differences Between Content Area Literacy and Disciplinary Literacy**

Although researchers differentiate between content area literacy and disciplinary literacy and their application within the reading process, Graham et al. (2017) claimed that philosophical and pedagogical tensions continue to exist between the implementation of either approach. While recent researchers have emphasized the need for a hybrid approach (Dobbs et al., 2016; International Literacy Association, 2017; Lee & Spratley, 2010; O’Byrne et al., 2020), the qualitative data in this study provided valuable insight into teachers’ abilities to differentiate between content area and disciplinary literacy. Without a deeper understanding of content area and disciplinary literacy approaches, teachers cannot plan for a hybrid model of implementation that would best prepare their students to know when and how to employ general reading strategies across content areas, while also attending to the specific demands of each discipline (Brozo et al., 2013; Hinchman & O’Brien, 2019; O’Byrne et al., 2020).

The teachers in Phase II of this study demonstrated strong self-efficacy beliefs towards literacy implementation, however, they were unable to distinguish between content area and disciplinary literacy. As such, it may be important for future research to consider the knowledge and literacy implementation of the content area teachers who reported less self-efficacy or literacy training. Future research could continue to investigate teachers’ knowledge and
application of content area and disciplinary literacy approaches. For the teachers who demonstrate a solid understanding, future research could examine how they utilize the approaches together in a blended format to meet their students’ needs.

**Professional Development**

Throughout this study, I have discussed teachers’ perceptions of professional development and their opinions regarding what they viewed as a lack of opportunities to participate in authentic and meaningful training. Future research could explore different types of professional development, examining teachers’ perceptions of the programs’ value and effectiveness. Future research could also investigate teachers’ literacy implementation before, during, and after participating in professional development sessions regarding literacy implementation, allowing researchers to reflect on how the training influenced teachers’ instruction.

**Summary**

In this chapter, I reviewed my examination of middle school content area teachers' pedagogical dispositions by (a) summarizing the findings, (b) applying the theoretical framework to the results, (c) analyzing and discussing the results, (d) identifying limitations, (e) discussing practical implications, and (f) providing suggestions for future research regarding teachers’ pedagogical dispositions and their implementation of content area and disciplinary literacy strategies and skills.

Overall, this study exemplifies the importance of continued training and professional development sessions regarding literacy implementation in content area courses. The participants of this study demonstrated a high self-efficacy for literacy instruction and basic knowledge of literacy implementation through their uses of metacognitive reading strategies and discipline-
specific reading and writing tasks. However, discrepancies surrounding their ability to
differentiate between content area and disciplinary literacy approaches indicated that teachers
could benefit from additional opportunities to develop their knowledge for literacy instruction.
As the teachers in this study who demonstrated strong self-efficacy beliefs towards literacy
implementation had difficulty distinguishing between content area and disciplinary literacy,
future research may also benefit in considering what these findings mean for the content area
teachers who reported less self-efficacy and/or literacy training.

Within this study, I provided a platform for teachers' voices and asked them to share their
experiences within the reading and instructional processes. From their interviews, lesson plans,
and curriculum guides, I gathered insight and explored their pedagogical dispositions toward
literacy implementation and built a picture of how literacy instruction occurs within content area
courses at Southeast Middle School.
References


https://doi.org/10.17763/haer.78.1.k1046081431205r2


https://doi.org/10.1177/004005990003200311

https://doi.org/10.3102/0034654308325998

https://search.proquest.com/docview/1840885215?accountid=6724

https://doi.org/10.1002/jaal.269


Guthrie, J. T., Wigfield, A., Barbosa, P., Perencevich, K. C., Taboada, A., Davis, M. H.,
Scafiddi, N. T., & Tonks, S. (2004). Increasing reading comprehension and engagement
through Concept-Oriented Reading Instruction. *Journal of Educational Psychology*,
96(3), 403–423. https://doi.org/10.1037/0022-0663.96.3.403

432–439. https://doi.org/10.1002/TRTR.1145

https://doi.org/10.1177/1086296X19876986

*Literacy teacher preparation*. International Literacy Association and National Council of
Teachers of English.

literacy learning: Theory, assessment, instruction, and professional development*.
Lawrence Erlbaum Associates.

https://doi.org/10.2511/027494811800824507

*Children's reading comprehension and assessment* (pp. 71-92). Lawrence Erlbaum
Associates.


https://doi.org/10.1080/1547688X.2019.1672844


https://digitalcommons.buffalostate.edu/lls/vol29/iss1/1


[https://doi.org/10.1598/jaal.52.2.1](https://doi.org/10.1598/jaal.52.2.1)


[https://doi.org/10.1598/RRQ.39.1.4](https://doi.org/10.1598/RRQ.39.1.4)


[https://doi.org/10.1080/00220272.2014.904444](https://doi.org/10.1080/00220272.2014.904444)

[https://doi.org/10.1080/00098659809599595](https://doi.org/10.1080/00098659809599595)


[https://doi.org/10.1080/00098655.2020.1860874](https://doi.org/10.1080/00098655.2020.1860874)

[https://doi.org/10.1080/02619768.2019.1576627](https://doi.org/10.1080/02619768.2019.1576627)


https://doi.org/10.1016/j.edurev.2015.02.003


RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension.* RAND.

https://doi.org/10.3102/00028312028003559
Risko, V. J., Walker-Dalhouse, D., Bridges, E. S., & Wilson, A. (2011). Drawing on text features for reading comprehension and composing. *The Reading Teacher, 64*(5), 376–378. [https://doi.org/10.1598/RT.64.5.12](https://doi.org/10.1598/RT.64.5.12)


[https://doi.org/10.17763/haer.78.1.v62444321p602101](https://doi.org/10.17763/haer.78.1.v62444321p602101)


[https://doi.org/10.1080/02702710903256601](https://doi.org/10.1080/02702710903256601)

[https://doi.org/10.1177/0040059917750160](https://doi.org/10.1177/0040059917750160)

[https://doi.org/10.1007/s11145-018-9839-4](https://doi.org/10.1007/s11145-018-9839-4)


[https://doi.org/10.1080/19388079909558291](https://doi.org/10.1080/19388079909558291)


https://doi.org/10.1016/j.tate.2010.12.005


https://doi.org/10.1086/605771

Vacca, R. T. (2002). Making a difference in adolescents’ school lives: Visible and invisible aspects of content area reading. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction* (pp. 184–204). International Reading Association


http://www.nova.edu/ssss/QR/QR20/2/yazan1.pdf


Appendices

Appendix A: Institutional Review Board (IRB) Approval

TO: Madison Weary & Heather Schugar

FROM: Nicole M. Cattano, Ph.D.
Co-Chair, WCU Institutional Review Board (IRB)
DATE: 8/5/2020

Project Title: Implementing Content Literacy and Disciplinary Literacy: A Mixed Methods Study of Middle School Teachers’ Pedagogical Dispositions
Date of Approval: 8/5/2020

☐ Expedited Approval

This protocol has been approved under the new updated 45 CFR 46 common rule that went in to effect January 21, 2019. As a result, this project will not require continuing review. Any revisions to this protocol that are needed will require approval by the WCU IRB. Upon completion of the project, you are expected to submit appropriate closure documentation. Please see www.wcupa.edu/research/irb.aspx for more information.

Any adverse reaction by a research subject is to be reported immediately through the Office of Research and Sponsored Programs via email at irb@wcupa.edu.

Signature:

[Signature]

Co-Chair of WCU IRB

WCU Institutional Review Board (IRB)

IRG# 1ON6000M242
IRB#: IRB00005030
FWA#: FWA00014155

West Chester University is a member of the State System of Higher Education
Appendix B: Informed Consent Form

Project Title: Implementing Content Literacy and Disciplinary Literacy: A Mixed Methods Study of Middle School Teachers’ Pedagogical Dispositions

Investigator(s): Madison Weary; Dr. Heather Schugar

Key Information: My consent is being sought for a research study. I understand that my participation is voluntary and I am under no obligation to participate. The purpose of this research is to examine middle school content area teachers’ pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction. Should I decide to participate, the researcher is asking me to take a survey and to volunteer for an interview. The time expected for my participation is 30 minutes to complete the survey, and if selected for the second phase of the study, 45 minutes to complete an interview. The potential risks associated with this study are the potential loss of confidentiality, possible discomfort answering questions, and/or the loss of academic prep time. There may be no direct benefits to me as a participant. The only alternative to this study is not to participate.

Project Overview: Participation in this research project is voluntary and is being done by Madison Weary as part of her Doctoral Dissertation to examine middle school content area teachers’ pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction. Your participation will take about 30 minutes to complete a questionnaire. If selected for the second phase of the study, your participation will take about an additional 45 minutes to supply curriculum guides, supply sample lesson plans, and complete an interview. By identifying our strengths and areas of need as literacy practitioners, this data can help to inform more effective professional development and training. As a benefit to society, research indicates that confident teachers that can make data-driven decisions that support the literacy needs of their students can aid in improving students' reading and comprehension skills.

The research project is being done by Madison Weary as part of her Doctoral Dissertation to examine middle school content area teachers’ pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction, and how school districts can best support their teachers in becoming confident literacy practitioners. If you would like to take part, West Chester University requires that you agree and sign this consent form. This application has been approved by the WCU IRB Protocol #20200805C. You may ask Madison Weary any questions to help you understand this study. If you don't want to be a part of this study, it won't affect any services from West Chester University or the Springfield School District. If you choose to be a part of this study, you have the right to change your mind and stop being a part of the study at any time.

1. What is the purpose of this study?
   - The purpose of this study is to examine middle school content area teachers’ pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction, and how school districts can best support their teachers in becoming confident literacy practitioners.
2. **If you decide to be a part of this study, you will be asked to do the following:**
   - take questionnaire
   - supply a curriculum guide
   - supply sample lesson plans
   - complete an interview
   - This study, in its entirety, will take about 75 minutes of your time

3. **Are there any experimental medical treatments?**
   - No

4. **Is there any risk to me?**
   - If you become upset and wish to speak with someone, you may speak with Madison Weary or Dr. Heather Schugar.
   - If you experience discomfort, you have the right to withdraw at any time.

5. **Is there any benefit to me?**
   - There may be no direct benefits to you as a participant. However, by identifying teachers’ strengths and areas of need as literacy practitioners, this study can inform the development of more effective professional development and training.
   - Other benefits may include: As a society, research indicates that confident teachers that can make data-driven decisions that support the literacy needs of their students can aid in improving students’ reading and comprehension skills.

6. **How will you protect my privacy?**
   - The session will be recorded.
   - Interviews will be recorded using Zoom.
   - Your records will be private. Only Madison Weary, Dr. Heather Schugar, and the IRB will have access to your name and responses.
   - Your name will not be used in any reports.
   - Records will be stored:
     - Encrypted File
     - Password Protected File/Computer
   - Records will be destroyed three years after study completion

7. **Do I get paid to take part in this study?**
   - No

8. **Who do I contact in case of research related injury?**
   - For any questions with this study, contact:
     - **Primary Investigator:** Madison Weary at 717-926-5160 or mweary@wcupa.edu
     - **Faculty Sponsor:** Dr. Heather Schugar at 610-738-0507 or hschugar@wcupa.edu

9. **What will you do with my Identifiable Information?**
   - Your information will not be used or distributed for future research studies.

For any questions about your rights in this research study, contact the ORSP at 610-436-3557.

I have read this form and I understand the statements in this form. I know that if I am uncomfortable with this study, I can stop at any time. I know that it is not possible to know all possible risks in a study, and I think that reasonable safety measures have been taken to decrease any risk.
Appendix C: Quantitative Survey

Qualtrics Survey

Informed Consent and Assent Form

Project Title: Implementing Content Literacy and Disciplinary Literacy: A Mixed Methods Study of Middle School Teachers' Pedagogical Dispositions

Investigator(s): Madison Weary, Dr. Heather Schugar

Key Information: My consent is being sought for a research study. I understand that my participation is voluntary and I am under no obligation to participate. The purpose of this research is to examine middle school content area teachers' pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction. Should I decide to participate, the researcher is asking me to take a survey and to volunteer for an interview. The time expected for my participation is 30 minutes to complete the survey, and if selected for the second phase of the study, 45 minutes to complete an interview. The potential risks associated with this study are the potential loss of confidentiality, possible discomfort answering questions, and/or the loss of academic prep time. There may be no direct benefits to me as a participant. The only alternative to this study is not to participate.

Project Overview: Participation in this research project is voluntary and is being done by Madison Weary as part of her Doctoral Dissertation to examine middle school content area teachers' pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction. Your participation will take about 15 minutes to complete a questionnaire. If selected for the second phase of the study, your participation will take about an additional 45 minutes to supply curriculum guides, supply sample lesson plans, and complete an interview. By identifying our strengths and areas of need as literacy practitioners, this data can help to inform more effective professional development and training. As a benefit to society, research indicates that confident teachers can make data-driven decisions that support the literacy needs of their students can aid in improving students' reading and comprehension skills.

The research project is being done by Madison Weary as part of her Doctoral Dissertation to examine middle school content area teachers' pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction, and how school districts can best support their teachers in becoming confident literacy practitioners. If you would like to take part, West Chester University requires that you agree and sign this consent form. This application has been approved by the WCU IRB Protocol #20200805C.

You may ask Madison Weary any questions to help you understand this study. If you don't want to be a part of this study, it won't affect any services from West Chester University or the [REDACTED]. If you choose to be a part of this study, you have the right to change your mind and stop being a part of the study at any time.

What is the purpose of this study? The purpose of this study is to examine middle school content area teachers' pedagogical dispositions toward implementing content area literacy and disciplinary literacy strategies and skills into their instruction, and how school districts can best support their teachers in becoming confident literacy practitioners.

If you decide to be a part of this study, you will be asked to do the following:
- take a questionnaire
- supply a curriculum guide
- supply sample lesson plans
- complete an interview

This study, in its entirety, will take about 60 minutes of your time.

Are there any experimental medical treatments? No

Is there any risk to me? If you become upset and wish to speak with someone, you may speak with Madison Weary or Dr. Heather Schugar. If you experience discomfort, you have the right to withdraw at any time.

Is there any benefit to me? There may be no direct benefits to you as a participant. However, by identifying teachers’ strengths and areas of need as literacy practitioners, this study can inform the development of more effective professional development and training. Other benefits may include: As a society, research indicates that confident teachers that can make data-driven decisions that support the literacy needs of their students can aid in improving students’ reading and comprehension skills.

How will you protect my privacy? The session will be recorded. Interviews will be recorded using Zoom. Your records will be private. Only Madison Weary, Dr. Heather Schugar, and the IRB will have access to your name and responses. Your name will not be used in any reports. Records will be stored: Encrypted File Password Protected File/Computer. Records will be destroyed three years after study completion.

Do I get paid to take part in this study? No

Who do I contact in case of research-related injury? For any questions with this study, contact:
Primary Investigator: Madison Weary at 610-738-0607 or mweary@wcupa.edu
Faculty Sponsor: Dr. Heather Schugar at 610-738-0607 or hschugar@wcupa.edu

What will your do with my identifiable Information? Your information will not be used or distributed for future research studies.

For any questions about your rights in this research study, contact the ORSP at 610-436-3557.

I have read this form and I understand the statements in this form. I know that if I am uncomfortable with this study, I can stop at any time. I know that it is not possible to know all possible risks in a study, and I think that reasonable safety measures have been taken to decrease any risk.

☐ I consent to participate in this study
☐ I do not consent to participate in this study

Demographic Data

First Name

Last Name

What grade level do you teach? (Check all that apply)

☐ 6
☐ 7
☐ 8

How many years experience do you have teaching?
What is the highest level of education you have completed?

- Bachelor's Degree
- Some graduate credits beyond a Bachelor's
- Master's Degree
- Some graduate credits beyond a Master's
- Master's +30
- Master's +60
- Professional/Doctoral Degree

What is your current gender identity?

- Male
- Female
- Non-binary
- Prefer not to disclose
- Prefer to self-describe

TSELI

Teachers' Sense of Efficacy for Literacy Instruction Survey (Tschannen-Moran & Johnson, 2011)

Directions: Please indicate your opinion about each of the questions below by marking any one of the nine responses, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum.

Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position.
To what extent can you use a student's oral reading mistakes as an opportunity to teach effective reading strategies?

(1) Not at all | (2) Little | (3) Very Little | (4) Some Degree | (5) Quite a Bit | (6) Quite a Great Deal

To what extent can you use a variety of informal and formal reading assessment strategies?

(1) Not at all | (2) Little | (3) Very Little | (4) Some Degree | (5) Quite a Bit | (6) Quite a Great Deal

To what extent can you adjust reading strategies based on ongoing informal assessments of your students?

(1) Not at all | (2) Little | (3) Very Little | (4) Some Degree | (5) Quite a Bit | (6) Quite a Great Deal

To what extent can you provide specific, targeted feedback to students' during oral reading?

(1) Not at all | (2) Little | (3) Very Little | (4) Some Degree | (5) Quite a Bit | (6) Quite a Great Deal

How much can you do to meet the needs of struggling readers?

(1) Not at all | (2) Little | (3) Very Little | (4) Some Degree | (5) Quite a Bit | (6) Quite a Great Deal

To what extent can you adjust writing strategies based on ongoing informal assessments of your students?

(1) Not at all | (2) Little | (3) Very Little | (4) Some Degree | (5) Quite a Bit | (6) Quite a Great Deal

193

[Table]

<table>
<thead>
<tr>
<th>Degree</th>
<th>Bit</th>
<th>Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To what extent can you provide your students with opportunities to apply their prior knowledge to reading tasks?

(1) Not at all
(2) Little
(3) Very little
(4) Some degree
(5) Quite a bit
(6) A great deal

To what extent can you help your students monitor their own use of reading strategies?

(1) Not at all
(2) Little
(3) Very little
(4) Some degree
(5) Quite a bit
(6) A great deal

To what extent can you get your students to read fluently during oral reading?

(1) Not at all
(2) Little
(3) Very little
(4) Some degree
(5) Quite a bit
(6) A great deal

To what extent can you model effective reading strategies?

(1) Not at all
(2) Little
(3) Very little
(4) Some degree
(5) Quite a bit
(6) A great deal

To what extent can you implement effective reading strategies in your classroom?

(1) Not at all
(2) Little
(3) Very little
(4) Some degree
(5) Quite a bit
(6) A great deal

To what extent can you help your students figure out unknown words when they are reading?
To what extent can you get children to talk with each other in class about books they are reading?

To what extent can you recommend a variety of quality children's literature to your students?

To what extent can you model effective writing strategies?

To what extent can you integrate the components of language arts?

To what extent can you use flexible grouping to meet individual student needs during reading instruction?
To what extent can you implement word study strategies to teach spelling?

(1) Not at all   (2) Little   (3) Very Little   (4) Some Degree   (5) Quite a Bit   (6) A Great Deal
  ○ ○ ○ ○ ○ ○ ○ ○

To what extent can you provide children with writing opportunities in response to reading?

(1) Not at all   (2) Little   (3) Very Little   (4) Some Degree   (5) Quite a Bit   (6) A Great Deal
  ○ ○ ○ ○ ○ ○ ○ ○

To what extent can you use students' writing to teach grammar and spelling strategies?

(1) Not at all   (2) Little   (3) Very Little   (4) Some Degree   (5) Quite a Bit   (6) A Great Deal
  ○ ○ ○ ○ ○ ○ ○ ○

How much can you motivate students who show low interest in reading?

(1) Not at all   (2) Little   (3) Very Little   (4) Some Degree   (5) Quite a Bit   (6) A Great Deal
  ○ ○ ○ ○ ○ ○ ○ ○

How much can you do to adjust your reading materials to the proper level for individual students?

(1) Not at all   (2) Little   (3) Very Little   (4) Some Degree   (5) Quite a Bit   (6) A Great Deal
  ○ ○ ○ ○ ○ ○ ○ ○

CALIS: Part I

Content Area Literacy Instruction Survey

Directions: Please indicate your opinion about each of the questions below by marking the appropriate answer, or marking any one of the nine responses, ranging from (1)
"very poor" to (9) "excellent" as each represents a degree on the continuum.

Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position.

What content area subject do you teach?

- Math
- Science
- Social Studies
- ELA

How many years have you taught this specific subject?

- 1-4 years
- 5-10 years
- 11-15 years
- 16-20 years
- 21+ years

Does your educational background/training reflect the current subject area that you teach? (i.e., Bachelor’s Degree in Secondary Education/Science and teaching science versus a Praxis certification in science).

- Yes
- No

How would you rate the quality of your undergraduate university preparation for literacy instruction?

(1) very poor  (2) (3) poor  (4) (5) fair  (6) (7) good  (8) (9) excellent

- 
- 
- 
- 
- 
- 
- 
- 
-
How would you rate the quality of your graduate university preparation for literacy instruction?

<table>
<thead>
<tr>
<th>Not Applicable</th>
<th>(1) very poor</th>
<th>(2) poor</th>
<th>(3) poor</th>
<th>(4) fair</th>
<th>(5) good</th>
<th>(6) excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

How would you rate the quality of the professional development, specific to literacy, that you have received in your school district?

<table>
<thead>
<tr>
<th>(1) very poor</th>
<th>(2) poor</th>
<th>(3) poor</th>
<th>(4) fair</th>
<th>(5) good</th>
<th>(6) excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Approximately how many professional development sessions focusing on literacy, conducted by your school district, have you attended in the past 3 years?

<table>
<thead>
<tr>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
</tr>
<tr>
<td>3-5</td>
</tr>
<tr>
<td>6-8</td>
</tr>
<tr>
<td>More than 8</td>
</tr>
</tbody>
</table>

How would you rate your knowledge of content area literacy strategies and skills?

<table>
<thead>
<tr>
<th>(1) very poor</th>
<th>(2) poor</th>
<th>(3) poor</th>
<th>(4) fair</th>
<th>(5) good</th>
<th>(6) excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

How would you rate your knowledge of disciplinary literacy strategies and skills?

<table>
<thead>
<tr>
<th>(1) very poor</th>
<th>(2) poor</th>
<th>(3) poor</th>
<th>(4) fair</th>
<th>(5) good</th>
<th>(6) excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

CALIS: Part II

Please indicate below how often you incorporate the following content area literacy strategies and skills into your instruction:
## Previewing text

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once a year</th>
<th>Once a trimester</th>
<th>Several times a trimester</th>
<th>Once a month</th>
<th>Several times a month</th>
<th>Once a week</th>
<th>Several times a week</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

## Anticipation Guides

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once a year</th>
<th>Once a trimester</th>
<th>Several times a trimester</th>
<th>Once a month</th>
<th>Several times a month</th>
<th>Once a week</th>
<th>Several times a week</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

## Inferencing

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once a year</th>
<th>Once a trimester</th>
<th>Several times a trimester</th>
<th>Once a month</th>
<th>Several times a month</th>
<th>Once a week</th>
<th>Several times a week</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

## Visualizing

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once a year</th>
<th>Once a trimester</th>
<th>Several times a trimester</th>
<th>Once a month</th>
<th>Several times a month</th>
<th>Once a week</th>
<th>Several times a week</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

## Concept Mapping

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once a year</th>
<th>Once a trimester</th>
<th>Several times a trimester</th>
<th>Once a month</th>
<th>Several times a month</th>
<th>Once a week</th>
<th>Several times a week</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

## Summarizing

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once a year</th>
<th>Once a trimester</th>
<th>Several times a trimester</th>
<th>Once a month</th>
<th>Several times a month</th>
<th>Once a week</th>
<th>Several times a week</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
Annotating

(1) Never  (2) Once a year  (3) Once a trimester  (4) Several times a trimester  (5) Once a month  (6) Several times a month  (7) Once a week  (8) Several times a week  (9) Daily

Paraphrasing

(1) Never  (2) Once a year  (3) Once a trimester  (4) Several times a trimester  (5) Once a month  (6) Several times a month  (7) Once a week  (8) Several times a week  (9) Daily

Note-taking

(1) Never  (2) Once a year  (3) Once a trimester  (4) Several times a trimester  (5) Once a month  (6) Several times a month  (7) Once a week  (8) Several times a week  (9) Daily

How often do you incorporate disciplinary literacy strategies and skills specific to your content area into your instruction? (i.e. ELA - story elements; Math - searching for the "truth" and for errors; Science - data analysis, hypothesis, observations investigation; Social Studies - author's perspective, corroboration, bias).
Appendix D: Qualitative Interview Questions

Permissions
1. Welcome
2. Participants Rights/Waiver of Written Consent
3. Setting
4. Permission to Record
5. Questions?

Interview Questions
1. What does content area literacy mean to you?
2. What does disciplinary literacy mean to you?
3. What is the content that you cover in your subject area?
4. What types of literacy strategies or skills do you implement in your classroom?
5. What kinds of literacy strategies or skills do you utilize most often?
6. Can you describe what literacy implementation looks like in your classroom?
7. What types of strategies or skills would an expert in your content area need to be able to utilize in order to be successful in your discipline?
8. Can you describe your educational experiences that focused on literacy implementation (i.e. undergraduate/graduate level courses)?
9. Can you describe your experiences with professional development or training that have been focused on literacy implementation?
10. If you were to participate in a professional development or training session that focused on literacy implementation, what would your ideal training look like?
11. Would you like to add any additional comments or information that I did not ask about?

Conclusion
1. Conclusion of Interview
2. Next Steps
   1. Transfer from Zoom to Computer
   2. Transcription
3. Member-Checking of Transcript
4. Thank You
5. Turn recording off.
### Appendix E: Question Content by Principal Component Weight

#### Table E1

<table>
<thead>
<tr>
<th>PC</th>
<th>Question</th>
<th>Content (To what extent can/do you…)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC2</td>
<td>Q50 Incorporate note-taking into instruction</td>
<td></td>
<td>0.352</td>
</tr>
<tr>
<td></td>
<td>Q45 Incorporate visualizing into instruction</td>
<td></td>
<td>0.348</td>
</tr>
<tr>
<td></td>
<td>Q49 Incorporate paraphrasing into instruction</td>
<td></td>
<td>0.331</td>
</tr>
<tr>
<td></td>
<td>Q23 Model effective writing strategies</td>
<td></td>
<td>-0.193</td>
</tr>
<tr>
<td></td>
<td>Q24 Integrate components of language arts</td>
<td></td>
<td>-0.216</td>
</tr>
<tr>
<td></td>
<td>Q27 Provide writing opportunities in response to reading</td>
<td></td>
<td>-0.325</td>
</tr>
<tr>
<td>PC3</td>
<td>Q49 Incorporate paraphrasing into instruction</td>
<td></td>
<td>0.380</td>
</tr>
<tr>
<td></td>
<td>Q47 Incorporate summarizing into instruction</td>
<td></td>
<td>0.328</td>
</tr>
<tr>
<td></td>
<td>Q44 Incorporate inferencing into instruction</td>
<td></td>
<td>0.168</td>
</tr>
<tr>
<td></td>
<td>Q35 Quality of undergraduate preparation for literacy instruction</td>
<td></td>
<td>-0.302</td>
</tr>
<tr>
<td></td>
<td>Q26 Implement word study strategies to teach spelling</td>
<td></td>
<td>-0.316</td>
</tr>
<tr>
<td></td>
<td>Q21 Get children to talk about books they are reading</td>
<td></td>
<td>-0.325</td>
</tr>
<tr>
<td>PC4</td>
<td>Q12 Provide specific, targeted feedback during oral reading</td>
<td></td>
<td>0.361</td>
</tr>
<tr>
<td></td>
<td>Q37 Quality of district’s professional development, specific to literacy</td>
<td></td>
<td>0.319</td>
</tr>
<tr>
<td></td>
<td>Q11 Adjust reading strategies based on ongoing informal assessment</td>
<td></td>
<td>0.253</td>
</tr>
<tr>
<td></td>
<td>Q48 Incorporate annotating into instruction</td>
<td></td>
<td>-0.297</td>
</tr>
<tr>
<td></td>
<td>Q46 Incorporate concept mapping into instruction</td>
<td></td>
<td>-0.314</td>
</tr>
<tr>
<td></td>
<td>Q43 Incorporate anticipation guides into instruction</td>
<td></td>
<td>-0.351</td>
</tr>
<tr>
<td>PC5</td>
<td>Q45 Incorporate visualizing into instruction</td>
<td></td>
<td>0.332</td>
</tr>
<tr>
<td></td>
<td>Q35 Quality of undergraduate preparation for literacy instruction</td>
<td></td>
<td>0.277</td>
</tr>
<tr>
<td></td>
<td>Q44 Incorporate inferencing into instruction</td>
<td></td>
<td>0.265</td>
</tr>
<tr>
<td></td>
<td>Q26 Implement word study strategies to teach spelling</td>
<td></td>
<td>-0.233</td>
</tr>
<tr>
<td></td>
<td>Q46 Incorporate concept mapping into instruction</td>
<td></td>
<td>-0.256</td>
</tr>
<tr>
<td></td>
<td>Q11 Adjust reading strategies based on ongoing informal assessment</td>
<td></td>
<td>-0.260</td>
</tr>
<tr>
<td>PC6</td>
<td>Q50 Incorporate note-taking into instruction</td>
<td></td>
<td>0.500</td>
</tr>
<tr>
<td></td>
<td>Q35 Quality of undergraduate preparation for literacy instruction</td>
<td></td>
<td>0.308</td>
</tr>
<tr>
<td></td>
<td>Q22 Recommend a variety of quality children’s literature</td>
<td></td>
<td>0.301</td>
</tr>
<tr>
<td></td>
<td>Q21 Get children to talk about books they are reading</td>
<td></td>
<td>-0.205</td>
</tr>
<tr>
<td></td>
<td>Q42 Incorporate previewing text into instruction</td>
<td></td>
<td>-0.282</td>
</tr>
<tr>
<td></td>
<td>Q45 Incorporate visualizing into instruction</td>
<td></td>
<td>-0.439</td>
</tr>
<tr>
<td>PC7</td>
<td>Q35 Quality of undergraduate preparation for literacy instruction</td>
<td></td>
<td>0.475</td>
</tr>
<tr>
<td></td>
<td>Q48 Incorporate annotating into instruction</td>
<td></td>
<td>0.283</td>
</tr>
<tr>
<td></td>
<td>Q39 Knowledge of content area literacy strategies and skills</td>
<td></td>
<td>0.151</td>
</tr>
<tr>
<td></td>
<td>Q46 Incorporate concept mapping into instruction</td>
<td></td>
<td>-0.293</td>
</tr>
<tr>
<td></td>
<td>Q21 Get children to talk about books they are reading</td>
<td></td>
<td>-0.363</td>
</tr>
<tr>
<td></td>
<td>Q50 Incorporate note-taking into instruction</td>
<td></td>
<td>-0.366</td>
</tr>
<tr>
<td>PC8</td>
<td>Q37 Quality of district’s professional development, specific to literacy</td>
<td></td>
<td>0.404</td>
</tr>
<tr>
<td></td>
<td>Q49 Incorporate paraphrasing into instruction</td>
<td></td>
<td>0.354</td>
</tr>
<tr>
<td>PC9</td>
<td>Q9</td>
<td>Use students’ oral reading mistakes to teach reading strategies</td>
<td>0.257</td>
</tr>
<tr>
<td>-------</td>
<td>---------------</td>
<td>----------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>PC9</td>
<td>Q28</td>
<td>Use students’ writing to teach grammar and spelling strategies</td>
<td>0.255</td>
</tr>
<tr>
<td>PC9</td>
<td>Q39</td>
<td>Knowledge of content area literacy strategies and skills</td>
<td>0.229</td>
</tr>
<tr>
<td>PC9</td>
<td>Q25</td>
<td>Use flexible grouping to meet student needs during reading instruction</td>
<td>-0.258</td>
</tr>
<tr>
<td>PC9</td>
<td>Q47</td>
<td>Incorporate summarizing into instruction</td>
<td>-0.287</td>
</tr>
<tr>
<td>PC9</td>
<td>Q20</td>
<td>Help students figure out unknown words while reading</td>
<td>-0.311</td>
</tr>
<tr>
<td>PC10</td>
<td>Q37</td>
<td>Quality of district’s professional development, specific to literacy</td>
<td>0.392</td>
</tr>
<tr>
<td>PC10</td>
<td>Q40</td>
<td>Knowledge of disciplinary literacy strategies and skills</td>
<td>0.313</td>
</tr>
<tr>
<td>PC10</td>
<td>Q13</td>
<td>Ability to meet the needs of struggling readers</td>
<td>0.250</td>
</tr>
<tr>
<td>PC10</td>
<td>Q17</td>
<td>Get students to read fluently during oral reading</td>
<td>-0.247</td>
</tr>
<tr>
<td>PC10</td>
<td>Q22</td>
<td>Recommend a variety of quality children’s literature</td>
<td>-0.252</td>
</tr>
<tr>
<td>PC10</td>
<td>Q26</td>
<td>Implement word study strategies to teach spelling</td>
<td>-0.290</td>
</tr>
</tbody>
</table>

*Note.* This table includes the second through the tenth principal components with the content of the questions, in order of their weight. PC = Principal Component; Q = Question.