Preservice Teachers’ Attitudes, Familiarity, Use, and Perceived Applicability of Content Area Reading Strategies

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PRESERVICE TEACHERS’ ATTITUDES, FAMILIARITY, USE, AND PERCEIVED APPLICABILITY OF CONTENT AREA READING STRATEGIES

by

Bridgette LaDonna Davis

Abstract of a Dissertation Submitted to the Graduate School of The University of Southern Mississippi in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

May 2010
ABSTRACT

PRESERVICE TEACHERS’ ATTITUDES, FAMILIARITY, USE, AND PRECEIVED APPLICABILITY OF CONTENT AREA READING

by Bridgette LaDonna Davis

May 2010

The influence of field based-experiences in K-12 classroom and grade level licensure area on preservice teachers’ attitudes, familiarity, use, and perceived applicability of content area reading instruction was examined for 597 participants from three state-supported universities in a southeastern state in the United States. These participants who were seeking either K-6 or 7-12 licensures represented three levels of field-based classroom experience: (a) no field-based experience, (b) some non-sustained field-based experience, and (c) a full-semester of field-based experience. Data were collected using a demographic questionnaire and two instruments, the Attitudes toward Content Area Reading (ATCAR) questionnaire and the Content Area Reading Strategies (CARS) questionnaire.

A multivariate analysis of variance (MANOVA) statistical procedure was used to investigate differences in preservice teachers’ attitudes, familiarity, use, and perceived applicability of content area reading instruction. Comparisons were made among groups defined on their level of K-12 classroom field experience and the grade level licensure sought. Analysis of the data showed statistically significant differences between experience groups in preservice teachers’ attitudes toward content area reading instruction and reported familiarity and use of specific content area reading strategies. There was no statistically significant difference in perceived applicability of strategies
used in teaching reading in content areas. Comparisons of elementary and secondary teachers’ attitudes toward integrating reading instruction into content areas revealed a statistically significant difference, reflecting that elementary teachers tended to possess a more positive attitude.

Quantitative analysis of data suggests preservice teachers across experience groups and licensure areas remain neutral in overall attitude toward integrating reading into content areas. Close examination of the data showed that courses in teacher education programs increased preservice teachers’ attitude in a more positive direction and increased their overall knowledge of content area reading instruction, but after completing a full semester of teacher candidacy preservice teachers’ attitudes and reported familiarity, use, and applicability of content area reading regressed slightly.
DEDICATION

I would like to dedicate this Doctoral dissertation to my husband, Thomas Duncan Davis. There is no doubt in my mind that without his continued love, support, encouragement, and personal sacrifices I could not have completed this process. With all my heart and soul, I love you.
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"If I have seen further it is by standing on the shoulders of giants."

- Isaac Newton, letter to Robert Hooke, 1676

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out of school at 11 years old after his father died in an effort to support his mother. For his continuous reminders of the importance of education throughout my childhood, I know he would be proud of me today. His faith and confidence in my abilities provided the foundation for me to pursue my educational experiences.

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who has shared my good and bad days with his continued “You can do it” attitude and his constant reminders that one can only “eat an elephant one bite at a time” and “if it were easy, everyone would do it”. He traveled countess miles between our two homes to be with me and always bought with him a minute by minute update of the life I was missing back home with our children and grandchildren. Without him, our dream would have not been realized.

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TABLE OF CONTENTS

ABSTRACT ........................................................................................................................... ii

DEDICATION...................................................................................................................iv

ACKNOWLEDGEMENTS ...............................................................................................v

LIST OF TABLES ............................................................................................................ xi

CHAPTER

I. INTRODUCTION ........................................................................................................1

   Background of the Problem
   Theoretical Framework
   Statement of the Problem
   Purpose of the Study
   Research Questions
   Research Hypotheses
   Delimitations
   Limitations
   Assumptions
   Definitions of Terms

II. REVIEW OF RELATED LITERATURE .................................................................18

   Foundations of Content Area Literacy
   Teaching Reading in Content Areas
   Teacher Education
   Sociocognitive Model of Reading
   Summary

III. RESEARCH DESIGN AND METHODOLOGY .................................................62

   Problem and Purpose Overview
   Research Questions
   Research Hypotheses
   Population and Sample
   Data Collection
   Instrumentation
   Data Analysis
   Summary
IV. ANALYSIS OF DATA .......................................................................................... 76

Introduction
Organization of Data Analysis
Research Questions
Descriptive Statistics: Demographic Information
Descriptive Statistics: Attitudes Toward Content Area Reading Questionnaire
Descriptive Statistics: Content Area Reading Strategies Questionnaire
Data Analysis Summary
Analysis of Data
Summary

V. FINDINGS, CONCLUSIONS, AND IMPLICATIONS ........................................ 102

Introduction
Summary of the Study
Findings
Preservice Teachers’ Attitudes toward Teaching Content Area Reading
Familiarity, Use, Perceived Applicability of Content Area Reading Strategies
Elementary and Secondary Preservice Teachers’ Attitudes
Implications for Preservice Teacher Preparation
Future Research
Summary

APPENDIXES ........................................................................................................ 128

REFERENCES ........................................................................................................ 138
LIST OF TABLES

Table

1. Demographic Percentage Distributions across Three Experience Groups ............80
2. Mean ATCAR Scores between Preservice Teachers of the Three K-12 Classroom Field Experience Groups 1, 2, & 3 .................................................................82
3. Percentage of Sample Familiarity with 35 Specific Content Area Reading Strategies in Ascending Order ..........................................................86
4. Percentage of Participants Reported Frequency of Use of 35 Specific Content Area Reading Strategies in Ascending Frequency Order ........................................87
5. Percentage of Participants Reported Perceived Applicability of 35 Specific Content Area Reading Strategies between Preservice Teachers in Classroom Field Experience Groups 1, 2, & 3 ........................................................................89
6. Summary of Results of Multivariate Analysis of Variance (MANOVA) ..........93
7. Differences in Total ATCAR & CARS Scores between Experience Groups 1, 2, & 3 ........................................................................................................94
8. Difference in Mean ATCAR Scores among Elementary & Secondary Majors…99
CHAPTER I

INTRODUCTION

One of the primary missions of education is to teach students to *read to learn* (Gee, Olson, & Forester, 1989). With President George W. Bush’s signature, the No Child Left Behind Act of 2001, put reading first, assuring that every child can read by the end of third grade (No Child Left Behind Act, 2002). During the early elementary years, much of the focus in education is placed on students *learning to read*. However, during the upper elementary, middle school, and high school years students are expected to have mastered reading and be able to use their reading skills to learn new subject-specific content. In essence, they move from learning to read to reading to learn. In these later years, reading becomes more difficult, therefore there is a need for teachers to be skillful in helping students comprehend and make meaning from the complex information they must read to learn (Fisher, 2001; Fry, 1981; Roe, Stoodt-Hill, & Burns, 2007).

Content area reading instruction is designed to help students comprehend complex information commonly found within expository text in subject area courses in upper elementary, middle, and high school (Gee, Olson, & Forester, 1989; McKenna & Robinson, 1990; Weaver & Kintsch, 1991). Reading research related to content area reading has continued to grow over the past 30 years, focusing primarily on expository text, reading strategies, and textbook readability (Smith & Feathers, 1983a, 1983b) mostly at the secondary level (Moore, Readence, & Rickelman, 1983). Research studies confirm that a large number of students have difficulty in comprehending and using expository text (Alvermann & Boothby, 1982; Armbruster, Anderson, Armstrong, Wise, Janisch, & Meyer, 1991; Moss, 2005; Piccolo, 1987; Taylor, 1982). Vocabulary
associated with reading in content areas has also been noted to create problems in comprehension and learning from information-based texts (Alvermann & Boothby, 1982). Reutzel and Cooter (2008) suggest reading problems in upper elementary and middle school can affect students’ confidence and academic success.

The well-known slogan, "Every teacher is a teacher of reading" was popularized in the late 1930s by William S. Gray with the intent of bringing attention to the need for all content area teachers to incorporate reading instruction within their content areas (Whipple, 1937). Over 40 years later, due to continued resistance of content area teachers in accepting responsibility for addressing the literacy needs of their students, Mueller (1973) reaffirmed the call that all teachers are reading teachers and have a tremendous influence on students’ attitudes toward reading especially in content areas. According to O'Brien & Stewart (1990) content area teachers struggle to see the need of incorporating reading instruction in content area classes. Current research continues to suggest most content area teachers assume little responsibility for teaching reading within content area courses (Alvermann & Moore, 1991; Moore, 1996; Moss, 2005) and they assume students entering content area courses arrive with the skills necessary for reading to learn (Alvermann & Nealy, 2004).

Teachers’ attitudes strongly influence their instructional objectives and pedagogical approach (Ruddell & Unrau, 2004). Ruddell and Unrau explored changes in preservice teachers' attitudes toward teaching reading within content area courses as a result of experience within K-12 classrooms during teacher education programs and licensure area at three state-supported universities in a southeastern state in the United States. This chapter presents an overview of the current study and is organized according
to the following sections: (a) background to the problem, (b) theoretical framework, (c) statement of the problem, (d) the purpose of the study, (e) research questions, (f) hypotheses, (g) limitations, (h) delimitations, (i) assumptions, (j) definitions of terms, and (k) summary.

Background of the Problem

College students enter teacher education programs with various beliefs about teaching and learning which are rooted in personal life experiences (Doyle, 1997). It is common for preservice teachers to enter their first courses in education viewing teachers as disseminators of knowledge and students as passive recipients. As preservice teachers gain more time and experience in classroom settings during field experiences, their views of teaching and learning should change to one in which teachers are more often viewed as facilitators and learning is viewed as an active process of growth and change (Feiman-Nemser & Buchman, 1995). Doyle (1997) found many preservice teachers’ views of teaching and learning remain unchanged as they hold to their entering beliefs even when new experiences support a different view of teaching and learning process. This study looked at changes in preservice teachers’ attitudes concerning teaching reading in content areas as they are exposed to various field experiences within their teacher education program.

Teacher Education Programs

The great teacher-philosophers Aristotle, Socrates, and Plato may be credited with starting the great debate on how best to prepare teachers (Parkerson & Parkerson, 2008). Despite the passage of many years since the start of this debate, best practices in teacher preparation continues to be a reoccurring topic in educational research. Educational
standards and assessments are some of the most distinct and pervasive headlines found currently within the community of education and society in general, resulting in many external forces influencing teacher education program design (Robertson, 2008). These forces include, but are not limited to, individual state requirements for teacher licensure, the National Council for Accreditation of Teacher Education (NCATE), the National Board for Professional Teaching Standards (NBPTS), and specialized professional associations (Howey, 1996). Traditionally, teacher education programs require preservice teachers to take a variety of courses which include content, pedagogy, assessment, classroom management, and field experiences including student teaching (Zeichner & Conklin, 2008).

Teacher education programs encompass broad fields of study which are commonly divided to correspond to teacher licensure areas including: early childhood, elementary education, and secondary education. Further, secondary level education programs are divided into more specific content areas, such as English, math, social studies, science, and reading (Feiman-Nemser & Remillard, 1995). Teacher education programs differ, especially in the required number of reading courses. Some programs require preservice teachers to take as many as 24 semester hours of reading instruction while others require as few as three semester hours (Hoffman, Roller, & The National Commission on Excellence in Elementary Preparation for Reading Instruction, 2001). Currently, most states require a minimum of one content area reading course for teacher licensing (Farrell & Cirrincione, 1984). Future teachers learn about reading from a variety of sources that may extend well-beyond required coursework within teacher education programs that include their personal life experiences and interactions with the
Quality field experiences during teacher education programs are designed to help preservice teachers connect the theory learned within their coursework to practice (Goodlad, 1990). Dewey (1938) suggested experiences should be foundational for teacher preparation programs along with content and pedagogy. Distinguished educational researcher and theorist John Goodlad is well-known for his stance on promoting a field-based model for teacher preparation that includes critical inquiry within closely supervised field experiences (Goodlad, 1990). In 1999, a report on teacher quality issued by the National Center for Education Statistics stated elementary and secondary preservice teachers do not spend enough time within classrooms (Lewis et al., 1999). The report suggested that field experiences are a critical component in teacher education programs and are imperative to producing highly effective teachers. Most teacher education programs require preservice teachers to complete various types of field experiences which may include: (a) observing students within the context of the classroom, (b) tutoring students one-on-one or in groups, and (c) planning instruction and teaching under the supervision of the regular classroom teacher (Lewis et al., 1999).

The variety of required coursework does not ensure preservice teachers know how to put all of the information together to effectively teach all students (Fenstermacker & Richardson, 2005). Researchers indicate there may be a distinct difference between the theoretical knowledge preservice teachers gain during their coursework and the practical application or skills that are required of them in field experiences including student teaching (Kim, Andrews, & Carr, 2004). Current research suggests that content area
reading instruction has added benefits beyond preparing preservice teachers to effectively teach K-12 students. Content area reading instruction can help preservice teachers make cognitive connections between the content learned during coursework and practical pedagogical application (Reynolds, 2005).

The Holmes Report, *Tomorrow’s Teachers* (Holmes Group, 1986), cited the need for teacher education programs to create better connections between theoretical courses and practical experiences. Because reading ability is a key predictor of academic success (ACT, 2006), it is critical that all teachers know how to use reading within the courses they teach to increase students' reading ability in addition to teaching the content of the course itself. Teachers who fully understand the importance of all aspects of literacy, especially reading, are necessary to ensure that American students are prepared for the academic success and the literacy demands of the current global information society in which we live (Snow, Burns, and Griffin, 1998).

*Reading and Academic Success*

Current research that profiles reading scores of middle and high school students and dropout rates suggests that reading test scores of secondary students have not improved over the past 30 years (Biancarosa & Snow, 2004; Kamil, 2003). In 1998, the National Assessment of Education Program (NAEP) found that only 33% of students in grade 8 and only 40% of students in grade 12 performed at or above the level of solid academic performance, and close to 70% of those students starting in grade 9 and 60% of those in grade 12 were considered to be reading below grade level. In 2003, The National Center for Education Statistics (NCES) reported that there were more than eight million struggling readers in grades 4-12 (Biancarosa & Snow, 2004). While at the same
time in 2003, the Alliance for Excellent Education reported that more than 3000 students drop out of high school every day (Kamil, 2003).

According to the latest educational report from NCES, *The Condition of Education 2009*, average reading scores of students in grade 4 and grade 8 increased 4 and 3 points, respectively between 1992 and 2007 (Planty et al., 2009). While grade 12 students reading scores dropped 6 points between 1992 and 2005. Long-term trend reports of the NAEP between the early 1970s and 2008 indicate a continued improvement in reading achievement scores for 9 and 13 year-old students while reading scores for 17 year-old students have not changed significantly in over thirty years. One of the most commonly cited reasons for high dropout rates is that students simply lack the literacy skills to keep up with more a complex high school curriculum (Bianarosa & Snow, 2004; Kamil, 2003).

Whereas the *No Child Left Behind Act of 2001* provided more than six billion dollars to support reading instruction in low socioeconomic and low performing schools, it failed to provide support that would ensure that every new teacher would be competent to teach reading. In response, the International Reading Association's (IRA) position statement, *Investment in Teacher Preparation in the United States* released in March of 2003, called for a major national investment in teacher preparation in regard to reading with the goal of addressing the quality and variability of reading instruction received by preservice teachers (Hoffman, Roller, & The National Commission on Excellence in Elementary Preparation for Reading Instruction, 2001).
Theoretical Framework

Reading is a complex meaning-construction process that enables readers to assimilate new knowledge (Ruddell & Unrau, 2004). For over a century, educational research has sought to explain the hidden process of reading. For the current study, the Sociocognitive Model of Reading offered by Ruddell and Unrau (2004) provided a theoretical framework, for it conceptualizes the process of reading within the context of the classroom as the interaction among the reader, the reading materials, and the teacher. Of these components, the teacher is considered the most critical part of this interaction as teachers are responsible for facilitating the meaning construction process and ensuring the development of appropriate reading skills within content area courses.

Learning theorists Piaget (1973) and Vygotsky (1978) are best known for work in the area of human development and provide additional support for this study as an extension of the social constructivist foundation found within the sociocognitive model of reading (Ruddell & Unrau, 2004). Jean Piaget’s (1973) cognitive development theory proposes that knowledge is not internalized directly from the outside, but rather constructed within the individual through interactions with the environment (Kamii, 1991; Piaget, 1973). The processes of adaptation and assimilation are constant as new schemes are created and modified through experiences until equilibrium is reached through the process of accommodation (Piaget, 1978, 1985). As teachers are exposed to new knowledge within teacher education courses, many times the new information learned about teaching is different from what they experienced as a student in elementary or secondary school. By applying Piaget’s cognitive development theory to the acquisition of knowledge about teaching and learning, it may be inferred that teachers are
constantly engaging in the process of constructing meaning from their personal, academic, and professional life experiences.

A great American philosopher, John Dewey, (1912) suggested that of the various institutions that shape a person’s disposition, school is the most critical. This notion compels educational researchers to explore how academic and social experiences during teacher education programs shape prospective teachers views and guide them to make future decisions that will influence instructional practice within their classrooms.

Vygotsky’s (1978) social development theory offers a somewhat expanded and slightly opposing view from Piaget. For the purpose of this study, it provided additional foundational support and insight into how children learn through language acquisition which is included within the context of reading. Social development theory suggests that children are active participants in their own learning while using language and relationships in social settings to gain meaning. Two main principles guide Vygotsky’s theory: the More Knowledgeable Other (MKO) and the Zone of Proximal Development (ZPD). The teacher of content area classes is thought to be more knowledgeable in regard to the text structure and terms specific to that particular content area and is more likely to be able to identify when students are within the zone of proximal development. The concept of scaffolding (Bruner, 1978) which parallels the work of Vygotsky is central to the social interactivist view which suggests that with guidance students can perform tasks above their particular stage of cognitive development as described by Piaget, which further emphasizes the critical role of the teacher. As content area teachers provide guidance through the use of appropriate content area reading strategies, students are able to read, comprehend, and learn information above their current cognitive
development level. With continued decreasing levels of scaffolding, students will learn how to read to learn without assistance.

Statement of the Problem

Teachers must have knowledge of content area reading strategies in order to facilitate understanding between a reader and text within content areas (Readence, Bean, & Baldwin, 1992; Gillespie & Rasinski, 1989). However, current research suggests that most content area teachers are unaware of the majority of reading skills needed by students to successfully gain meaning from text within their content areas (Braam & Roehm, 1964; Braam & Walker, 1973). In the words of Gillespie and Rasinski (1989, p. 45), "It is difficult for teachers to teach reading and study skills without adequate training in reading instruction." However, adequate training alone may not ensure that teachers will incorporate reading instruction in content areas, as decisions about what to teach and how to teach are largely influenced by teachers' beliefs (Buchmann, 1987). Despite the knowledge preservice teachers have gained during their education courses, it is their beliefs that are more likely to influence their actions as teachers within their classroom (Ernest, 1989; Brown & Cooney, 1982). To ensure teacher education programs are preparing preservice teachers for classroom instruction in content areas which incorporates reading instruction, insight into variables that may affect pedagogy is necessary. Examining preservice teachers’ attitudes towards teaching reading within content area courses will add to the existing body of literature by investigating how the social context of the classroom environment during field experiences changes prospective teachers' attitudes, knowledge, use, and perceived applicability of content area reading strategies.
Purpose of the Study

The purpose of this study was to explore how preservice teachers' attitudes toward teaching reading in content area courses are influenced by field based experiences in K-12 classroom settings as they advance through teacher education programs at three state-supported universities in the southeastern United States. In addition, this study attempted to examine how familiar preservice teachers are with 35 of the most researched-based content area reading strategies, how often they report using these strategies personally and/or professionally, and how often they think the strategies are appropriate for teaching content area reading.

Research Questions

While previous studies have examined preservice teachers' beliefs and experiences after taking a single course in content area reading, none have specifically examined the degree to which experience in the classroom during teacher education programs affects preservice teachers' attitudes, familiarity, use, and perceived applicability of content area reading strategies. Therefore, the purpose of this study was to investigate the following questions:

1. Does experience in the classroom make a difference in preservice teachers' attitudes toward teaching content area reading?

2. Does experience in the classroom make a difference in preservice teachers' reported familiarity, use, and perceived applicability of content area reading strategies?

3. Is there a difference in attitudes toward teaching content area reading among elementary and secondary preservice teachers?
Research Hypotheses

The hypotheses used to guide the study and to investigate the research questions were as follows:

H_{1.0}  There is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their attitudes towards teaching content area reading.

H_{2.0}  There is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their reported familiarity of content area reading strategies.

H_{3.0}  There is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their reported use of content area reading strategies.

H_{4.0}  There is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their reported perceived applicability of content area reading strategies.

H_{5.0}  There is a difference between elementary and secondary education majors in regard to their attitudes towards teaching content area reading.
Delimitations

The study was delimited by the following:

1. The participants were undergraduate students enrolled in traditional route elementary and secondary programs at three state-supported universities in the southeastern United States of America. Those preservice teachers enrolled in alternate route programs were not included in this study.

2. The results do not attempt to assess whether or not the attitudes, familiarity, use, and perceived applicability toward teaching reading in the content area may affect instruction within the classroom.

3. Participation was voluntary.

Limitations

The limitations identified from this study are as follows:

1. The results of this study of preservice teachers' attitudes, familiarity, use, and perceived applicability toward teaching reading in the content area may not necessarily generalize to preservice teachers enrolled in education programs beyond the universities included in the study.

2. The numbers of participants in experience groups were different, because of the large differences in enrollment normally experienced due to attrition from teacher education programs.

3. The numbers of participants in the elementary and secondary groups were different, because of the large differences in enrollment normally experienced between these teacher licensure groups.
4. Due to the nature of self-reporting, the researcher relied on the participants to reveal their attitudes, familiarity, use, and perceived applicability toward teaching reading in the content area on the Attitudes Toward Content Area Reading questionnaire and the Content Area Reading Strategies questionnaire. It is possible that participants responded to the questionnaires in a way that they believe would be socially and academically acceptable, which may have affected the outcome of the data analysis.

Assumptions

A single assumption was made for the current study. It is assumed that all participants responded honestly to the Demographic Data Sheet, Attitudes Toward Content Area Reading (ATCAR) questionnaire, and Content Area Reading Strategies (CARS) instruments.

Definitions of the Terms

The following definitions are provided to clarify terms that were used in this study:

*Attitude* is "a predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" (Fishbein & Ajzen, 1975)

*Attitudes Toward Content Area Reading (ATCAR)* is an instrument designed to measure teachers’ attitudes toward content area reading on a Likert-like scale (Grierson & Daniel, 1995).

*Content area* refers to subject areas which focus on one particular content such as English, Math, Social Studies, Science, etc.
Content area reading is subject area material comprised mainly of expository text written to provide information to the reader with information (Weaver & Kintsch, 1991); to read for an efferent purpose, as distinguished from narrative text with a story grammar that is read for an aesthetic purpose (Grierson, 1996).

Content area reading instruction is "Instruction designed to help students comprehend text from subject areas such as social studies, science, literature, mathematics, and so forth" (Gee, Olson, & Forester, 1989, p. 30).

Content area literacy is reading, writing, speaking, and listening to demonstrate content area learning with the purpose of helping students to understand and use content area-specific knowledge and skills directed toward a specific result or demonstration of skill through a variety of means (Benjamin, 2002; Burke, 2000; Harvey & Goudvis 1998, 2000; Vacca & Vacca, 2008)

Content Area Reading Strategies (CARS) is an instrument designed to measure teachers’ knowledge of forty-four researched-based content area reading strategies (Grierson, 1996; Howe, Grierson, & Richmond, 1995).

Expository text refers to nonfictional text that is compact, detailed, and most commonly used to explain (Reutzel & Cooter, 1992); five common expository text structures are: description, collection, causation, problem/solving, and comparison (Meyer & Freedle, 1984); Williams, 2005)

Field experience is placement in an actual classroom setting in which preservice teachers observe, tutor, and begin to teach under the supervision of a classroom teacher.
Knowledge is the state of general familiarity with facts, principles, ideas, etc. (Harris & Hodges, 1995), specifically the ability to identify specific strategies related to teaching reading within content areas.

Narrative text refers fictional text that is commonly used in beginning reading instruction and is organized in a story grammar scheme using common elements such as setting, theme, characterization, plot, and resolution. (Reutzel & Cooter, 2008).

Pedagogy refers to the study of the art and science of teaching (Borrowman, 1965).

Preservice teacher is an undergraduate college-level student enrolled in the teacher education program, also referred to as a teacher candidate or prospective teacher.

Secondary preservice teacher is an undergraduate college-level student enrolled in the teacher education program seeking teacher licensure in a secondary education content area such as English, Math, Social Studies, Science, etc.

Strategy in education, is a systematic plan, consciously adapted and monitored, to improve one’s performance in learning (Harris & Hodges, 1995).

Summary

This study investigated the attitudes, familiarity, use, and perceived applicability of teaching content area reading of elementary and secondary preservice teachers enrolled at three state-supported universities in the southeastern United States of America. The study is presented in three chapters. Chapter I has provides an introduction and overview of the study and is followed by an exhaustive review of the literature relating to content area reading in Chapter II. Chapter III outlines the research
methodology using quantitative method design followed by a discussion on the findings in Chapter IV. A summary of overall conclusions for this study is provided in Chapter V.
CHAPTER II
REVIEW OF LITERATURE

To provide a rationale for this study, this chapter presents a review of literature which includes key elements for understanding the interrelated variables which contribute to incorporating reading instruction in content area courses in K-12 across the curriculum. A historical perspective of content area reading is given to illustrate the nature of the current study in relation to the evolution of teachers’ attitudes, knowledge, use, and perceived applicability of teaching reading in content areas. This chapter will begin with a brief introduction followed by a historical review of research related to reading in content areas followed by a discussion of textbook usage including basal readers in elementary school with clarification about the similarities and differences of narrative and expository text. The focus will then shift to an exploration of the use of reading instruction in content areas specifically through a discussion of the current need to teaching content area reading strategies, support positive teachers attitudes, increase knowledge and use of these strategies. A discussion of teachers’ perceptions of applicability of content area reading is also provided, including potential explanations of teachers’ resistance to teaching reading in content areas. The next section will offer insight into teacher education programs with a focus on field experiences within the programs. To provide a better understanding of field experiences, research to support and contradict the benefits of prospective teachers experiencing time within K-12 classroom settings during teacher education programs will be presented. This chapter will close with a discussion of the sociocognitive model of reading which provides the theoretical framework and foundation for this study.
Foundations of Content Area Literacy

The No Child Left Behind Act of 2001, placed reading as a priority for all students, with particular emphasis on assuring that every child learn to read by the end of the third grade (No Child Left Behind Act, 2002). For over a century, reading researchers have agreed learning to read in the early grades is distinctly different from reading to learn in content areas in upper elementary, middle school, and high school where students are required to read expository text which differs from narrative or story grammar (Flood & Lapp, 1987; Weaver & Kintsch, 1991). As students progress from K-3 into grade 4 and onto the upper grade levels, the amount and complexity of expository text increases dramatically causing some students to struggle to read text necessary to keep up with academic demands. Students’ difficulty with reading expository or informational text may be attributed to the continued emphasis on narrative text in many, if not most primary elementary classrooms (Hoffman, Roser, & Battle, 1993; Moss, 2008; Pressley, Rankin, & Yokoi, 1996; Venezky, 2000) and to the lack of attention given to providing students reading instruction as part of content area teaching in subject areas in grades 4-12. Statistical data published in 2003 by the National Center of Education Statistics (NCES) shows that there were more than eight million struggling readers in grades 4-12 (Biancarosa & Snow, 2004) and the Alliance for Excellent Education reported more than 3000 students drop out of high school every day (Kamil, 2003).

The inability to keep up with a progressively more complex high school curriculum due to inadequate development of content area reading skills are cited as one of the most common reasons students drop out of high school (Bianarosa & Snow, 2004;
Reading becomes more difficult as students move through grade levels and are required to read varying types of text from a multitude of content areas. Teachers play the most critical role in helping students to learn to comprehend and make meaning from the complex information found in subject area courses (ACT, 2006; Ruddell & Unrau, 2004). In 1996, Linda Darling Hammond, serving as the executive director of the National Commission on Teaching & America's Future, cited teachers' knowledge and actions as the most important factor influences students learning and success (Darling-Hammond, 1996).

University students enter teacher education programs with pedagogical perceptions about teaching and learning which developed through personal experience as a student. As prospective teachers progress through the learning and development process moving from the role of student to the role of a teacher, growth and change is expected in their knowledge, skills and dispositions. Learning is a process in which learners interact with the world around them to construct and reflect upon their understanding of the world. Students enrolled in teacher education programs develop new understandings of the teaching and learning process as they construct meaning from information learned within their coursework and interactions within the social context of classroom during field experiences (Darling-Hammond, 2008).

Meade (1991) cites field experiences, including teacher candidacy, as a critical transition point in the teacher preparation experience. It is during field experiences that prospective teachers are allowed the opportunity to observe and practice instructional theory in an authentic teaching and learning environment which in turn promotes feedback and evaluation (Rooze, 1986). As prospective teachers are confronted with new
concepts and ideas about teaching during coursework and field experiences, they are required to make decisions about how to incorporate the new information into their existing belief systems (Hollingsworth, 1989, Zeichner & Liston, 1987). Many times, prospective teachers are asked to expand their perceptions of literacy as they prepare to teach in content area classrooms by exploring personal beliefs about content area literacy issues, including personal attitudes, knowledge, usefulness, and applicability of incorporating content area reading strategies into instructional practice (O’Brien, Stewart, & Moje, 1995).

Research indicates both elementary and secondary teachers resist the notion of teaching reading in the content areas, neither group perceives the task as their responsibility (Moss, 2005). Elementary teachers perceive their major objective as teaching children to read while secondary teachers view their primary task as teaching subject area content (Rieck, 1977). Because field experiences during teacher education programs allows prospective teachers to interact with inservice teachers and students in authentic classroom settings and these interactions have implications for their pedagogical knowledge and decisions (Moje, 1996), it is necessary to explore how experience in the classroom changes a prospective teacher’s attitudes toward integrating reading into content area courses as they progress through their teacher education program.

**Defining Content Area Literacy**

For many years, content area reading has been used to describe the field of study associated with helping students to read text found in content area courses across the curriculum (Vacca & Vacca, 2008). As the concept of reading has grown to include
other language processes, the term *content area literacy* evolved as the idea of teaching reading and writing within content area courses has been redefined by reading researchers. McKenna and Robinson (1990) describe content area literacy as being able to use reading and writing to learn new information found in content areas that includes three cognitive components: general literacy skills, content literacy skills, and background knowledge. According to Venezky (1995) literacy refers to the ability to comprehend written text and to write with the purpose of communicating within a particular social context.

As the concept of content area literacy evolves the terminology associated with the area of study continues to change (Moss, 2005). Content area literacy has expanded to include all forms of literacy, both personal and academic, and also incorporate technology and other types of texts (Moss, 2005). With access to so many forms of literacy, content area literacy is no longer limited the ability to read and comprehend subject area textbooks or trade books, but extends to include multiple forms of print such as e-mail, electronic messaging, and Internet sites (Leu, 2002). In addition, Bean (2000) suggested that other types of technological social sign systems such as messages found in media text or advertising symbols that present information for the purpose of sparking emotions and presenting ideas should also be included. These types of messages require students to make critical decisions to discern the messages and agendas behind the text or symbol. Content area literacy is a cognitive and social practice which requires the ability to read and write in multiple forms of print along with the ability to make critical decisions concerning the types of text. Students must be able to distinguish whether the wealth of information accessed is useful (Bean, 2000).
While the definitions and terms associated with content area literacy have changed dramatically over time, researchers’ support for pedagogical instruction has remained stable. In 1983, Moore, Readence and Rickelman said content area literacy is based on the pedagogical belief that readers require specific skills and strategies to help them find, comprehend, retain and retrieve information in subject areas (Moore et al., 1983). The primary purpose of content area reading instruction is to teach and provide students with specific reading to learn strategies to facilitate comprehension of expository text which includes the technological social sign system literacies. Using the definition provided by Vacca (2002), content literacy is viewed as students ability to use reading, writing, speaking, listening, and viewing to learn content area material across the curriculum. While the field of content area reading has emerged into a broader field of study, content area literacy, reading in content areas remains to be a critical component (Vacca, 2002).

**Historical Perspective of Content Area Reading**

One of the most studied and a discussed aspect in the field of reading research is the relationship of reading and learning (Dishner & Olson, 1989). Beginning early in the 1900s, the need for content area reading instruction was agreed upon by educators (Moore, et. al., 1983). As the predominant tradition of American schools began to change from one of imitation and rote learning to a metacognitive approach, the field content area reading emerged. Modern American education and ideas about content area reading instruction surfaced as a result of three distinct schools of thought: humanist, developmentalist, and scientific determinists (Moore, et al, 1983).
**Humanist.** The humanist viewpoint can be traced back to the early Greeks and others who opposed memorizing text with little regard to meaning construction (Moore et al. 1983). In the humanists' view, the primary function of education is to teach reasoning and the independent thought process. Influenced by the work of John Dewey, the humanist view opposed the traditional American view of schools where imitation and rote learning was the primary emphasis. Placing children in the center of curriculum planning, Dewey felt instruction should include connections between school and the interest, experiences, and the problem-solving skills of their children (Dewey, 1902/1990). The humanists' view served as the theoretical base for the Progressive Movement, which led to an emphasis on meaningful reading and the influence of research from this time period is evident in the reading to learn approach found in content area reading instruction today (Moore, et al., 1983).

**Developmentalist.** Patterns of mental and physical growth among children provided the foundation for the developmentalists' view. Pioneers of child development G. Stanley Hall and Arnold Gesell, found children at various stages of development use different strategies for coping with their worlds (Moore, et al., 1983). This view connected stages of individual growth to scientific assessment for the purpose of increasing school effectiveness. Developmentalists influenced content area reading instruction by recommending reading instruction should be tailored to the interests, specific subject-matter assignments, and developmental levels of students (Gray, 1939). This individualized approach to instruction provided support for teachers to design reading instruction addressing individual differences (Moore, et al, 1983).
Scientific determinist. In addition to the humanists and developmentalists, well-respected scientific determinists such as Rice, Binet, Cattell, and Thorndike influenced the field of content area reading by noting empirical research as the most valuable process for educational decision making (Moore, et al., 1983). Within this school of thought, new standardized reading tests were developed requiring students to comprehend text without prior knowledge or direct instruction of text content. Results from these tests showed students need help to learn how to read independently to gain meaning. Thorndike suggested that readers should have a purpose for reading and he supported silent reading with questions to guide the reader to replace oral reading (Thorndike, 1917). Influences from Thorndike’s recommendation are commonly used today in teaching reading in subject areas. Additional support for content area reading instruction was offered by the scientific determinists’ studies showing a positive correlation between reading achievement and overall school achievement (Moore et al., 1983). Researchers such as Smith (1919) and Wagner (1938) compared students’ reading ability and grade-level achievement and concluded that reading ability is a predictor of academic achievement. This continues to support the beliefs of the three key researchers who first suggested that content area reading instruction is key to students’ success in content area courses in the early 1900s (Moore, et al, 1983).

Influential Reading Educators

Three key researchers in the early 1900s played a dominant role in establishing content area reading instruction as a distinct professional area of study: William S. Gray at the University of Chicago, Ernest Horn at the University of Iowa, and Arthur I. Gates at Columbia University (Moore, et al, 1983). As the predominant researcher in the field
of content area reading, Gray published numerous works about content area reading instruction, including a seminal study of research on vocabulary (Gray, 1927). Gray is best known for the phrase, “Every teacher a teacher a reading” which advocates for reading instruction in all grades and subjects. During the early 1920s, as the chair of the National Committee on Reading, a group within the National Society for the Study of Education (NSSE), Gray issued two yearbooks still considered to be the most influential regarding content area reading instruction (Whipple, 1925, 1937). The 24th NSSE Yearbook emphasized specific reading skills that are needed to read to learn in content areas courses. The skills outlined included how to locate answers to specific questions, follow directions, find key ideas, and how emphasized retention of the information (Whipple, 1925). In 1937, the 36th NSSE Yearbook called for all teachers to include reading instruction as part of their course curriculum (Whipple, 1937). This report clearly distinguished reading for enjoyment or recreation from task related reading and provided guidelines and model lessons for teachers to use when helping students attain the necessary skills to self-question, identify key vocabulary, and construct notes as they read for information.

Studies by Ernest Horn, another key figure in establishing and developing content area reading instruction, offered ways teachers could enhance learning from content area texts (Germane, 1921; Yoakam, 1922) and advocated for accommodating individual differences (Horn, 1937). McKee and Yoakam, who were students of Horn, continued to define his work which helped to establish the field of content area reading (McKee, 1948; Yoakam, 1922). McKee (1934, 1948) authored content area reading textbooks and provided rationale for reading to learn strategies while Yoakam’s studies of reading
examined the importance of review and evaluation of readers recall. Arthur I. Gates (1917) and his colleagues studied various aspects of learning from text, but Gates’ landmark study on meaning retention contributed to the field of content area reading by providing support for teaching reading across the curriculum. Research continued to flourish in the field of content area reading during the early 1900s, with increased attention to specific issues such as (a) locus of instruction, (b) various reading demands of individual subject areas, (c) study strategies, (d) appropriate reading material, and (e) attention to addressing age appropriateness of text including remediation programs (Moore, et al., 1983). These issues are still commonly found in topics and debates in reading research.

Prior to the 1940s and 1950s, reading was described from the behaviorist-reductionist viewpoint as a process that combined perception of written symbols (letters, words) and the ability to translate those symbols into oral language (Alexander & Fox, 2004). Reading was taught in a mechanical manner that focused primarily on memorization of letters, words, and the corresponding sounds. The paring of symbols and sounds were practiced until the translation from written word to spoken word was accomplished (Betts, 1959, 1967). Interest in content area reading continued during this period, however, content area reading became more associated with the upper grades, focusing on use as a means of providing remediation to secondary and postsecondary level students. Guy Bond and Eva Bond (1941) authored one of the first textbooks addressing reading at the high school level. In their book, Developmental Reading in High School, justification for teaching of reading skills in every subject was outlined
along with the responsibilities of school personnel in assuring the success of such a reading program (Moore et al., 1983).

Betts (1959, 1967), as one of the early researchers in reading methodology, compared reading to thinking and encouraged teachers to plan direct instruction that is designed to guide students as they think about reading in terms of word meaning, text structure analysis, and purposeful questioning. He emphasized the need for teachers to recognize students’ individual needs and developmental levels which aligned with the beliefs of the early researchers in the field of content area reading (Moore et al., 1983). In the early 1960s, professionals continued to advocate for improved reading abilities for older readers. A common reading strategy, rapid reading training, was used in hopes of improving comprehension by increasing reading rate. This behaviorist type methodology did not prove to be successful in helping secondary students increase reading comprehension to the degree expected (Holmes, 1962; Spache, 1958, 1962). Strang (1961, 1967) suggested that a variety of thinking strategies are needed to help readers comprehend various types of text. Strang (1967) suggested the type of strategies needed to help students comprehend various types of text depends on the type of text and the purpose or task assigned with reading the text which is highly aligned with the views of Gray presented in 1939. It was the earlier work of Bond and Bond (1941) and Strang (1937, 1938, 1962) which helped to establish professional awareness of the need to provide reading instruction on the secondary level and to integrate it with subject matter instruction.
A Shift in Research Focus to Support Strategies

During the past thirty years research in the field of content area reading has flooded educational journals with studies of strategies used to help readers comprehend expository text (Kletzien, 1991; Weaver & Kintsch, 1991). An analysis of this literature shows the primary instructional basis for using reading strategies in the content area were initially supported by the work of Bartlett’s schema-interactive theory. During the 1930s, Bartlett found readers without prior knowledge of the content in which they are reading will attempt to force information from the text to fit within the confines of their existing knowledge or schema (Barlett, 1932). Bartlett labeled preexisting knowledge as schema and used the term to provide an explanation of how information stored in the brain can be integrated into knowledge with repeated use. Perfitti (1975) and Rumelhart (1976) expanded on the initial work of schema theory by exploring the interaction between reader and text in the construction or interpretation of meaning. Rosenblatt (1978) extended the ideas of Bartlett, Perfitti, and Rumelhart by arguing that the reader-text interaction, and not the text alone, is crucial in comprehension. Smith (1994) gives the interaction between the reader and the text as the ability of the reader to construct "a theory of the world" (1994, p. 183).

Weaver and Kintsch (1991) suggest the goal of reading expository text is to learn from text, not comprehension or text recall. Instruction specifically designed to help students learn from text found in subject areas is defined by Gee, Olson, & Forester (1989) as content area reading instruction. Research indicates that knowledge of expository text affects the amount of information that is remembered by a reader (McGee & Richgels, 1985). Consequently, familiarity with the text structure or organizational
framework of content area text affects comprehension (Barlett, 1978, McNeil, 1992; Meyer, Brandt, & Bluth, 1980; Weaver & Kintsch, 1991). According to Armbruster and Anderson (1981), content area reading may be classified into five major categories; (a) cause and effect, (b) comparison-contrast, (c) problem and solution, (d) time order, and (e) simple listing. As readers study different subjects and materials for distinct purposes, they require various reading strategies to comprehend text (Moore, Readence, & Rickelman, 1983). Because each discipline has content specific terminology which may not transfer from across disciplines, it is critical for teachers to be familiar with a variety of appropriate content area reading strategies if they are to teach students how to gain meaning from text within their specific discipline (Fisher & Ivey, 2005; Moore et al., 1983; O’Brien, Stewart, & Moje, 1995)

Summary of the Development of Content Area Reading Instruction

Many instructional theories and practices about content area learning have emerged over the past 60 years (Bond & Bond, 1941; Gray, 1948; Moore, et al., 1983) with a significant increase in research and related policies since the 1970s. With the integration of content area reading strategies into content area courses in the 1980s, research has documented an increase in student learning and confidence in content area teachers (Alvermann & Swafford, 1989; Bean, Singer, & Frazee, 1986; Conley, 1986; Pearce & Bader, 1986). The integration of reading instruction and the use content area reading strategies is critical in content area classes because a large portion of instruction requires students to understand and learn from what is read, including textbooks (Woodward & Elliot, 1990).
Teaching Reading in Content Areas

Textbooks are considered an essential classroom tool (Wakefield, 2006). Content area teachers commonly view the textbook as a blueprint, serving as an efficient information resource and a guide for teachers and students (Vacca & Vacca, 2008). While textbooks continue to dominate classroom activities in the United States (Wakefield, 2006), experts have identified four common concerns with textbooks: (a) the text is often confusing due to a lack of clear organization, (b) they contain inaccurate information, (c) the readability levels are above the intended grade level in which they are designed, and (d) the presentation of the text is unappealing to students. As students progress in grade levels, the syntax of encountered in textbooks becomes more complex and demanding (Fang, 2008). Cognitive reasoning about information in texts also shifts, with a greater emphasis on inferential thinking and prior knowledge (Christie, 1998; Yore, 2004). The vocabulary encountered in textbooks is less conversational and less familiar to students, containing more specialized technical terms connected to abstract concepts (Allington, 2002).

Types of Texts Used

Content area teachers assume textbooks are necessary for teaching and learning content (Wade & Moje, 2000). The adoption of class sets of textbooks are a universal feature found in most secondary and postsecondary classrooms in the United States (Alvermann & Moore, 1996; Tyson & Woodward, 1989; Wakefield, 2006). Chall (1983) noted the demands of reading increase dramatically for students in fourth grade as learning begins to rely more on textbooks. For a long time, textbooks have dominated pedagogy and materials within American classrooms (Wakefield, 2006). Research
estimates students spend as much as 75 percent of classroom instructional time and 90 percent of homework time using textbook material (Woodward & Elliot, 1991), and the use of textbooks increases as student’s progress in school (Goodlad, 1990; Wakefield, 2006). Critics of the textbook usage surfaced in the 1980s citing the use of textbooks as instructionally ineffective and targeted them as a major reason for students’ failure to learn (Tyson & Woodward, 1989). Poor writing quality, text structure and readability levels are potential problems thought to influence student’s ability to read and comprehend information from content area textbooks (Estes, 1982; Herber, 1970). Content area textbooks are written using expository text structures. Expository text structures are much different than the narrative text structures commonly used in basal readers or story books that are used to teach students to learn in the early elementary grade levels (Chall, 1983; Vacca & Vacca, 2008).

**Narrative and Expository Texts**

The purpose of narrative text is to entertain, tell a story, or provide an aesthetic literacy experience (Roe, Stoodt-Hill, & Burns, 2007). Narrative text is commonly found in elementary classrooms where students initially learn to read and develop fluency through reading narrative structures and themes, which are similar to the dialogue experienced in daily life (Sanacore, 1991). Text structures found in narrative text are episodic in nature, such as setting-situation-resolution commonly referred to as story grammar or causal-event chains (Weaver & Kintsch, 1991). The text is generally based on life experiences and is people-oriented using dialogue and story language more familiar to young students (Tonjes, Wolpow, & Zintz, 1999).
Reading research related to content area reading has continued to grow over the past 30 years, focusing primarily on expository text, reading strategies, and textbook readability (Smith & Feathers, 1983a, 1983b) mostly at the secondary level (Moore, Readence, & Rickelman, 1983). Reading within content areas focuses upon expository or informative text which is designed to teach knowledge of a specific discipline or area of study (McKenna & Robinson, 1990). Expository text is much different from narrative text in which students are generally exposed to in elementary school as they learn to read (Fang, 2008).

Expository text includes multiple types of genres and various types of text used to inform, explain, describe, present information or to persuade (Duke & Bennett-Armistead, 2003; Reutzel & Cooter, 2007; Weaver & Kintsch, 1991). Expository text patterns may include classification, illustration, comparison and contrast, and procedural descriptions which differ from narrative text on the level of rhetorical structure. Textbooks, trade books, Internet sites, newspapers, journals, and science lab manuals are commonly written using expository text structure and are associated with providing content information in subject area courses. The sentence structures and specialized vocabulary found in expository text are much different from the story line sentence structure and more familiar vocabulary found in narrative text reading (Harp, 1989). Students are expected to read and comprehend increasing amounts of expository text in content areas as they move into upper elementary and secondary school (Greg & Sekeres, 2006). Academically, nothing is more important than a students' ability to read and write using expository text structures. Not only does the majority of content taught in upper elementary, middle school, and high school require students to read to learn and to
express their understandings in writing, but fifty to eighty percent of reading passages on standardized tests are expository which could significantly impact a students' ability to advance in grade levels and to enter college programs (Calkins, Montgomery, Santman, & Falk, 1998; Daniels, 2002; Kamil, 2004). Venezky (2000) suggests the demand for reading informational texts to gain meaning continues throughout adulthood. One possible solution for preparing students to handle the increasing amounts of expository text in upper elementary and secondary schools may be to include early exposure and instruction in basal reader textbooks in early elementary school (Moss, 2005).

Elementary students are taught to read in the early grade levels of school. Basal readers, made up of primarily narrative text structures are the primary resource for reading instruction as students are taught to read. Flood and Lapp (1987) studied eight basal readers and reported these texts are mostly comprised of narratives and poems, citing 72% of the pages were story grammar or causal-event chains. The researchers found expository and nonfiction selections to be rare in basal readers. Two earlier studies concurred with the findings of Flood and Lapp (1987) citing 90% of basal selections are stories (Durkin, 1981; Olsen & Dillner, 1976). Because reading instruction in early elementary school is rarely offered outside of basal instruction, it was suggested that young readers lack of opportunities for learning to read expository text (Flood & Lapp, 1987).

The guidelines presented in the 2009 *National Assessment of Educational Progress* (NAEP) recommend students to be exposed to increasing amounts of expository text (50% at the fourth grade level, 55% at the eighth grade level and 70% at the twelfth grade level) as they progress through the grade levels (American Institutes for Research,
Extending the work of Flood and Lapp (1987), Moss (2008) collected data from two basal readers to compare the percentage of text genres represented with these NAEP recommendations. Moss (2008) found 40% of the pages within the two basal readers at the primary level were devoted to non-narrative text, showing an increase from earlier studies by Flood and Lapp (1987). However, each of the basal readers fell short of the recommendations of the 2009 NAEP.

Textbooks in content areas such as math, social studies, and science are written in expository text structure, which is different from narrative text structure. These structural differences may lead to difficulties for secondary students, who not only must learn more sophisticated content, concepts, and vocabulary, but also deal with unfamiliar organizational structures in textbooks. For many students, unless expository text structures are explicitly taught, they will struggle with expository textbooks (Fang, 2008). Not only are the structures more sophisticated, but the reading level of the text is often above grade level material (Allington, 2002; Chall & Conrad, 1991). The differences between expository and narrative text and the degree to which textbook use increases as students progress in school requires a special type of reading instruction (Fisher, 2001; Fry, 1981; Roe, Stoodt-Holl & Burns, 2007).

Despite research disputing the central role textbooks should play in classroom instruction (Wakefield, 2006) textbooks continue to play a primary role in teaching and learning. As students move from reading primarily narrative text in basal readers to more complex expository text in content area textbooks, they struggle to maintain proficiency in their reading ability (Moss, 2005). This is evidenced not only through the research, but is also demonstrated in the decline in reading scores as students progress beyond the
fourth grade (American Institutes for Research, 2008). Because of this, preparation of future content area teachers must include strategies to effectively teach reading in content areas (Vacca & Vacca, 2008).

Most research in content area literacy has been at the secondary level, but as the field of content area literacy continues to evolve, researchers in the field have directed their attention to the importance of encouraging content area instruction to start in the earlier grade levels (Alvermann, Swafford, & Montero, 2004). Chall and Jacobs (1983) identified a sudden drop reading ability of fourth grade students as they progressed from reading narrative text while learning to read in early elementary school to reading to learn using expository or informational text. This phenomenon is commonly referred to as the fourth grade slump (Chall & Jacobs, 1983). Researchers have offered many explanations as to why this slump occurs including: (a) reading and curriculum tasks change between third and fourth grade, (b) reading assessment instruments change from an emphasis in decoding to comprehending expository text, and (c) reading difficulties may surface for the first time in fourth grade as students begin to encounter informational text (Snow, Burns, & Griffin, 1998). Early and continued exposure to expository text (Duke & Bennett-Armistead, 2003) and professional development for teachers which includes instruction on how to use expository text strategies to an increase their students’ abilities to read and gain meaning from subject area material is critical for helping students to avoid the fourth grade slump (Franklin, Roach, Clary, & Ley, 1992).

For students to successfully master information in the content areas, content area teachers must adopt a reading teacher stance as well as a content teacher perspective (Hall, 2005). This idea of is not a new one as Herber’s (1970), *Teaching Reading in the*
**Content Areas**, emphasized the importance of teachers’ decision making and provided the first content area method’s textbook to offer methodology for teaching content and the reading process simultaneously. Darling-Hammond and Baratz-Snowden (2005) in their book *A Good Teacher in Every Classroom*, argue that there is more to teaching than simply having the knowledge of content. Effective instruction in content area reading, which is required for students to successfully master the content across the curriculum, is organized around the teacher’s ability to assess and develop students’ background or prior knowledge in conjunction with actively engaging students in text-related activities (Vacca & Vacca, 2008).

Reading researchers suggest teachers can help to increase the likelihood that students will read and comprehend content area texts by creating an environment which fosters active and independent reading. Weaver (1988) offered three key strategies that can create an environment that promotes active reading in content area courses: (a) motivate readers by piquing students interest before they read, (b) use authentic classroom activities which allow for real life connections, and (c) most importantly, actively teach appropriate content area reading strategies using content area text. To increase interest and motivation before teaching or reading content area material, teachers should create opportunities for students to develop background knowledge by using field trips, DVD’s, trade books, interviews, speakers, popular news media and physical artifacts. As teachers prepare instruction, content area reading text can be used a resource and as part of the problem solving methodology to help students make meaningful connections between the text and content knowledge. Content area reading strategies should be taught as students read content area texts and teachers should help them deal
with the challenges as they arise. Research on cognition and memory suggest content area reading strategies should not be taught in isolation, but should be seamlessly integrated into content instruction (Rawson & Kintsch, 2002).

*Teachers' Attitudes Towards Content Area Reading Instruction*

Teacher attitudes are one of the key variables in the educational process, influencing the acquisition and mastery of reading skills that are necessary for academic success of students in content area classes (Adams & Martray, 1981; McDonald, 1971; Slinger, 1981). Researchers acknowledge the importance of instructional methods and teaching materials, but ultimately the teacher is responsible for creating a positive environment which supports teaching reading in content area courses (Gehrke et al., 1982; Smith & Otto, 1969). According to Gillespie and Rasinski (1989) early research which explored content area teachers' attitudes and practices toward teaching reading in content areas led to a increased interest in content area reading instruction. Research on teachers' attitudes toward teaching reading in content areas can be divided into three major classifications: (a) teachers attitudes only, (b) attitudes and instruction practice, and (c) the impact of taking a single content area reading courses or professional development workshop.

*Measuring Content Area Teachers' Attitudes.* In the late 1960s and the early part of the 1970s, researchers in the field of content area reading begin to investigates content area teachers’ attitudes toward teaching reading (Braam & Walker, 1973; Olson, 1969; Otto, 1969). These instruments were limited to face validity and lacked evidence of construct validity for measuring affective factors that may influence teachers’ attitudes toward reading in content areas. In response to the need for an instrument to assess
teachers’ attitudes toward reading in content area classes and to help alleviate the reading problems in secondary schools, Vaughan (1977) developed the *Vaughan Attitude scale*. The instrument consists of fifteen prompts about incorporating reading instruction into content area classes. Teachers responded to the prompts based upon their beliefs using a seven-point Likert scale (strongly agree, agree, tend to agree, neutral, tend to disagree, disagree, and strongly disagree). Findings from this study provided clear evidence that the Vaughan Attitude scale is reliable and valid in assessing attitudes of reading professionals and content area teachers and the instrument.

O'Rourke (1980) explored the attitudes of junior and senior high school content area teachers across the content areas including English, math, science, and social studies using the Vaughan Attitude Scale (Vaughan, 1977) questionnaire. The study included 329 junior and senior high school teachers. Results from the study suggest attitudes among junior and senior high teachers were similar, but significant differences were found among the various content areas studied. Of the four types of teachers included in the study, English teachers were noted as having the most positive attitude towards reading instruction. Positive attitudes towards teaching reading for English teachers was attributed to curriculum requirements which required English teacher candidates to take a course in content area reading instruction unlike math, science and social studies teacher candidates who were not required to take the course. Results from this study led O'Rourke to recommend to the state of Nebraska that a course in content area reading be required for all secondary teacher candidates (O'Rourke, 1980).

Flanagan (1975) studied the relationship between teachers’ attitudes and their perception of competency in teaching content area reading by using the *Chin Inventory*
on Content Area Reading Instruction (Chin, 1975). This instrument is one of the earliest measures of secondary teachers' attitudes toward content area reading which measured 27 skills competences related to reading instruction. Chin (1975) created the instrument with a dual purpose. First, to measure secondary teachers' attitudes toward content area reading and second to measure self-perceptions about competence in teaching content area reading skills. Flanagan's (1975) initial research indicated positive attitudes of teachers towards content area reading as a major factor which influenced their perceptions of competency. This study suggested that teachers with more training and experience teaching reported higher perceptions of competency. The results of this study may be skewed, however, as the state of Oregon, where the study was conducted required all secondary teachers to compete a course in content area reading for licensure beginning in 1973 (Farrell & Cirrincione, 1984).

Historically, content area reading instruction has not been the focus of reading instruction in elementary school. Reading research that investigates teaching reading in content areas in elementary school and the attitudes of elementary teachers toward teaching reading in content areas is limited (Grierson & Daniel, 1995; Moss, 2005). Unlike earlier studies (Flanagan, 1975; O'Rourke, 1980; Vaughan, 1977) describing secondary teachers' attitudes toward teaching content area reading, Grierson and Daniel (1995) examined the attitudes and theoretical orientations of early elementary teachers. Their study included a broad range of educators with varying years of experience and expertise in the field of reading. The study included 55 educators separated into three groups: preservice teachers, inservice teachers, and content area experts which included university professors. The purpose of the study was to develop a self-reporting
instrument to classify respondents with similar attitudes or theoretical orientations toward teaching reading in primary elementary grades. The resulting instrument entitled *Attitudes Toward Content Area Reading* (ATCAR) contained 30 statement reflecting beliefs about teaching content area reading (Grierson & Daniel, 1995). This study used the Q-Sort technique to place participants responses into categories in which the researchers refer to as factors rated on a five-point Likert-scale response to each of the 30 statements. Three distinct factors emerged from the data. The first factor cited participants as strongly agreeing with the idea that every teacher should be a teacher of reading and that reading instruction should be included in all subject areas. Factor two grouped respondents who disagreed that content area reading should be assigned for a purpose. Educators grouped in the third and final factor strongly agreed with the integration of reading strategies into content area instruction for the purpose of increasing comprehension. But surprisingly, this group did not support reading instruction that includes both expository and narrative text (Grierson & Daniel, 1995). These findings suggest early elementary educators have distinguishable and conflicting attitudes about the role of content area reading during the early years of elementary school which supports previous claims by Moore, Readence, and Rickelman (1983) that content area reading has traditionally not been viewed as a focus of early elementary school curriculum.

*Content Area Teachers’ Attitudes and Instructional Practices.* Positive attitudes towards reading instruction in the content areas do not guarantee students will receive appropriate and effective reading instruction in subject area classes across the curriculum (Olson, 1969). This led to research examining teachers’ attitudes and instructional
practices. Olson (1969) made inferences about teachers’ attitudes from his instrument which included a list of twenty practices related to reading. Teachers from seven content areas were included in the study. Of the list of twenty prompts asking teachers to respond concerning their practices within their classroom, one item on the list resulted in an overall negative response. The item asked teachers if they offer an alternative text to students who are unable to read the regular text within their classroom. The responses to this statement suggest that the teachers included in the current study did not offer or favor the offering of an alternative text. The results from this study led the Olson to conclude that content area teachers believe they are teaching content area reading by the use of appropriate text readability, skills and designing instruction to meet the need of individuals (Gillespie & Rasinski, 1989). Olson (1969) further concluded from the favorable responses that content area teachers have a positive attitude towards teaching content area reading.

_Influence of Content Area Reading Instruction on the Attitudes of Content Area Teachers._ Research suggests one possible way to improve content area teachers’ attitudes towards teaching reading in content area courses and to increase the likelihood that they will incorporate reading instruction into their instructional practices is to equip them with the skills and tools necessary for the task (Gillespie & Rasinski, 1989). Otto (1969) conducted the first study specifically relating teachers’ attitudes to their instruction practices. Otto developed an instrument to assess how teacher attitudes and practices are related and is known as the _Attitudes Towards Teaching Reading in the Content Areas Scale_ (Otto, 1969). The instrument is made up of fourteen items, stated equally as positive and negative statements. Respondents are asked to respond to the items on a
five-point Likert-type scale with choices ranging from strongly agree to strongly disagree. The items were constructed to allow identification of teachers’ perceptions of: (a) their role as a teacher of reading in content areas, (b) the role of high school reading specialist, (c) how prepared they felt to teach reading, and (d) the instructional reading skills associated with teaching reading in content areas. It is important to note that each item listed on the questionnaire explicitly stated the word reading (Otto, 1969). The study revealed that 39% of junior high and 66% of high school teachers believed that students should know how to read before leaving elementary school and only 48% of high school teachers view themselves as teachers of reading contrary to 71% of junior high school teachers. These finding suggest that teachers who teach higher grade levels tend to not view themselves as responsible for teaching reading with their content area classes. However, significant findings from Otto’s studies indicate that content area teachers are willing to learn the skills necessary to teach reading in their content areas, but need more training. Among other conclusions from the studies, results indicated: (a) teaching reading is necessary for all subject areas; (b) it is possible to incorporate reading instruction into instructional objectives in content area courses; and (c) content area reading instruction can be a positive experience (Otto, 1969).

Singer (1979) modified Otto’s (1969) Attitudes Towards Teaching Reading in the Content Areas Scale believing that content area teachers resistance and negative attitudes toward teaching reading in content areas in Otto’s 1969 studies were influenced by the phrase “teaching reading in the content area” which was changed to read "learning from text". Administering the original instrument and the modified instrument to novice and experienced teachers, the newly created Singer-Otto-Smith instrument resulted in a more
favorable attitude from both groups. The findings from this study may suggest content area teachers have a limited understanding of the reading process and would benefit from instruction in content area reading (Singer, 1979).

Several studies emerged in the 1970s and 1980s evaluating ongoing instruction in content area reading. Dupusi, Askov, and Lee (1979) examined the effects of the Content Area Reading Project, a year-long model inservice program. This study included junior high teachers who met for 15 bimonthly meetings, each lasting three hours. The inservice program included four key components: (1) field-based instruction presented by university faculty twice a month, (2) continuous support between meetings, (3) instruction using materials to present concepts followed by training in how to design, develop, and implement the materials in content area courses, and (4) the teachers serving as positive role models by providing encouragement and training to other teachers in hopes they would also adopt the content area reading instruction techniques. As a result of this year-long inservice program, junior high content area teachers' attitudes toward and knowledge of integrating reading skills into their teaching changed significantly (Gillespie & Rasinski, 1989). Teachers seem willing to learn how to incorporate reading instruction into content areas, if provided adequate training and mentorship. They were also willing and able to transfer the knowledge into instructional practices within their classroom.

Attitudes of secondary education majors were said to be negative and hostile after the state of New Jersey began requiring all secondary teachers to take a two three-semester hour reading course. Welle (1981) used the Vaughan Attitude scale (Vaughan, 1977) to survey 64 of the secondary education majors enrolled in the first content area
reading course at the beginning of the semester to determine if the reports were accurate. At the end of the semester, students were asked to complete the Vaughan Attitude scale again. Results from this study indicate content area teachers' attitudes shifted to a more positive attitude after completing a course in content area reading which led to a increased usage of content area reading methodologies (Welle, 1981). Similar studies have helped to establish the need for content area reading instruction for secondary preservice and inservice (Gillespie & Rasinski, 1989).

To further confirm the results of previous studies which were conducted in short period of time, Stieglitz (1983) conducted a four-year study evaluating the long term implications of inservice training on teachers’ attitudes and practices in content area courses. The conclusions of Stieglitz's study supported the previous research showing that teacher attitudes (including elementary teachers, reading specialist, content area instructors, and special education teachers) do improve with instruction. As a result of the course, teachers in content areas reported that they were more likely to implement the instructional strategies they learned. The conclusion reached at the end of this study that teachers who hold a positive attitude toward teaching content area reading instruction at the end of intense training maintain their positive and continue to implement reading instruction into the content area courses they teach is very significant to the field of content area literacy.

Teachers Perceptions of Content Area Reading Strategies

Many content area reading strategies are based upon the early work of Bartlett who first used the term schema to explain how information is stored in the mind and can be incorporated into knowledge with repeated use (Bartlett, 1932). According to schema
theory, reading involves a simultaneous analysis at many different levels as the reader constructs a new theory of the world (Perfitti, 1975; Rumelhart, 1976). Anderson (1978), suggested that readers' schema, commonly known as prior knowledge, affects both learning and remembering of the information and ideas found within a text.

The primary purpose for reading content area texts is to acquire and retain information (Vacca & Vacca, 2008; Weaver & Kintsch, 1991). Students reading abilities increase when teachers view reading in content areas as a form of communication and they incorporate research-based reading strategies into content area instruction (Readence, Baldwin, & Dishner, 1980). According to Readence, Bean, and Baldwin (1992), five developmental states are needed for students to successfully learn and communicate information in content area texts: (1) awareness of strategies, (b) knowledge, (c) simulation or modeling, (d) practice, and (5) incorporation. Each content area has content specific terminology which may not transfer from one discipline to another. It is critical that content area teachers are familiar with content area reading strategies, their functions, and their uses in order to effectively teach the content within their discipline. A review of the literature resulted in only a few studies which looked at teachers' familiarity with specific content area reading strategies. A discussion of the studies found follows.

*Teachers' Familiarity with and use of Content Area Reading Strategies*

Howe, Grierson, and Richmond (1995) compared early elementary teachers' knowledge and use of forty-four most commonly cited content area reading strategies identified in reading research. The researchers developed the *Content Areas Reading Strategy* (CARS) instrument to explore the extent to which primary grade level teachers
reported familiarity, use, and perceived applicability of content area reading strategies. While teachers said they were familiar with content area reading strategies, they were unfamiliar with many of the particular strategies listed on the CARS instrument which were selected based on recommendations from current literature. Further, the teachers most commonly reported using general reading strategies, such as writing in journals with content area reading, instead of using advanced organizers which are purposefully designed to help students read content area text. Teachers who had five years or less experience teaching, and teachers who had taken graduate courses in content area reading were found to be more familiar with specific reading strategies and reported higher frequencies of use and applicability of content area reading strategies. The findings from this study support the requirement for all prospective teachers to take a content area reading course as a part of the teacher education program and for current classroom teachers who are not properly trained to enroll in graduate content area reading courses or professional development courses to learn how to effectively integration reading within their classrooms.

Bennett (2003) using the Metacognitive Awareness of Reading Strategies Inventory (M.A.R.S.I.) surveyed middle school students and their content area teachers to determine if content area teachers are familiar with content area reading strategies and if they use them as part of their instruction. The instrument consisted of 20 statements about how people approach reading academic or school-related materials such as textbooks. Measuring students’ and teachers’ familiarity with and knowledge of active reading strategies, Bennett (2003) concluded that, while most content area teachers acknowledge their personal reliance on reading strategies to gain meaning from text,
most of their students did not. Making teachers aware of the discrepancy between their personal knowledge and use of reading strategies may be a useful catalyst to encourage content area teachers to incorporate reading instruction into their subject area courses. Awareness of content area reading strategies alone does not ensure teachers will incorporate them into their instruction. Research suggests that teachers’ beliefs play a key role in influencing instruction within their classrooms (Buchmann, 1987).

*Teachers' Perceived Applicability of Content Area Reading Strategies.*

Buchmann (1987) suggests the beliefs of content area teachers strongly influence what they teach and how they teach it. While it is presumed that content area teachers have a depth of knowledge about the subject(s) they teach, they may have varying beliefs about what it means to be a teacher (Lortie, 1975; O'Brien & Stewart, 1990), how students learn (Pajares, 1992), and the appropriateness of incorporating content area reading. Despite the types and extent of teachers’ content knowledge and knowledge about incorporating reading into content area instruction, it is their beliefs that are more likely to influence their perceived applicability of content area reading strategies and their actions in the classroom (Ernest, 1989; Brown & Cooney, 1982).

*Resistance to Content Area Reading Instruction*

Gray's proposal that every content teacher should be a teacher of reading was intended to get the attention of content area teachers in hopes they would assume responsibility for helping students within their subject areas to read to learn (O'Brien & Stewart, 1990). However, the popularized slogan sparked a resistance by content area teachers which has led to many studies seeking to understand this phenomenon. Research in this area has concluded that preservice and inservice teachers are resistant for
a number of reasons: (a) they have doubts that special training in reading will improve
their teaching (Bean & Readence, 1989; Vacca & Vacca, 2008), (b) they are not certain
that reading is the appropriate instructional strategy for learning within their discipline
(Schallert & Roser, 1989), (c) they lack a clear understanding about the purposes and
goals of content area reading instruction (Readence, Bean, & Baldwin, 1992), (d) many
view reading instruction as an added instructional burden and often view reading as a
basic skill in which students should have mastered in the primary grades, and (e) some
disciplines view the use of textbooks negatively (Davey, 1988; Sewall, 1988). But, most
of all, content area teachers have a loyalty to their subject area content and consider their
majority responsibility covering the content (Vacca & Vacca, 2008).

Summary of Teaching Reading in Content Areas

Despite research which supports the use of content area reading strategies, many
content area teachers remain resistant to incorporating content area reading instruction
into course instruction (Bennett, 2003; Howe, Grierson, & Richmond, 1995; Vacca &
Vacca, 2008). Studies have shown that even when teachers are knowledgeable and use
specific content area reading strategies personally, they fail to see the need to teach them
to their students (Bennett, 2003). However, Howe, Grierson, and Richmond (1995)
found that teachers with less teaching experience and teachers who completed a graduate
level course in content area reading were more familiar with specific reading strategies
and reported higher frequencies of use and applicability of content area reading
strategies. While teachers are most influenced by their personal beliefs, Bennett (2003),
suggest that making teachers more aware of the discrepancy between their personal
knowledge and use of content area reading strategies might be useful in changing
teachers beliefs about teaching content area reading strategies. Teachers teach what they value which is based upon their personal beliefs and content area reading courses within teacher education programs can help teachers to see the value in using content area reading strategies personally and professionally (Bennett, 2003). Because decisions about what to teach and how to teach is based upon teachers values and personal beliefs, teacher education programs play a vital role in helping preservice teachers to gain the knowledge and deeper understanding of the usefulness of content area readings strategies.

Teacher Education

Historically and still today, the goal of teacher education programs is to provide prospective teachers with the knowledge, skills, and dispositions needed to become effective educators. Quality teachers are typically described as possessing some common characteristics described by Cobb (1999) as: “pedagogical knowledge, subject area content knowledge, skills and attitudes necessary for effective teaching, strong understanding of human growth and child development, effective communication skills, strong sense of ethics, and capacity for renewal and ongoing learning” (p. 1). Professional standards set by nationally-recognized professional organizations characterize teachers as committed to students and their learning, knowledgeable about content and appropriate instructional practices, able to monitor and facilitate student learning, capable of reflective practitioners, and willing to become members of professional learning communities (Feiman-Nemer & Remillard, 1995). While many of these attributes are intrinsic, others are developed and refined during teacher education programs and experience within authentic classroom settings. Included in the curricula of teacher education programs are a broad variety of foundational general studies courses,
teacher education courses, and a practical component commonly referred to as field experience (Feiman-Nemser & Remillard, 1995). Field experiences provide prospective teachers with the opportunity to acquire the necessary knowledge, skills, and dispositions to become competent effective educators by allowing them to connect theoretical knowledge with practical teaching applications in authentic classroom settings (Ganser, 1996; Hyman, 1990a, 1990b).

As early as the mid-1800s, Cruickshank and Armaline (1986) suggested that evidence can be found to support the constructivist notion that pre-service teachers benefit from opportunities to practice teaching which includes supervision and feedback from more experienced mentors. In present day teacher education programs practice teaching has evolved to what is referred to as field experience. The significance of field experiences lies within its relation to improving teaching practices which is presumed to improve education within schools (Cruickshank & Armaline, 1996).

Field Experiences

Field experiences within teacher education programs are designed to allow preservice teachers to connect theoretical knowledge learned during coursework with practical teaching applications in the social context of classroom settings (Ganser, 1996; Hyman, 1990b). According to Posner (2000) all field experiences include four common features of teaching: the teacher, the learner, the content to be taught, and a social and physical context. In the United States, field experiences are almost a universal requirement for teacher education programs. In 1981, Ishler and Kay found that ninety-five percent of all institutions preparing teachers require early field experiences. In a survey including over 1,200 institutions Heald (1983) reported a substantial amount of
time during teacher education programs are devoted to field experiences. More specifically, he reported most prospective teachers are required to complete an average of 30 hours of field experience before admission to formal admission into teacher education programs, 50-100 hours before student teaching, and as many as 300 hours during student teaching (which is also called teacher candidacy).

Educational researchers and practitioners agree that field experience is the only opportunity for prospective teachers to integrate theory and practice while at the same time providing them exposure to diversity in today’s classrooms (Bradley, 1991). Field experience is often viewed as a crucial transition where future teachers can find a variety of pedagogical and instructional strategies in use (Meade, 1991). Field-based settings are the proper place to develop the required knowledge, skills, and dispositions needed by classroom teachers to effectively impact student learning (Quinn, 1986). Rooze (1986) also agreed field experiences allowed prospective teachers to have the opportunity to observe and practice instructional theory in environments that promoted feedback and evaluation. Pivnick and Marshman (1986) found perservice teachers were motivated by their interactions with students and claimed the experience in the classroom helped them to make connections between educational theory and practice. By incorporating early, directed field experiences in teacher education programs, preservice teachers spend time in K-12 classroom settings as observers or assistants to teachers allowing them opportunities to work with children early in their teacher training program. Goodman (1985) believed that through exposure in a variety of classrooms throughout preservice teacher education programs, prospective teachers are given the opportunity to broaden their perspective of education including the potential of teaching and possible problems.
While field experiences are now an accepted, integral, essential, and established part of teacher education programs (Evans, 1986; Gratch, 2002; Meade, 1991; Roos et al., 1993), many educational researchers question the value and use of field experiences during teacher preparation. Some researchers suggest that universities are exposing future teachers to inferior instruction and perpetuating poor models of teaching (Blanton & Moorman, 1985; Evans, 1986; Katz & Cain, 1987; and Zeichner, 1980). This concern is not new; in the early 1900s Dewey (1904) expressed concern for placing preservice teachers in field experiences as they may not be ready to discern sound educational practices from the status quo found in many classrooms. Zeichner (1980) suggest that what prospective teachers learn during field experience is often counterintuitive to what they have learned during their coursework. Further supporting Zeichners notion, Evans (1986) argues that classroom teachers exercise an influence particularly on prospective teachers during early field experiences because they offer the first impression of what normally occurs in classrooms from a different perspective than what they experienced as student in the classroom. Prospective teachers accept the actions of classroom teachers as what is expected of experienced teachers. Consequently, the existence of poor models of teaching can cause generate conflict and resistance for training new teachers to implement practices needed to become effective educators (Evans, 1986).

Ervey (1985) found the influence of cooperative teachers in the field far outweighs the information delivered within coursework at the university. Further, when goals of teacher preparation coursework and experience in the field are contradicting, the efforts of teacher education programs before teacher candidacy are dismissed by prospective teachers. An earlier case study by Blair (1978) found that the conditions
within field experience placements which included the cooperative teachers teaching practices were so overwhelming to prospective teachers that they quickly changed many of their beliefs, values, and previously learned teaching practices related to teaching reading. Based on evidence found in reviewing observational literature, Blanton and Moorman (1985) concluded field experiences for prospective reading teacher as simply helping to support and perpetuate the poor classroom reading instruction which currently exist.

Sociocognitive Model of Reading

Literacy is both cognitively and socioculturally associated with the context in which it occurs (O’Brien, Stewart, and Moje, 1995). Content area classes and the teachers who teach those classes are best suited for teaching the terminology, text structure, and reading strategies appropriate for the particular discipline (Vacca & Vacca, 2008). Gee (2004) supports the sociocognitive perspective which provides an integrated approach to literacy by fusing the work on cognition, language, and social interaction between sociocultures. Meanings of the language within disciplines across the curriculum are connected to an individual’s experience which Gee (2004) suggest are situated in the materials and social context of the classroom. The experience which includes the affective domain as described by Benjamin Bloom (1956) are stored cognitively as dynamic images which are linked together by the perception of the world and emotions. Supporting a theoretical process of reading that adopts multiple perspectives, the sociocognitive model of reading developed by Robert Ruddell and Norman Unrau (1994, 2004), provides a theoretical framework for which to explore teaching and learning content area reading strategies within a more comprehensive
examination of the reader, the text, and the social and emotion context that includes affects of teachers attitudes and beliefs.

The current version of the sociocognitive model of reading was developed over time as the researchers gained more knowledge about the reading process by seeking to understand various perspectives from other disciplines including anthropology, cognitive psychology, sociolinguistics, and literacy theory (Ruddell & Unrau, 2004). This model suggests that content area teachers must assume responsibility for meaning negotiation within the social context of the classroom environment. It also calls for examinations of how the reading process occurs not only from the perspective of the reader, but the teacher as well. The sociocognitive model of reading includes three major components: the reader, text and classroom context, and the teacher (Ruddell & Unrau, 2004). These components are discussed further in the following sections.

*The Reader*

Readers bring personal life experiences as prior beliefs and knowledge into the reading process (Ruddell & Unrau, 2004). Affective and cognitive conditions are two major interrelated components which influence reader’s prior beliefs and knowledge (Rosenblatt, 2004). Affective conditions including motivation, attitude toward reading, and perspectives of the content and sociocultural belief systems directly influence readers’ decisions to engage in the reading process (Many, 1991; Rosenblatt, 2004). The cognitive conditions include three types of knowledge which are stored and organized as schemata. Schemata as described by Rumelhart (1976) are essential to meaning construction process of reading. Declarative, procedural, and conditional knowledge include knowledge of language, word-analysis skills, text strategies, metacognitive skills,
and the social interactions within the classroom. Moving from the major component of prior beliefs and knowledge, the knowledge and control center are described as the heart of knowledge construction where interactions with the reader’s monitoring systems, text representation, and two-way communications from the social context of the classroom connect to produce meaning construction. This model offers a variety of possible representations of outcomes for meaning construction which continues to influence the reader’s decisions about reading (Ruddell & Unrau, 2004).

**The Teacher**

Certain characteristics are common to teachers who influence students academically and in their personal lives (Ruddell, 2004, Ruddell, Draheim, & Barnes, 1990; Ruddell & Harris, 1989). The sociocognitive model of reading conceptualizes the role of the teacher and describes the goal of teaching as modeling and guiding student learning and therefore allowing them to make discoveries while refining their knowledge, skills, and strategies. This model can provide a framework for understanding how teachers make decisions about their own instructional practices.

According to Ruddell (2004), teachers’ prior knowledge and belief systems are influenced by affective and cognitive conditions which are formed from life experiences. Affective conditions are directly impacted by teachers’ beliefs and strongly influence how teachers approach planning and implementing instruction (including the types of strategies they decide to teach). Teachers’ cognitive conditions include three interactive forms of knowledge: declarative, procedural and conditional. In the model, cognitive conditions include knowledge of teaching strategies, metacognitive strategies, and life experiences. Teachers’ knowledge of how readers construct meaning is critical for
planning and implementing reading instruction. This model suggests there is a need to examine teacher attitudes toward teaching content area reading strategies and to conceptualize how teachers’ attitudes and beliefs can serve to motivate engagement of students in content area reading or to influence students to become disengaged from this process (Ruddell & Unrau, 2004).

A second major component of the model examines how teachers use knowledge to make instructional decisions (Ruddell & Unrau, 2004). This component is closely connected to and constantly influenced by prior knowledge and beliefs of teachers. The process begins with the instructional decision-making process, as the teacher establishes the purpose for instruction, plans and organizes instructional materials, and develops appropriate strategies to guide reading instruction. These decisions are strongly influenced by the teachers’ personal feelings and attitudes which are continuously shaped by their personal life experiences and beliefs (Ruddell, 2004).

Instructional representation begins in the mind of the teacher as lessons are developed, organized, and instructional strategies are selected (Ruddell & Unrau, 2004). As instruction is delivered, teachers may need to adjust or make changes. Ruddell and Unrau (2004) refer to the teacher's ability to make necessary adjustments as they teach, as the Executive Monitoring system. This system helps teachers manage, control, and evaluate student learning as instruction moves forward. These systems use metacognitive strategies which to help teachers to evaluate their instructional plan as instruction is delivered (McNair & Joyce, 1979; Ruddell, 2004; Ruddell & Unrau, 2004).

The final major component of the role of the teacher in the model focuses on the outcomes of instructional decision making, with two kinds of outcomes resulting from
instruction. The first outcome is the teacher’s perception of the readers’ understandings; the second is the teacher’s own understandings and insights (Ruddell & Unrau, 2004). Teachers gain critical information during instruction from multiple perspectives including, understandings of the semantic and lexical knowledge readers learn and how the readers' interpretation of text is influenced by the reader's prior beliefs and knowledge. These insights can help teachers to refine and improve future instruction, leading to an increase in students’ ability to read within their classroom (Ruddell & Unrau, 2004).

Text and Classroom Contexts

The text and classroom context, which is the center of the model, is the third major component suggested by Ruddell’s model. This component of the model examines the learning environment to determine how meaning is constructed by readers and suggests that the reading process begins as the reader first interacts with text. This then begins the connection between the reader, the teacher, and the social context of the learning environment. According to Ruddell (2004), teachers must be fully engaged and monitoring students’ understandings during this component, as many processes are taking place all at once.

Summary of the Sociocognitive Model of Reading

The sociocognitive model of reading is aligned with the constructivist perspective of learning. The model seeks to offer an explanation for the reading process within the social context of the classroom involving the reader and the teacher. Ruddell (2004) suggest teachers’ understanding of how to negotiate each of the three major components of the model is essential if teachers are to understand how readers construct meaning.
This model of the reading process as a theoretical framework can assist in explorations of teachers’ attitudes, knowledge, use, and perceived applicability of integrating reading and content area instruction. Teachers are the most critical component in the reading process outlined in the model. Further, teachers are thought to be responsible for creating a learning environment with the appropriate attitudes towards teaching reading, instructional planning, and monitoring to ensure students construct meaning from text within the social environment of their classrooms (Ruddell, 2004).

Summary

As readers study different content areas and materials for distinct purposes, different types of reading strategies are required to comprehend the various types of text. Content area reading instruction is designed to increase students' reading to learn abilities, and to develop skills needed to complete content area course assignments, each of which is similar to the specific tasks required in real-life situations. Despite over a century of research which provides support for the need and use of incorporating content area reading strategies into content area instruction, research continues to suggest that content area teachers remain resistant to the idea of incorporating content area reading instruction into the courses they teach.

This chapter reviewed research literature which included key elements for understanding the interrelated variables which contribute to incorporating reading instruction in content area courses in K-12 across the curriculum. A historical perspective of content area reading illustrated the nature of this study in relation to the evolution of teachers' attitudes, knowledge, use, and perceived applicability of teaching reading in content areas. The discussion of the historical perspective of content area
reading included: (a) explanations of the three distinct schools of thought (humanist, developmentalist, and scientific determinist), (b) the early influential reading educators (Gray, Horn, and Gates), and (c) years of research studies which each provided foundational support for the use of specific reading strategies that are useful in content area courses. To provide further support for reading instruction in content areas, a discussion of the history and continued use of textbooks as a primary instructional tool in elementary and secondary school was presented. The discussion of texts found in content areas continued with clarification of the similarities and differences of narrative and expository text structures. The focus of this chapter shifted with an exploration of the use of reading instruction in content areas. Specifically, a discussion of the current research which supports the need to teach content area reading strategies, support positive teachers' attitudes, and to increase content area teachers' knowledge, use, and perceived applicability of these strategies was presented. Research into teachers' perceptions of teaching reading in content areas lead to a discussion of how teachers are trained in teacher education programs, particularly during field experiences. To provide a better understanding of field experiences, research was presented to support and contradict the benefits of preservice teachers experiencing time within K-12 classroom settings during teacher education programs. This chapter closed with a discussion of the sociocognitive model of reading which provides the theoretical framework and foundation for this study.

Chapter I provided an introduction and overview of this study. Chapter II offered an exhaustive review of the literature relating to content area reading followed by Chapter III which outlines the research methodology using quantitative method design.
Chapter IV will offer a discussion of the findings from the data analysis and Chapter V will presented an overall summary of the study.
CHAPTER III
RESEARCH DESIGN AND METHODOLOGY

William S. Gray (1939) sparked debate across the educational community when he suggested that all teachers must be teachers of reading and launched the concept of content area reading. This approach was a dramatic shift from the content-specific focus of many subject area teachers and broadened the scope of what they were required to know and how they were to teach. The roots of Gray’s assertions can be traced back to the landmark study of Auther I. Gates (1917) and his colleagues which first provided empirical support for meaning retention in reading opposed to simple imitation and rote memory. Extending this concept to how students must be supported to learn content-specific information, Gray changed the way the role of content area teachers is conceptualized. This change placed the process of reading within the context of subjects and provided a foundation for teaching reading in content areas.

To support this new view of reading, Gray (1927) published numerous works indicating the need for vocabulary development and identifying specific reading strategies needed to support reading text within content areas (Whipple, 1925, 1937). The work of Horn (1937), McKee (1948), and Yoakam (1922) provided additional support for using reading to learn content area strategies and for accommodating individual student needs as part of reading in the content areas. During the 1940s and 1950s, as comprehensive high schools gained popularity, an increased interest in reading on the high school level emerged. Bond and Bond (1941) authored the first textbook addressing reading at the high school level. Their book provided a framework for teaching reading skills in each content area.
While efforts in the field of content area reading continued to focus on improving reading abilities of secondary students during the 1960s, a brief return to the behaviorist school of thought also reemerged through a commonly used strategy known as rapid reading. While this strategy was used in hopes of improving comprehension by increasing reading rate, this outcome was not realized. The field shifted back to the cognitive school of thought and to Gray's (1939) proposal, with Strang (1967) suggesting students need a variety of thinking strategies to help them comprehend various types of text.

Since the 1970s, the field of content area literacy research (which includes reading) has been flooded with studies providing support for specific reading strategies designed to help students comprehend text found in content areas. Despite the well-documented need for and benefits of content area reading instruction, researchers and teacher educators continue to struggle to convince content area teachers of the benefits of incorporating reading instruction into their classroom practices (O’Brien & Stewart, 1990). Studies have shown that, regardless of the information taught and learned during teacher education programs, teachers’ personal beliefs which are rooted in their own experiences are more likely to influence what they teach and how they teach it (Brown & Cooney, 1982; Buchmann, 1987; Ernest, 1989). O’Brien and Stewart (1990) found that preservice content area teachers’ feelings of responsibility for teaching reading in their content area courses many times remain negative even after they have completed a course which provides justification for the need and training.

While the name and terms associated with the field of content area reading have changed and evolved into the broader concept of content area literacy, the controversy
has continued and even strengthened over time. Content area literacy includes reading, speaking, viewing, listening, and digital mediums (Moss, 2005) as applied within the specific area of study. Content area literacy has been shown as a critical factor in the success of secondary education students, and is reflected in Federal mandates (No Child Left Behind Act, 2001), position statements by professional organizations (Hoffman, Roller, & The National Commission on Excellence in Elementary Teacher Preparation for Reading Instruction, 2001), educational research (Moss, 2005; Snow & Biancarosa, 2003), and even the headlines of popular media (Stephey, 2009).

As students progress from learning to read in early elementary school to reading to learn in content area courses in upper elementary, middle, and high school, many students find reading more difficult and need direct reading instruction from content area teachers (Vacca, 2002). In an effort to improve American students’ reading abilities the No Child Left Behind Act of 2001 placed unprecedented federal emphasis on reading and provided more than six billion dollars to support reading instruction in low socioeconomic and low performing schools. However, the support appropriated was insufficient, as it did not ensure that every elementary and secondary teacher was adequately trained to teach reading. In response to the need for all teachers to be properly trained, the International Reading Association (IRA) released a position statement, Investment in Teacher Preparation in the United States in March of 2003. This statement called for a major national investment in teacher preparation to meet the goal of ensuring that all students in the United States receive quality and appropriate reading instruction in both elementary and secondary schools.
Problem and Purposes Overview

Despite a century of research supporting the need to address reading within content areas, there is still a lack of both preparation in this area and willingness of content area teachers to accept this responsibility. While studies have looked at preservice content area teachers' attitudes as result of completing a content area reading course, there has not been research examining how field experiences during teacher education programs influence preservice teachers' attitudes toward teaching reading in the content area. This is an important distinction in light of evidence suggesting that teachers’ experiences are more likely to influence what they teach and how they teach it (Brown & Cooney, 1982; Buchmann, 1987; Ernest, 1989). Field experience is often the first opportunity to gain personal experience in the classroom as a teacher. This study explored preservice teachers’ attitudes, familiarity, use, and perceived applicability of teaching reading the content areas as influenced by field based classroom experience during teacher education programs and teacher licensure areas.

Research Questions

In order to explore the influence of experience in the classroom and licensure area on preservice teachers’ attitudes, familiarity, use, and perceived applicability of teaching reading within content area classes, the following research questions were examined:

1. Does experience in the classroom make a difference in preservice teachers’ attitudes towards content area reading?

2. Does experience in the classroom make a difference in preservice teachers’ reported familiarity, use, and perceived applicability of content area reading strategies?
3. Is there a difference in attitudes toward teaching content area reading between elementary and secondary preservice teachers?

Research Hypotheses

The hypotheses tested in order answer the research questions stated above were:

H$_{1.0}$ There is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their attitudes towards teaching content area reading.

H$_{2.0}$ There is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their reported familiarity of content area reading strategies.

H$_{3.0}$ There is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their reported use of content area reading strategies.

H$_{4.0}$ There is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their reported perceived applicability of content area reading strategies.

H$_{5.0}$ There is a difference between elementary and secondary preservice teachers in terms of their attitudes toward teaching content area reading.

This study used a quantitative causal-comparative survey design. The purpose of the causal-comparative design was to explore the possibility of cause and effect.
relationships (Mertler & Charles, 2005). Specifically, a cross-sectional survey design was used to investigate the hypotheses. Cross-sectional survey design is the most popular form of survey design used in education. It is commonly used to examine current attitudes, beliefs, opinions, and practices and is useful for comparing two or more educational groups, evaluating programs, and conducting a statewide study (Creswell, 2008; Leedy & Ormrod, 2005). Survey research allows researchers to acquire information from one or more groups of people by asking them to respond to prompts or questions about characteristics, opinions, attitudes, or previous experiences (Leedy & Ormond, 2005). An advantage of using this design is that it provides useful information to researchers and decision makers in a short amount of time (Creswell, 2008). Survey design was considered most appropriate for this study which sought to explore how experience within K-12 classroom settings and licensure area affects preservice teachers’ self-reported attitudes toward teaching reading in content areas, and their familiarity, use, and applicability of specific content area reading strategies.

Population and Sample

Participants in this study included 597 elementary and secondary preservice teachers enrolled in teacher education programs at the three state-supported universities in a southeastern state in the United States. Selection of these particular universities was based upon four key attributes: (a) they graduate the largest number of teachers in this state, (b) each teacher education program offers similar licensure area degree programs which include traditional route licensure for elementary and secondary education, (c) they are located in three different regions of the state, and (d) they each serve a diverse population yielding the best cross-section representation of preservice teachers in the
state. All participants for this study were at least 18 years old and the study included both males and females.

Participants were divided into three Experience Groups based upon their current status in the teacher education program as reported on the demographic questionnaire (Appendix A). Experience Group 1 consisted of preservice teachers who had completed the general core requirements for admission into the teacher education program were, just entering their first education classes, and had not completed any field-based classroom experience. Experience Group 2 consisted of preservice teachers who had completed the general core requirements and all required education courses with the exception of their final field-based experience, teacher candidacy. Preservice teachers in Experience Group 2 had completed various types of experiences within authentic classroom settings including observations, individual and group tutoring, and possibly some experience with direct teaching under the supervision of university professors or classroom teachers. Experience Group 3 included preservice teachers who had completed the general core requirements and all required education courses and completed teacher candidacy. Members of Experience Group 3 had completed at least one full semester of classroom teaching under the supervision of a classroom teacher with limited visits from a university professor.

Data Collection

The researcher invited all preservice teachers currently enrolled in education classes who represented the participant groups needed for this study from three state supported universities in a southeastern state in the United States to participate. Two approaches were used to collect data: (a) administration of paper questionnaires in intact
classes and (b) an online version of the surveys were distributed by the office of field experiences at each university.

The purpose of the first approach was to obtain volunteers for Experience Group 1 and Experience Group 2. The researcher contacted instructors at each of the three universities who taught education classes that represented Experience Group 1 and 2. Permission was obtained from course instructors to solicit voluntary participation of students within their classes along with permission to administer and to collect data using the *Attitudes Toward Content Area Reading* (ATCAR) and *Content Area Reading Strategies* (CARS) questionnaires at the beginning of a regularly scheduled class meeting during the first or second week of the semester. After the researcher obtained permission, a date was set to collect data.

At the beginning of a regularly scheduled class meeting, the researcher invited preservice teachers within intact classes to voluntarily participate. The researcher explained to potential participants that their participation was voluntary and all responses would remain anonymous. The researcher explained the purpose of this research was to gather information that might be beneficial for future teachers and for teaching and learning in K-12 schools. In an effort to avoid influencing participant responses, participants were not informed about the specific focus objectives of the research.

After providing each preservice teacher with the informed consent information, those who agreed to participate were given a questionnaire packet that included a cover letter, demographic data sheet, ATCAR and CAR questionnaire. Participants were encouraged to carefully read each item and to select the choice that most closely represents or expresses their personal beliefs. Participants were instructed to place their
completed questionnaire in a large envelope that was placed in a central location within the classroom. Completed individual questionnaires remained anonymous and were placed in the large envelope by the participant. When all questionnaires were returned, the envelope was sealed until opened by the researcher during data entry.

To increase participation from preservice teachers, as each participant turned in their questionnaire they received a ticket to enter a drawing for a Visa gift card. The ticket was perforated into two parts. On one part of the ticket the participant printed their name and either their email address or phone number so that they may be contacted if their ticket is pulled. A $100 Visa gift card was given away at each university after data collection for the Experience Group 1 and Experience Group 2 at that particular university was completed. Data collection for these two groups took between two and three days per university. All data collection for Experience Group 1 and Experience Group 2 was completed within the first two weeks of the semester.

To collect data from Experience Group 3, the researcher contacted the office responsible for field experiences at each university to seek their support in sending email communication asking preservice teachers who completed teacher candidacy in the previous semester to voluntarily participate in the study by completing an online survey. After the office of field experiences agreed to facilitate the dissemination of requests for participants for this study, the researcher sent an electronic statement inviting participation and instructions to be forwarded to preservice teachers who have completed teacher candidacy.

Two types of incentives were used to increase questionnaire returns of Experience Group 3 participants. The first type of incentive offered each online survey participant the
opportunity to enter into a drawing for a $100 visa gift card, one per university. Participants entered the drawing through a separate questionnaire, not linked to the questionnaires used for this study. In the drawing questionnaire, participants simply entered either a telephone number or email address where they could be contacted. The contact information was recorded by the researcher onto the same perforated tickets used for the drawing of participants held in intact classes. The second type of incentive offered was to the facilitators at each university, they were initially guaranteed a $100 Visa gift card when a minimum of 40 questionnaires were returned online from their university. However each facilitator was rewarded regardless of the number of questionnaires returned.

Instrumentation

Three instruments were used for data collection for the study. They included a demographic data sheet (Appendix A), Attitudes Toward Content Area Reading (ATCAR) questionnaire (Appendix B), and Content Area Reading Strategies (CARS) questionnaire (Appendix C). The demographic data sheet was designed by the researcher for this particular study to identify and categorize participants into the independent variable groups of preservice teachers.

*Attitudes Toward Content Area Reading Questionnaire*

The Attitudes Toward Content Area Reading (ATCAR) questionnaire is an informal self-report instrument comprised of 30 items on a five-point Likert scale (strongly disagree, disagree, neutral, agree, and strongly agree) related to reading instruction in content areas. Grierson and Daniel (1995) developed the ATCAR questionnaire to provide a direct measure of teacher attitudes toward incorporating
reading instruction into the content areas. Individual attitude scores were determined by summing the scores of each item with inverted scores of items 2, 3, 4, 5, 11, 14, 15, 21, 24, 28, 29 and the total score were used as the dependent variable for preservice teachers’ attitudes toward content area reading instruction. The total scores for this instrument range from a low of 30 to a high of 155. A summated-rating scale is a variation to the traditional Likert scale with the assumption of equal intervals between response categories (Kline, 2005). Kerlinger (1986) defines a summated-rating scale as a set of attitude items that are approximately equal in value in which possible responses are in varying degrees of agreement and disagreement. The summation of individual responses allows for individuals to be placed on an attitudinal continuum. This type of rating scale allows the researcher to achieve greater variances in responses than what might occur using dichotomous ratings of items such as agree and disagree.

During the development of the instrument, a pilot study using Q-analysis was used to establish convergent and discriminant validity which provided evidence to support the usefulness of the instrument in placing respondents into meaningful categories (Grierson & Daniel, 1995). According to Ferrell and Daniel (1995), the ATCAR can effectively distinguish between groups of respondents in regard to their beliefs about locus of instruction. Locus of instruction refers to many critical factors thought to influence instruction such as the appropriate teacher, location of instruction, pedagogy, and the various types of teaching materials employed (Moore, Readence, Rickelman, 1983). Grierson and Daniel (1995) used Q-technique factor analysis to place respondents into two groups based on their responses. Responses on the ATCAR showed a propensity for either (a) a direct instructional approach to teaching reading separate
from the content area or (b) an authentic approach where reading instruction is embedded with the content area using content course material (Grierson & Daniel, 1995).

Reliability for the ATCAR instrument could not be found within the published research (Grierson and Daniel, 1995; Grierson, 1996). To establish reliability, a pilot study was conducted by the researcher during the Fall of 2006 and Spring 2007. Data analysis was conducted using SPSS version 16. Internal consistency using Chronbach’s coefficient alpha was established at .78 by omitting statements 7 and 8 of the instrument. Inconsistent responses to these two questions may be attributed to the particular sample participants used for the pilot study. The terminology used in both question 7 and 8 may have been unfamiliar to the pilot study participants.

**Content Area Reading Strategies Questionnaire**

Howe, Grierson, and Richmond (1995) developed the Content Area Reading Strategies (CARS) questionnaire as a self-reporting instrument for the purpose of yielding a direct measure of teachers’ knowledge, use, and perceived applicability of content area reading strategies. The instrument consists of 35 items divided into three sections: (a) elicits a yes=2 or no=1 response to indicate the respondents familiarity with each of the 35 strategies; (b) elicits a Likert-like scale rating (often =3, seldom=2, never=1) of how frequently the respondent’s report using each of the 35 strategies, and (c) elicits a Likert-like scale rating (often=3, seldom=2, never=1) of applicability of each of the 35 strategies to classroom instruction. Individual scores were determined by summing the scores from each section and were used as dependent variables for familiarity, use, and applicability of content area reading strategies. In addition, frequency analyses were performed using the frequencies procedures in SPSS version 16.
The developers conducted an extensive review of the literature to identify the most commonly research-supported content area readings strategies (Howe, Grierson, and Richmond, 1995). After the list of 35 items was compiled, a panel of reading and literacy experts was consulted to establish content validity of the instrument (Grierson & Daniel, 1995).

Data Analysis

A factorial multivariate analysis of variance (MANOVA) was used to address the research hypotheses. MANOVA is used to evaluate differences of means of two or more dependent criterion variables simultaneously (Bray & Maxwell, 1985). For the study, experience in the classroom (Group 1, Group 2, and Group 3) and future licensure area (defined as elementary or secondary) were used as independent variables with attitudes towards teaching reading in the content areas, familiarity, use, and perceived applicability of specific content area strategies as four dependent variables. All data were analyzed using the SPSS software version 16.

Summary

This chapter describes the methodology for the study which attempt to examine the influence of field based classroom experience and licensure area on preservice teachers’ attitudes, familiarity, use, and perceived applicability of the content area reading strategies. The study used a quantitative research design utilized survey results to investigate the three identified research questions. A demographic data sheet designed by the researcher was used to identify and categorize participants into the independent variable groups of preservice teachers. The researcher analyzed data collected from each of the three surveys to discuss the findings related to the three research questions and the
corresponding hypotheses in Chapter IV. Chapter V provides a discussion of the conclusions and summary of the study.
CHAPTER IV
ANALYSIS OF DATA

Introduction

The purpose of this study was to examine differences in preservice teachers’ self-reported attitudes, knowledge of, use, and appropriateness of content area reading instruction as influenced by their level of K-12 classroom field experience. Differences in elementary and secondary preservice teachers’ attitudes concerning content area reading instruction were also examined. This chapter presents the findings of this study which employed a survey design for data collection.

Organization of Data Analysis

First, a demographic descriptive analysis for respondents across the three classroom field experience groups was conducted. Second, a descriptive item analysis for the ATCAR and CARS questionnaires will be presented individually. Third, the research questions and associated hypotheses for this study will be followed by a data analysis summary which will describe multivariate and univariate analyses used to investigate the research questions and hypotheses. Finally, the statistical results of the Multivariate Analysis of Variance (MANOVA) and the follow-up analyses will be presented in response to each question and hypothesis for this study. A summary of the results for this study will conclude this chapter.

Description of Groups

Participants were assigned to one of three groups based on their current level of field experience in K-12 classrooms. Experience Group 1 included preservice teachers just beginning their first education classes in a teacher education program and had not yet
completed any field-based experiences as part of their teacher education program. Experience Group 2 included preservice teachers beginning their teacher candidacy (also known as student teaching) semester and had completed various types of field-based classroom experiences, including classroom observations, individual and group tutoring, and possibly some experience with direct teaching under the supervision of university professor or classroom teacher. Experience Group 3 included pre-service teachers who had completed their teacher candidacy semester in the previous semester (spring 2009). During teacher candidacy, preservice teachers complete one full semester of direct classroom teaching under the supervision of a classroom teacher with limited visits from a university professor.

In addition to the three field-based classroom experience groups, two broad areas of grade-level licensure were investigated in the study. Participants were assigned to either the elementary or secondary group based upon their response to item 1 on the demographic questionnaire. Elementary preservice teachers are those who are seeking licensure in grades kindergarten through sixth grade and secondary preservice teacher are those who seeking licensure in a specific content area in grades seven through twelve. Respondents who were seeking licensure in grades kindergarten through twelfth grade were not included in this study.

Research Questions

This study sought to answer three questions. First, does experience in the classroom make a difference in preservice teachers’ attitudes towards content area reading? Second, does experience in the classroom make a difference in preservice teachers’ reported familiarity, use, and perceived applicability of content area reading
strategies? Third, is there a difference in attitudes toward teaching content area reading between elementary and secondary preservice teachers? A discussion of the instruments used to answer the research questions follows.

Description of the Instruments

Three instruments were used to measure preservice teachers’ attitude, familiarity, use, and perceived applicability of teaching reading in content area courses: (a) a demographic questionnaire, (b) the Attitudes Toward Content Area Reading (ATCAR) questionnaire, and (c) the Content Area Reading Strategies (CARS) questionnaire. The demographic data questionnaire allowed the researcher to properly identify and categorize participants into classroom experience groups and grade-level licensure groups. An informal self-report instrument comprised of 30 items on a five-point Likert scale (strongly disagree, disagree, neutral, agree, and strongly agree), the Attitudes Toward Content Area Reading (ATCAR) was used to provide a direct measure of preservice teachers’ attitudes toward incorporating reading instruction into content area courses. The Content Area Reading Strategies (CARS), a self-reporting instrument was used to provide a direct measure of teachers’ knowledge, use, and perceived applicability of 35 specific content area reading strategies. All three instruments were compiled to create one questionnaire. The questionnaires were administered during the first two weeks of the Fall semester of 2009 at three state-supported universities in a southeastern State in the United States.
Descriptive Statistics: Demographic Information

All participants in this study met the requirements as discussed earlier for preservice teachers who fell within one of the three K-12 classroom Experience Groups and one of the two grade-level licensure areas. Participants’ demographic characteristics: (a) specific university enrolled, (b) grade-level licensure area, (c) age, (d), gender, (e) number of semesters completed in the teacher education program, and (f) the number of courses in content area reading completed are shown in Table 1. Of the 597 participants, the majority were female (n=502, 84%) and the minority were male (n=92, 15%). All participants were enrolled in one of three state-supported universities in a southeastern State in the United States: University A (n= 200, 33.5%), University B (n=210, 35.2%), and University C (n=187, 31.3%). Of the grade-level licensure areas of the participants, 63% were elementary (K-6), 27.2% were secondary (7-12), and 9.8% seeking licensure for K-12. While the K-12 participants did submit questionnaires, their responses were excluded from the analysis, as they did not meet criteria for participation. More than half of the participants were between the ages of 18 and 22 (63.1%), followed by the second largest age group reporting ages between 23-27 years (23.4%), and the smallest age group reporting ages 28 and older (12.5%). More than 83% of the preservice teachers in the study reported completing at least one semester of teacher education courses, while 16.7% reported they had not completed any courses in teacher education. Almost 69% of the respondents reported completing at least one course in content area reading, and only 31.9% who reported they had not completed a course in content area reading. A chi-square goodness-of-fit test using an alpha level of .05 was performed to determine whether the three experience groups were equally distributed for each
demographic variable (Table 1). The three experience groups was equally distributed in
for the demographic variables of university $x^2 (3, n=597) = 46.59, p < .001$, licensure are
$x^2 (4, n=592) = 10.109, p = .039$, age $x^2 (4, n=594) = 115.47, p = .000$, number of
semesters completed in education courses $x^2 (4, n=582) = 363.918, p = .000$, and number
of courses in content area reading completed $x^2 (2, n=592) = 133.650, p = .000$. For the
demographic of gender $x^2 (2, n=594) = 3.741, p = .154$ preference for the three
experiences was not equally distributed.

Table 1

Demographic Percentage Distributions across Three Experience Groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Overall %</th>
<th>Exp. 1</th>
<th>Exp. 2</th>
<th>Exp. 3</th>
<th>$x^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>n= 591</td>
<td>n=316</td>
<td>n=206</td>
<td>n=69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University A</td>
<td>33.5</td>
<td>42.9</td>
<td>21.1</td>
<td>28.2</td>
<td>46.59</td>
<td>0.000</td>
</tr>
<tr>
<td>University B</td>
<td>35.2</td>
<td>36.0</td>
<td>32.1</td>
<td>40.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University C</td>
<td>31.3</td>
<td>21.1</td>
<td>46.9</td>
<td>31.0</td>
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<td></td>
</tr>
<tr>
<td>Grade-Level</td>
<td>n= 594</td>
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<td></td>
<td></td>
<td>10.11</td>
<td>0.039</td>
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<tr>
<td>Licensure</td>
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<td>Elementary</td>
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<td>71.3</td>
<td>59.2</td>
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<td>Secondary</td>
<td>27.2</td>
<td>31.4</td>
<td>20.1</td>
<td>29.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K-12</td>
<td>9.8</td>
<td>10.3</td>
<td>8.6</td>
<td>11.3</td>
<td></td>
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<td></td>
<td></td>
<td>115.74</td>
<td>0.000</td>
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<td>18-22</td>
<td>63.1</td>
<td>81.5</td>
<td>37.8</td>
<td>56.3</td>
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<td>23-27</td>
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<td>8.0</td>
<td>43.5</td>
<td>32.4</td>
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<tr>
<td>28+</td>
<td>13.5</td>
<td>10.5</td>
<td>18.7</td>
<td>11.3</td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
<td>n= 594</td>
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<td></td>
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<td>3.74</td>
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<tr>
<td>Female</td>
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<td>Male</td>
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<td>17.5</td>
<td>14.8</td>
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<tr>
<td>Semesters of Education Courses</td>
<td>n= 594</td>
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<td></td>
<td></td>
<td>363.92</td>
<td>0.000</td>
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<td>31.8</td>
<td>0.5</td>
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<td>1–2 semesters</td>
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<td>53.0</td>
<td>7.2</td>
<td>1.4</td>
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<tr>
<td>&gt;= 3semesters</td>
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<td></td>
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<td>0.000</td>
</tr>
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<td>Reading Courses</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 course</td>
<td>31.9</td>
<td>52.9</td>
<td>7.7</td>
<td>11.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;=1 Course</td>
<td>68.1</td>
<td>47.1</td>
<td>92.3</td>
<td>88.7</td>
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</tbody>
</table>
Descriptive Statistics: Attitudes Toward Content Area Reading Questionnaire

Of the possible summed total of 150 points, scores for this study ranged from a low of 89 to a high of 122 with an overall mean of $M = 105.13$. Examination of the means for the three Experience Groups indicated the mean for Experience Group 1 ($M = 103.74$) differed from the means of both Experience Group 2 ($M = 106.8$) and Experience Group 3 ($M = 106.57$) (Table 2). The difference in mean scores between Experience Group 1 and Experience Groups 2 and 3 was expected, because participants in Experience Group 1 were just beginning their first formal teacher education courses. An item by item analysis of the means for each of the thirty statements in which participants were asked to respond using a five-point Likert-scale (Strongly agree, agree, neutral, disagree, and strongly disagree) shows a difference between the three Experience Groups on 16 (5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 20, 22, 25, 26, 29) of the 30 items (Table 2).
Table 2

*Mean ATCAR Scores between Preservice Teachers of the Three K-12 Classroom Field Experience Groups 1, 2, & 3*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Overall</th>
<th>Experience 1</th>
<th>Experience 2</th>
<th>Experience 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N= 591</td>
<td>N=316</td>
<td>N=206</td>
<td>N=69</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Q1</td>
<td>4.32</td>
<td>0.94</td>
<td>4.26</td>
<td>0.96</td>
</tr>
<tr>
<td>Q2</td>
<td>2.96</td>
<td>1.00</td>
<td>2.91</td>
<td>0.94</td>
</tr>
<tr>
<td>Q3</td>
<td>3.29</td>
<td>1.10</td>
<td>3.22</td>
<td>1.12</td>
</tr>
<tr>
<td>Q4</td>
<td>2.55</td>
<td>1.01</td>
<td>2.48</td>
<td>0.98</td>
</tr>
<tr>
<td>Q5</td>
<td>4.19</td>
<td>0.95</td>
<td>4.07</td>
<td>0.98</td>
</tr>
<tr>
<td>Q6</td>
<td>4.18</td>
<td>0.84</td>
<td>4.08</td>
<td>0.93</td>
</tr>
<tr>
<td>Q7</td>
<td>3.80</td>
<td>0.82</td>
<td>3.66</td>
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<tr>
<td>Q8</td>
<td>3.80</td>
<td>0.86</td>
<td>3.66</td>
<td>0.91</td>
</tr>
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<td>0.77</td>
<td>4.04</td>
<td>0.78</td>
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<td>0.91</td>
<td>3.74</td>
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<td>3.99</td>
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<td>0.95</td>
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<td>0.91</td>
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<td>4.26</td>
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<td>3.35</td>
<td>1.01</td>
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<td>1.03</td>
<td>2.47</td>
<td>1.04</td>
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<tr>
<td>Q29</td>
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<td>3.03</td>
<td>1.10</td>
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<td>Q30</td>
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<td><strong>6.72</strong></td>
<td><strong>ATCAR</strong></td>
<td><strong>103.74</strong></td>
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Descriptive Statistics: Content Area Reading Strategies Questionnaire

To investigate differences between the three Experience Groups regarding familiarity, use, and perceived applicability of 35 specific content area reading strategies, three subarea scores were analyzed from the Content Area Reading Strategies (CARS) questionnaire. Each of the three subarea scores were treated as dependent variables. These scores were the totals from the three columns presented on the questionnaire; the first column elicited a yes/no (1=yes; 2=no) response to indicate familiarity with each of the 35 content area strategies yielding a possible total scores ranging between 35 and 70. The second column indicated the frequency with which the participant reporting using each of the 35 strategies (3=often, 2=seldom, 1=never) with possible total scores for use ranging between 35 and 105. The third column indicated the frequency with which the participant perceived each strategy to be applicable for instruction within content area courses (3=often, 2=seldom, 1=never) which yielded possible total scores ranging between 35 and 105. Frequency analyses were initially conducted on each of the individual strategies to ascertain the percentage of responses for each of the three Experience Groups. Table 3 provides percentage differences for familiarity of the individual strategies in an ascending percentage order for all participants followed by percentages reported for each of the three Experience Groups. A chi-square test of goodness-of-fit was conducted for familiarity, use, and perceived applicability to determine whether each of the individual strategies were equally distributed across all three Experience Groups with alpha level of .05. For familiarity with the individual content area reading strategies, differences were indicated for 25 of the 35 strategies.
Differences were reported for 26 of the 35 in regard to reported use (Table 4), and 34 of the 35 for perceived applicability (Table 5).

**Familiarity.** Journal writing, matching definitions, computer programs, puzzles, and prior knowledge were reported as the most familiar content area reading strategies among all three Experience Groups. Of these top five strategies, there was a statistically significant difference between the three Experience Groups in regard to prior knowledge. Of the three groups, only 82.1% of Experience Group 1 reported being familiar with prior knowledge, while 97.3% of Experience Group 2 and 93.5% of Experience Group 3 reported being familiar with the strategy. The strategies in which participants reported being least familiar with were Directed Reading Thinking Activity (DRTA) (18.7%), morphemic analysis (17.3%), Directed Reading Activity (DRA) (16.8%), and reciprocal questioning (ReQuest) (12.5%) (Table 3). Each of the least familiar strategies was found equally distributed between the three Experience Groups as noted in Table 3.

**Use.** The individual strategies listed on the CARS showing the highest percentages for use were different across the three experience groups (Table 4). Experience Group 1 reported using prior knowledge (72.2%) and computer programs (69.2%) most often. The strategies reported as used most often for Experience Group 2 were scrambled words (36.6%), ReQuest (33.3%), and word maps (28.2%). Experience Group 3 indicated higher frequency of use for word maps (41.9%), ReQuest (41.7%), and KWL 3 level guides (40.4). Similarities were noted between the reported high frequency of use for ReQuest and word maps for both Experience Group 2 and Experience Group 3 as compared to the highest frequency of reported use for those items by Experience Group 1 (Request, 25%; word maps 37.9%).
Perceived Applicability. For perceived applicability of the 35 content area reading strategies listed on the CARS, it is important to note that Experience Group 1 reported the highest percentage rates for individual item responses that supported (often) the applicability of the content area reading strategies (Table 5). Experience Group 1 reported prior knowledge (81.5%) and phonics (81.1%) as the two most often applicable reading strategies for content area reading instruction. It is also important to note that Experience Group 2 and Experience Group 3 reported high frequencies for most strategies never (ranging in the 60-80%) being applicable. The strategies which Experience Group 2 reported most often applicable were guided writing (24.4%), cloze procedure (24.8%), and DRA (25.4%), while Experience Group 3 reported the highest frequency for most often applicable for conferencing (28.6%), computer programs (27.6%), DRA (33.3%), and guided writing (27.3%).
Table 3

Percentage of Sample Familiarity with 35 Specific Content Area Reading Strategies in Ascending Order

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Total</th>
<th>Exp. Group 1</th>
<th>Exp. Group 2</th>
<th>Exp. Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal Writing</td>
<td>96.6</td>
<td>96.7</td>
<td>96.2</td>
<td>96.8</td>
</tr>
<tr>
<td>Matching definitions</td>
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<td>96.7</td>
<td>95.2</td>
<td>95.2</td>
</tr>
<tr>
<td>Computer programs</td>
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<td>95.4</td>
<td>93.6</td>
<td>92.1</td>
</tr>
<tr>
<td>Puzzles</td>
<td>89.3</td>
<td>90.4</td>
<td>87.6</td>
<td>88.7</td>
</tr>
<tr>
<td>Prior knowledge</td>
<td>88.5</td>
<td>82.1</td>
<td>97.3</td>
<td>93.5</td>
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<tr>
<td>Phonics</td>
<td>87.1</td>
<td>87.4</td>
<td>88.2</td>
<td>82.3</td>
</tr>
<tr>
<td>Enrichment activities</td>
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<td>77.5</td>
<td>94.6</td>
<td>96.8</td>
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<tr>
<td>Analogies</td>
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<td>78.6</td>
<td>81.8</td>
<td>82.8</td>
</tr>
<tr>
<td>Prediction</td>
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<td>71.2</td>
<td>90.3</td>
<td>83.9</td>
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<tr>
<td>Guided writing</td>
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<td>87.1</td>
<td>87.3</td>
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<td>87.6</td>
<td>74.2</td>
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<tr>
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<td>82.9</td>
<td>69.8</td>
</tr>
<tr>
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<td>80.6</td>
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<tr>
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<td>95.2</td>
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<td>Conferencing</td>
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<tr>
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<td>86.6</td>
<td>82.5</td>
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<td>25.8</td>
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### Table 4

**Percentage of Participants Reported Frequency of Use of 35 Specific Content Area Reading Strategies in Ascending Order**

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<th>Experience Group 3</th>
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<tr>
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### Table 4 (continued).

**Percentage of Participants Reported Frequency of Use of 35 Specific Content Area Reading Strategies in Ascending Frequency Order**

<table>
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<th>Experience Group 1</th>
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<th>Experience Group 3</th>
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<td><strong>Never</strong></td>
<td><strong>Seldom</strong></td>
<td><strong>Often</strong></td>
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<td>30.0</td>
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<td>32.7</td>
<td>49.5</td>
<td><strong>17.8</strong></td>
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<td>41.3</td>
<td>35.3</td>
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<td><strong>20.0</strong></td>
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<td>Cloze procedure</td>
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<td><strong>6.3</strong></td>
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<td>48.2</td>
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</tr>
<tr>
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<td><strong>20.0</strong></td>
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<td>Meaning negotiation</td>
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<td>DRTA</td>
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</tbody>
</table>
Table 5

Percentage of Participants Reported Perceived Applicability of 35 Specific Content Area Reading Strategies

<table>
<thead>
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<th>Strategy</th>
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<th></th>
<th>Experience 2</th>
<th></th>
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</thead>
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<tr>
<td></td>
<td>Never</td>
<td>Seldom</td>
<td>Often</td>
<td>Never</td>
<td>Seldom</td>
<td>Often</td>
<td>Never</td>
<td>Seldom</td>
<td>Often</td>
</tr>
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<td>32.0</td>
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<td>Matching definitions</td>
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<td>39.0</td>
<td>44.1</td>
<td><strong>16.9</strong></td>
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<tr>
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Table 5 (continued).

Percentage of Participants Reported Perceived Applicability of 35 Specific Content Area Reading Strategies

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<th>Experience 2</th>
<th>Experience 3</th>
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<td>Seldom</td>
<td>Often</td>
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<tr>
<td>Use of text structure</td>
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<td>Vocabulary cloze</td>
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<td>Meaning negotiation</td>
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<td>47.5</td>
<td><strong>45.9</strong></td>
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Data Analysis Summary

Analysis Overview

Multivariate analysis of variance (MANOVA) was used to compare the relationship of three levels of K-12 classroom field experience (i.e. no classroom experience, some indirect teaching classroom experience, and a full-semester of daily classroom experience during teacher candidacy) on four dependent measures: attitudes toward content area reading using total mean scores from the Attitudes Toward Content Area Reading (ATCAR) questionnaire, and mean scores of three subscores reflecting familiarity, use, and perceived applicability of specific content area reading strategies from the Content Area Reading Strategies (CARS) questionnaire. MANOVA was chosen over other individual analyses due to increased protection against a Type I error. Accordingly, MANOVA procedures were performed to ascertain the main effects of field based K-12 classroom experience on attitudes towards teaching reading in content areas, familiarity, use, and perceived applicability of specific content area reading strategies. Cohen’s effect sizes (0.01 small effect, 0.09 medium effect, and 0.25 or greater a large effect) and the $p$ value at .05 were employed to further interpret the data. To interpret the significant multivariate effects of experience in the classroom, post-hoc and follow-up univariate analyses were conducted on each of the four dependent measures (i.e., total ATCAR scores, and the total of the three CARS subarea scores). One-way ANOVAs were performed to follow up using (1) total ATCAR scores, (2) total familiarity score, (3) total use score, and (4) total perceived applicability mean scores.

Overall, the findings suggest that preservice teachers’ attitudes toward content area reading, and their reported familiarity, use, and perceived applicability of specific
content area reading strategies were significant. The multivariate analysis of variance revealed a significant multivariate main effect for Experience Group [Wilks’s $\lambda = .521$, $F(8, 984) = 47.416$, $p < .001$, $\eta^2 = .479$].

Due to the differences in the number of participants between the three Experience Groups a Box’s Test of Equality of Covariance Matrices was conducted to test for homogeneity of variance. The Box’s Test was significant at $p < .001$ which may indicate an increased possibility of Type I error. Because the Box’s Test is highly sensitive to violations of multivariate normality assumption further investigation into the possibility of the violation of this assumption was conducted by a using an equal-numbers follow-up MANOVA. A random sample across the three Experience Groups was selected for the test analysis. The test MANOVA model revealed similar overall significant results [Wilks’s $\lambda = .535$, $F(8, 306) = 14.055$, $p = .000$, $\eta^2 = .465$] which suggests the assumption of homogeneity is corrected by the robustness of MANOVA. To further explore homoscedasticity within each Experience Group, Levene’s Test for the overall model was conducted. Levene’s Test was not significant at $p=.319$ for the overall model suggesting the data did not fail the assumption of equal group error variances. To maintain the $\alpha = .05$ significance level for table comparisons, a Bonferroni adjustment was calculated, which determined a $p$-value of less than $p = .0125$ was needed to correct for possible alpha inflation and to be considered statistically significant.
Table 6

Summary of Results of Multivariate Analysis of Variance (MANOVA)

| Variable         | Test            | Value | F    | df | Error df | p  
|------------------|-----------------|-------|------|----|----------|-----
| Experience Group | Pillai’s Trace  | .482  | 39.131 | 8  | 986      | 0.000 
|                  | Wilks’ Lambda   | .521  | 47.416 | 8  | 984      | 0.000 
|                  | Hotelling’s     | .914  | 56.099 | 8  | 982      | 0.000 

| Independent Variable | Dependent Variable | Df | Mean Square | F    | p  
|----------------------|-------------------|----|-------------|------|-----
| Experience Group     | ATCAR             | 2/498 | 686.815 | 16.776 | 0.000 
|                      | Familiarity       | 2/498 | 2687.042 | 68.690 | 0.000 
|                      | Use               | 2/498 | 3365.577 | 10.571 | 0.000 
|                      | Perceived Applicability | 2/498 | 1414.292 | 3.805 | 0.023 

Note: Independent Variables- 3 Experience Groups

Dependent Variables- ATCAR, Total familiarity, Total Use & Total Perceived applicability scores
Table 7

_Difference in Total ATCAR & CARS scores between Experience Groups 1, 2 & 3_

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<th>Experience group</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
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Note: ^1by One-way ANOVA

Analysis of Data

The data were collected in relation to each of the questions and hypotheses posed:

_Research Question 1_

Does experience in the classroom make a difference in preservice teachers' attitudes toward teaching content area reading?

_Hypothesis 1.0_. Hypothesis 1 predicted there is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their attitudes towards teaching content area reading. A significant univariate one-way analysis of variance (ANOVA) effect $F(2, 498) = 16.776, p < .001$ was found for attitudes toward content area reading (Table 6) indicating that there is a statistically significance difference between Experience Groups 1, 2 and 3 in regard to their attitudes toward content area reading and supporting hypothesis one. A Tukey HSD (Honestly Significant Difference) test was used to
examine differences in total mean scores for preservice teachers’ attitudes towards content area reading between the three experience groups. The difference in means between Experience Group 1 and Experience Group 2 ($M = 3.52, p = .000$), and Experience Group 1 and Experience Group 3 ($M = 2.58, p = .020$) were found to be significant at, $p < .05$. A closer examination of the data revealed no statistically significant difference between the ATCAR total mean scores between Experience Group 2 and Experience Group 3 ($M = .94), p = .617."

**Research Question 2**

Does experience in the classroom make a difference in preservice teachers' reported familiarity, use, and perceived applicability of content area reading strategies? Three individual one-way ANOVAs were conducted to determine if there is a difference between Experience Group 1, Experience Group 2, and Experience Group 3 in regard to familiarity, use, perceived applicability of the 35 content area reading strategies included on the Content Area Reading Strategies questionnaire.

**Hypothesis 2.0.** Hypothesis 2 predicted there is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their reported familiarity of content area reading strategies. A significant univariate one-way analysis of variance (ANOVA) effect $F(2, 498) = 68.690, p < .001$ was found for familiarity (Table 7) indicating that there is a statistically significance difference between Experience Groups 1 ($M = 53.413$), 2 ($M = 60.426$) and 3 ($M = 58.226$) in regard to familiarity of the 35 content area reading strategies and providing support for hypothesis two. Experience Group 2 showed the highest overall familiarity with the 35 content area reading strategies listed on the CARS
questionnaire. Interesting to note, the overall mean score for familiarity decreased for Experience Group 3.

**Hypothesis 3.0.** Hypothesis 3 predicted there is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their reported use of content area reading strategies. A significant univariate one-way analysis of variance (ANOVA) effect $F(2, 551) = 10.571, p < .001$ was found for reported use (Table 7) indicating that there is a statistically significance difference between Experience Groups 1 ($M = 41.895$), 2 ($M = 49.805$) and 3 ($M = 46.811$) in regard to use of the 35 content area reading strategies and provides support for hypothesis three. Experience Group 2 reported the highest overall mean for using the 35 content area reading strategies listed on the CARS questionnaire. Aligned with the results for the overall mean score for familiarity, the overall mean score for reported use decreased for Experience Group 3.

**Hypothesis 4.0.** Hypothesis 4 predicted there is a difference between preservice teachers who have had experience in the classroom and preservice teachers who have not had experience in the classroom in terms of their reported perceived applicability of content area reading strategies. A non-significant univariate one-way analysis of variance (ANOVA) effect $F(2, 498) = 3.805, p = 0.023$ was found for reported perceived applicability (Table 7) indicating that there is a statistically significant difference between Experience Groups 1 ($M = 49.221$), 2 ($M = 45.550$) and 3 ($M = 42.358$) in regard to perceived applicability of the 35 content area reading strategies. The results from the analysis supports hypothesis four. An interesting note within this analysis was that Experience Group 1, those just entering the teacher education program, showed an
overall higher mean score for perceived applicability for using the 35 content area reading strategies listed on the CARS questionnaires. Overall mean scores decreased for Experience Group 2 and further decreased for Experience Group 3, showing that those preservice teachers with the most experience in the K-12 classroom field experience settings reported the lowest perceived applicability of the strategies.

Research Question 3

Is there a difference in attitudes toward teaching content area reading among elementary and secondary preservice teachers?

Hypothesis 5.0. Hypothesis 5 predicted there is a difference between elementary and secondary education majors in regard to their attitudes towards teaching content area reading. An independent t-test was conducted to determine if there is difference between elementary and secondary preservice teachers in regard to their attitudes toward teaching reading in content areas. The mean Total Score for attitude of elementary preservice teachers (\(M = 106.14\)) and secondary preservice teachers (\(M = 102.94\)) was examined using an independent samples \(t\)-test. Examination of the two samples using normal Q-Q plots and a Levene test of equality of variance revealed no serious threats to the assumptions of normality or homogeneity of variance (\(F(2, 536) = 2.105, p = .147\)). The \(t\)-test indicated that the means differed significantly \(t(552) = 5.298, p < .001\) which provides support for hypothesis five. An effect size calculation revealed \(d = .50\), which is a large effect according to Cohen’s effect sizes (0.01 small effect, 0.09 medium effect, and 0.25 or greater a large effect). Thus, elementary and secondary preservice teachers differ in their attitudes toward content area reading with elementary preservice teachers reporting a higher attitude.
Individual analysis of the items on the ATCAR indicates a difference in 15 of 30 items (Table 8). It is critical to note that there was a statistically significant difference between elementary ($M = 4.41$) and secondary ($M = 4.15$) preservice teachers response to question 1, *Every teacher is a teacher of reading* ($t (2, 542) = 2.94, p < .01$). Of the 15 items in which there was a statistically significant difference between elementary and secondary preservice teachers mean responses, elementary preservice teachers mean responses were greater, suggesting that elementary preservice teachers reported a stronger agreement with each of the statements. Of the 15 statistically significant individual items, only question 13 (*Every subject area requires different reading strategies*) and question 25 (*The ability to understand narrative and expository text develops at the same time*) indicated the mean scores for secondary preservice teachers were greater than the mean scores for elementary preservice teachers. Questions 2, 3, 8, 10, 11, 16, 17, 18, 19, 21, 22, 23, 24, 28, and 30 did not differ significantly between the elementary and secondary preservice teachers (Table 8). Elementary and secondary preservice teachers mean scores for questions (3, 8, 10, 16, 17, 19, 21) regarding reading comprehension in content areas were not significantly different suggesting that both elementary and secondary teachers agree that reading comprehension in content areas differs from reading narrative text.
Table 8

*Difference in Mean ATCAR Scores among Elementary & Secondary Majors*

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<td>Q24</td>
<td>3.00</td>
<td>0.96</td>
</tr>
<tr>
<td>Q25</td>
<td>2.49</td>
<td>0.85</td>
</tr>
<tr>
<td>Q26</td>
<td>4.43</td>
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</tr>
<tr>
<td>Q27</td>
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</tr>
<tr>
<td>Q28</td>
<td>2.58</td>
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<td>Q29</td>
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<td>1.08</td>
</tr>
<tr>
<td>Q30</td>
<td>3.62</td>
<td>0.82</td>
</tr>
</tbody>
</table>

| Total ATCAR | 106.14 | 6.64 | 102.94 | 6.20 |

Note: 1 by Independent t-test; ATCAR - Total ATCAR score
Overall results indicated statistically significant differences in attitudes toward content area reading, reported familiarity, and use of specific content area reading strategies across the three field-based experience groups. Of the three Experience Groups, Experience Group 2 reported the most positive attitude toward content area reading and the highest frequency of familiarity and use of specific content area reading strategies. A most interesting finding was the reported decline in attitude, familiarity, and use between Experience Group 2 and Experience Group 3. There was no significant difference indicated for perceived applicability of the 35 specific content area reading strategies across experience groups. Elementary preservice teachers reported a statistically significant more positive attitude toward content area reading as compared to secondary preservice teachers.

Summary

An analysis of the results from the current study was presented in this chapter. A brief introduction was provided which described the overall purpose for the study, the sample population, and the instruments used. Demographic information describing the characteristics of the participants which were included in the study along with descriptive analysis across each of the three field-based experience groups were given along with a table presentation which included distribution information. Following the descriptive analysis of the participants in the current study, descriptive analysis was presented for both the Attitudes Toward Content Area Reading and Content Area Reading Strategies questionnaires with comparative tables. The results of MANOVA testing and post hoc tests were given with significant findings discussed in relation to the questions and
hypotheses posed for the study. Next, Chapter V will discuss the results and conclusions along with recommendations for future practice and research in teacher education.
CHAPTER V
FINDINGS, CONCLUSIONS, AND IMPLICATIONS

Introduction

This study of elementary and secondary preservice teachers examined differences in preservice teachers’ attitudes towards teaching reading in content areas, as well as their self-reported knowledge, use, and perceived applicability of specific content area reading strategies. More specifically, it explored differences across three groups comprised of pre-service teachers with varying level of field based experience in K-12 classrooms. In addition, differences in the attitudes between elementary (K-6) and secondary (7-12) preservice teachers toward content area reading instruction were explored. This chapter discusses the results within the context of the theoretical framework and previous research presented in chapter two focusing on teacher education related to content area reading instruction and field-based K-12 classroom experiences. It is organized into five major sections: (a) a summary of the study, (b) a discussion of the findings, (c) conclusions, (d) implications for practice, and (e) areas for future research.

Summary of the Study

As students advance from elementary school to middle school and on to high school, the task of reading becomes more difficult requiring students to comprehend and make meaning from the complex information they must read to learn in individual content areas (Fisher, 2001; Fry, 1981; Roe, Stoodt-Hill, & Burns, 2007). Content area reading instruction provided by teachers in these subjects is purposely designed to help students comprehend complex information found within expository text in content area courses (Gee, Olson, & Forester, 1989; McKenna & Robinson, 1990; Weaver & Kintsch,
A student’s reading ability is a key predictor of academic success, and academic success is linked to dropout rates (ACT, 2006; Bianarosa & Snow, 2004; Kamil, 2003; Swanson, 2004). This makes it critical for all teachers to know how to use reading within the courses they teach in order to help increase students’ reading ability. This task is a vital addition to teaching the content of the course itself. Thus, it is the responsibility of teacher education programs to train teacher candidates how to teach reading across the curriculum. However, completion of such university coursework does not ensure preservice teachers know how to put all the information together to effectively teach all students (Fenstermacker & Richardson, 2005).

College students enter teacher education programs with various beliefs about teaching and learning which are rooted in their own K-12 school experience (Doyle, 1997). It is common for preservice teachers to enter their first teacher preparation classes viewing teachers as disseminators of knowledge and students as passive recipients. As these preservice teachers gain more time and experience in classroom settings during field experiences and have opportunities to apply information learned during their coursework, their views of teaching and learning should change to one in which teachers are more often viewed as facilitators, and where learning is viewed as an active process (Feiman-Nemser & Buchman, 1995). Incorporating content area reading instruction into subject area courses through the use of appropriate content area reading strategies is aligned with the view of teachers as facilitators and students as active participants in the learning process. Previous research by Doyle (1997) found many preservice teachers’ perspective of the teaching and learning process remained unchanged after completing their teacher education program; the preservice teachers continued to hold to those
traditional beliefs even when their new experiences supported an alternate view of the teaching and learning process.

More than a century of research has provided support for addressing reading within content area courses, yet current research continues to suggest that content area teachers are not prepared to accept this responsibility (Vacca & Vacca, 2008). While previous studies in this area have looked at preservice teachers’ attitudes and knowledge of specific content area reading strategies after the completion of a single stand-alone content area reading course, there has not been research which examined how field-based experiences during teacher education programs influence preservice teachers’ attitudes and knowledge toward teaching reading in content areas. This is an important distinction that this study investigated.

Preservice teachers at three different levels of classroom field experience from three state-supported universities in a southeastern state were included in this study. Experience Group 1 were preservice teachers who were just beginning teacher education courses and had not completed any formal field-based classroom experience. Preservice teachers in Experience Group 2 were just starting their teacher candidacy semester (also known as student teaching) and had all completed required coursework including various short field-based classroom experiences. Preservice teachers in Experience Group 3 were graduates who completed the teacher education program, including a full semester of teacher candidacy the previous semester. During the teacher candidacy semester, these preservice teachers spent a full semester teaching in a K-12 classroom setting under the supervision of the regular classroom teacher with periodic visits from their assigned university professor.
This study answered three questions. First, does experience in the classroom make a difference in preservice teachers’ attitudes towards content area reading? Second, does experience in the classroom make a difference in preservice teachers’ reported familiarity, use, and perceived applicability of content area reading strategies? Third, is there a difference in attitudes toward teaching content area reading between elementary and secondary preservice teachers? A discussion of the findings for the questions and the corresponding hypotheses follows.

Findings

Preservice Teachers’ Attitudes toward Teaching Content Area Reading

The Attitudes Toward Content Area Reading (ATCAR) questionnaire developed by Grierson and Daniel (1995) was used to assess teachers’ attitudes toward content area reading instruction. The questionnaire consisted of 30 statements with Likert scale response options ranging from strongly disagree, disagree, neutral, agree, and strong agree.

Does field-based classroom experience during preservice teachers training programs make a difference in preservice teachers’ attitudes toward content area reading instruction? Findings from the data analysis presented in chapter 4 suggest that there is a statistically significant difference in preservice teachers’ attitudes toward incorporating content area reading instruction into content area courses at the three different levels of field-based classroom experience explored in this study. The range for possible total scores for the ATCAR is between 30 and 150. Descriptive statistics for the total mean score on the ATCAR for this study was 105.13, suggesting preservice teachers’ attitudes
fell between neutral and agree (positive attitude). A score of 90 is considered neutral and a score of 120 notes agreement inferring a more positive response, attitude.

**Conclusions and Discussion of Attitudes toward Content Area Reading**

The findings from the quantitative data analyses suggest that preservice teachers in this study reported a somewhat neutral attitude toward content area reading instruction. This finding is consistent with the findings in previous research of Grierson and Daniel (1995), Otto (1969) and Singer (1979), who also found attitudes of preservice and inservice teachers to be somewhat neutral in their attitudes regarding content area reading instruction. Why seemingly unremarkable, a neutral attitude is not desirable given the importance of content area reading instruction, as teachers’ attitudes strongly influence their instructional objectives and pedagogical approach (Ruddell & Unrau, 2004).

Otto (1969) conducted the first study that specifically linked teachers’ attitudes toward content area reading instruction and their instructional practices. Researchers have continued to note teachers’ attitudes are one of the key variables in the educational process, influencing the acquisition of and mastery of reading skills that are necessary for academic success of students in content areas classes (McDonald, 1971; Slinger, 1981; Adams & Martray, 1981). In other words, the teacher ultimately is responsible for creating a positive environment which supports incorporating reading instruction into content areas.

An examination of the differences in total ATCAR scores between the three Experience Groups reveal a dramatic increase in positive attitudes between Experience Group 1 and Experience Group 2 which suggests that preservice teachers in Experience Group 2 gained more knowledge and understanding of content area reading from the
courses completed during the teacher education coursework. These results are consistent with the findings from Doyle (1997), a similar study which examined changes in preservice teachers’ beliefs about teaching and learning. Doyle found that as preservice teachers moved from an introductory set of classes (referred to as Block I in his study) to the an intermediate set of classes (referred to as Block II), the preservice teachers perspective of teaching and learning moved from viewing teachers as disseminators of knowledge to one that views teachers as facilitators of learning. A shift was noted in preservice teachers view of learning from a passive role of the student being a receiver of information to a view in which learning is a process of growth and change that requires students to be actively engaged and connected to the information through a meaningful learning process. The latter view clearly aligned with the skills needed by content area teachers if they are to effectively incorporate content area reading instruction into subject area courses such as math, English, social studies and science. This shift in views of teaching and learning would produce a more positive attitude toward integrating content area reading instruction into content area courses. In an effort to gain more specific details about particular areas related to attitudes toward and knowledge of content area reading instruction of the preservice teachers in this study, a more in-depth examination of the responses to individual items on the ATCAR was conducted.

**Summary of Individual Items on the ATCAR**

The primary purpose of content area reading is to teach and provide students with specific reading to learn strategies to facilitate comprehension of expository text (Vacca, 2002). Over the past century many instructional theories and practices have emerged in the field of content area reading which are deemed appropriate and effective. Items on
the ATCAR ask preservice teachers to respond to statements which are aligned with effective content area reading instruction. Of the individual items on the ATCAR questionnaire, there was no statistically significant difference between the three Experience Groups on over half of the items (16 of the 30). For the purpose of discussing differences found in responses on individual items on the ATCAR between the three Experience Groups, five categories based upon the fundamentals of reading research will be used: (a) reading instruction, (b) skills and strategies, (c) comprehension, (d) types of text, and (e) student interest (Ruddell & Unrau, 2004) follows.

Reading Instruction. Seven of the 30 items on the ATCAR ask participants to respond specifically about reading in content areas (items 1, 4, 5, 13, 19, 22, and 26). Item 1 sets the tone and purpose for the instrument; Every teacher is a teacher of reading. It is important to note that there was not a significant difference between the three Experience Groups in the response to item 1, the group’s overall responses fell between agree and strongly agree. This finding suggests that the preservice teachers included in this particular study reported a more positive attitude for this item than is suggested in previous research.

But more important to note are the many contradictions that were found within the responses of each Experience Group on items pertaining to reading instruction. While all three groups agreed that every teacher is a teacher of reading, Experience Group 3 showed a more positive view of incorporating reading instruction into all subjects and agreed that students must be taught how to read content area texts. However, this group also expressed a more neutral stance for teachers receiving special training which contradicts their responses to the previous items. Experience Group 2 expressed
greater support for the idea that teaching of reading should be limited to the language arts block, yet there seems to be a contradiction in that they also agreed that reading instruction should be incorporated into all subject areas and that students must be taught how to read content are texts. Strangely, Experience Group 1, the group that had not completed any field-based classroom experience or courses in education including content area reading, showed the greatest support for reading strategies and special training for teaching students to read content area materials. The response from Experience Group 1 may be due to their eagerness to learn, as preservice teachers entering teacher education may be more excited and willing to learn new information. It is clearly evident by the contradictions on the items pertaining to reading that the preservice teachers in this study did not have a well-developed concept of reading or see the value of special training in content area reading instruction. The findings pertaining to items related to reading are consistent with previous research which found preservice and inservice teachers to have doubts that special training in reading will improve their teaching (Bean & Readence, 1989; Moore, Readence, & Rickelman, 1983; O’Brien & Stewart, 1990; Schallent & Roser, 1989; Vacca & Vacca, 1989, 2008).

Skills and Strategies. Eight items on the ATCAR asked participants to respond to statements about skills and strategies needed for content area reading instruction (2, 6, 9, 11, 14, 15, 16, and 23). Of these items, the three groups gave similar responses to items 2 and 23. For item 2, the teaching of strategies for reading information text are best taught as separate skills, all three Experience Groups reported an overall response approaching neutral. However, this same group reported a response of agree for item 23, before assigning content area reading to students, the teacher should first teach the students
how to find information. This contradiction in findings of items 2 and 23 are consistent with the findings for preservice teachers in the study by Grierson and Daniel (1995). Grierson and Daniel found preservice teachers tended to favor a more transmission model of teaching with an emphasis on directed teaching. The transmission model lacks support for integrating skills and strategies.

Introducing expository or informational types of text found in content area textbooks to students and discussing with them strategies that might help them to read the text more effectively is a critical instructional practice commonly included in content area reading instruction. Skills and strategies are foundational to incorporating reading into content areas. This finding has great implications, since textbooks are considered essential classrooms tool and continue to dominate classroom activities (Wakefield, 2006). Students are often confused by the organization of the text and text structures found in textbooks across content areas (Fang, 2008). Too often teachers assume that students have acquired the necessary skills and strategies needed to read to learn from assigned text readings. With the continued decline in reported reading scores of middle and high school students, it is critical that all teachers teach skills and strategies to help students gain meaning from text in content area courses.

Comprehension. Of the seven items on the ATCAR that focused on comprehension (3, 8, 10, 17, 20, 21, and 24), analysis of two items did not show a statistically significant difference in responses across the three Experience Groups (items 3 and 10). Preservice teachers reported a neutral response to item 3, a slower rate of reading indicates that a student is having difficulty comprehending the text, while agreeing that when students revise passages of text their comprehension increases (item
10). The varying responses between the two items suggest preservice teachers do not fully understand the levels of comprehension which include fluency and various levels of thoughtful processing. Findings related to comprehension suggest the preservice teachers in the current study lack sufficient training in content area reading instruction. Or sadly, these findings may support the findings of the study conducted by O’Brien and Stewart (1990) where preservice teachers simply rejected the responsibility of teaching reading in content areas. O’Brien and Stewart (1990) found even after preservice had completed a course in content area reading instruction they still lacked the knowledge, confidence, and attitude needed to integrate reading instruction into content areas. Of the 250 preservice teachers in the study by O’Brien and Stewart (1990), over half reported teaching reading was not the responsibility of content area teachers.

Comprehension is a thoughtful process which requires readers to construct meaning from written text by using metacognitive processes including the identification of printed words and prior knowledge. Harris and Hodges (1995) suggest fluency is the freedom from word identification problems and fluent readers are able to read smoothly, in a more conversational manner. When readers struggle to decode and identify words, fluency rates become slow and erratic, and readers’ ability to comprehend suffers. Reading in content areas can pose many challenges for readers. Texts found within content areas often include specialized vocabulary words, unfamiliar text structures and a dense concept load which can greatly affect readers’ fluency rates and comprehension. It is critical for preservice teachers to be prepared to teach appropriate before, during, and after reading strategies to help students gain meaning from text found in content area courses.
Types of Text. Four items (25, 27, 29, and 30) on the ATCAR related to types of text. There was no statistically significant difference between the three Experience Groups responses to item 30, primary grade children can explain the differences between fiction and nonfiction; overall responses fell between neutral and agree. This finding is consistent with the findings of Grierson and Daniel (1995) who reported that preservice teachers tended to agree that even the very young students know the difference between fiction and nonfiction. However, unlike the preservice teachers in the study by Grierson and Daniel (1995), the preservice teachers in this study reported overall disagreement with item 25, the ability to understand narrative and expository text develops at the same time suggesting a contradiction in responses between item 25 and 30. This inconsistency adds to further support conclusions that the preservice teachers could benefit from more training in content area reading instruction at the elementary and secondary level.

Recent research supports integrating expository informational text instruction and use into the primary grades (Moss, 2005). At least three critical factors have contributed to the focus of teaching content area reading: (a) our standards-based education, (b) standardized testing, and (c) technology. With accountability and the interest in students’ ability to read various types of information texts a major shift is occurring. In the past, K-12 students were not introduced to informational texts or content area reading until after they learned to read using narrative or story grammar. Currently, new instructional standards related to reading and writing using informational texts starts at the kindergarten level. With this shift all preservice teachers must be trained to teach reading across the curriculum starting in kindergarten and continuing all the way through twelfth grade.
Student Interest. Of the four items on the ATCAR related to student interest (items 7, 12, 18, and 28) as related to reading in content areas, there was not a statistically significant difference found in the overall responses for two of the items (items 18 and 28). All three Experience Groups tended to agree that if interested in a reading assignment, students will want to talk about it after it is completed (item 18) and they tended to disagree that when given a choice, students will choose to read fiction instead of information books (item 28). The most interesting item response in regard to student interest was in regard to using pre-assessments; only Experience Group 3 supported using pre-assessments of student’s interest to direct reading in content areas. This finding suggests that the preservice teachers in this study need additional training to understand the importance of student interest and critical role student interest plays in teaching reading within content area courses. Renninger (1992) found increased interest in and engagement with text can significantly influence learning. Preservice teachers must be properly trained in order to know how to assess students’ interest and to use reading in content areas to increase students’ ability to read and to learn sometimes more complex content found in content area courses.

Inconsistencies on Individual Items

While preservice teachers’ overall attitude was neutral, there were many inconsistencies noted in their responses. An important conclusion can be drawn from the inconsistencies on responses to individual items. Grierson and Daniel (1995) suggest that the noted inconsistencies are due to a lack of reading theory knowledge which may have resulted in a somewhat random response to individual items by the preservice teachers. Given the overall neutral scores on the ATCAR and the clearly identified inconsistencies
within subcategories related to attitudes toward content area reading, the researcher accepts the suggestion from Grierson and Daniel (1995) and concludes the preservice teachers included in this study would benefit from further professional development and mentoring if they are to be prepared to meet the reading needs of students in content areas across the curriculum.

With the current research profiling reading scores of middle and high school students and high school dropout rates which suggest that reading test scores of secondary students have not improved over the past 30 years (Biancarosa & Snow, 2004; Kamil, 2003), the need for middle and high school teachers to be prepared to help students in content areas is critical. As students advance to higher grade levels, the curriculum and literacy skills they need to be successful become more complex. Teachers in content areas must have both a willing spirit (positive attitude) and the skills necessary to help students to develop the needed skills to effectively comprehend and gain meaning from the complex information they are required to read to learn.

For over 40 years, researchers in the field of content area reading have investigated content area teachers’ attitudes toward teaching reading in their subject area (Braam & Walker, 1973; Olson, 1969; Otto, 1969). While previous studies have investigated the attitudes of inservice teachers or of preservice teachers after the completion of a stand-alone course in content area reading, this study sought to explore the attitudes of preservice teachers at three different places in the teacher education program based upon the level of field-based experience in regular K-12 classrooms.

Familiarity, Use, and Perceived Applicability of Content Area Reading Strategies
The Content Area Reading Strategies (CARS) questionnaire was used to collect data related to preservice teachers’ familiarity, use, and perceived applicability of specific content area reading strategies. The questionnaire lists 35 commonly cited content area reading strategies. Preservice teachers were asked to rate each of the 35 items three times. First, after reading the name of an individual strategy, participants selected yes or no to identify if they were familiar with the particular strategy. Second, if the respondent was familiar with the particular strategy, they were asked to report how frequently they use the strategy (often, seldom, never). Third, participants were asked how often the strategy should be used (often, seldom, never). Each response yielded a subarea scores for the instrument. The subarea scores were used answer question two and the corresponding hypotheses. A discussion of the results for question two follows.

**Summary of the Results of Familiarity, Use, and Perceived Applicability**

Does field-based classroom experience during preservice teachers training programs makes a difference in preservice teachers’ reported familiarity, use, and perceived applicability of content area reading strategies? Findings suggest that there is a difference in preservice teachers reported familiarity and use of the 35 content area reading strategies listed on the Content Area Reading Strategies questionnaire as preservice teachers experienced time in field-based classroom settings during their teacher training program. However, the findings suggest there was no statistical significant difference between the three experience groups in regard to reported perceived applicability of the content area reading strategies.

**Familiarity.** As would be expected, Experience Group 1, those just beginning teacher education courses reported being least familiar with the 35 content area reading
strategies on the CARS. It is interesting to note that preservice teachers in Experience Group 2 were found to be more familiar with the specific reading strategies than Experience Group 3. Similar to the findings as reported by Howe, Grierson, and Richmond (1995), teachers with the most experience including educational coursework or professional development in content area reading are more familiar with content area reading strategies. Based upon the results of this study and the findings from previous studies, it is assumed that the increased familiarity with content area reading strategies for Experience Group 2 and Experience Group 3 as compared to Experience Group 1 is due to the completion of teacher education coursework.

While examining the overall responses of the preservice teachers’ reported familiarity with specific strategies, the most frequent responses were journal writing, matching definitions, computer programs, puzzles, prior knowledge, and phonics. A closer look at the items in which preservice teachers in Experience Group 1 reported being most familiar may not always be viewed as a reading strategy and most certainly not always with the intention of teaching reading in content areas (i.e. journal writing, matching definitions, and computer programs). Students are commonly asked to write in journals, match definitions, and to use computer programs throughout K-12 and post secondary schooling, but the instructional purpose may not be to specifically help students to learn content. Experience Group 2 and Experience Group 3 reported the highest percentage of familiarity for the same items identified by Experience Group 1, but also responded with high percentages for enrichment activities and graphic organizers. As with the strategies Experience Group 1 reported the greatest familiarity, enrichment activities and graphic organizers are commonly used in K-12 schooling.
Most content area textbooks have corresponding ancillary supplements which contain workbooks that include worksheets with enrichment activities and graphic organizers. Quite often content area teachers use these activities with little regard for reading instruction in the content area courses they teach.

Of the 35 strategies, preservice teachers were least familiar with Directed Reading Thinking Activity (DRTA), morphemic analysis, Directed Reading Activity (DRA), and reciprocal questioning (ReQuest). These strategies are not generally ones in which preservice teachers without specialized coursework would report being familiar, they are complex strategies that require training and practice to effectively teach them to students in content area courses (Readence, Bean, & Baldwin, 1992; Moss, 2008; Vacca & Vacca, 2008). DRTA is a critical thinking strategy used before, during, and after reading. DRA is very similar to DRTA, in that both require teachers to guide students through the learning process by first piquing students’ interest, checking for prior knowledge, and facilitating learning through the use of guided questioning techniques. The questioning techniques could involve ReQuest, where the teacher and the students take turns asking each other questions concerning reading content. Morphemic analysis most certainly requires a deeper understanding of morphemes, the smallest units of language associated with meaning. In using morphemic analysis as a content area reading strategy, teachers help students to identify morphemes in content area vocabulary. After identifying the morphemes students, define the morphemes and begin to generalize the meaning among similar words. For teachers to be prepared to use these four strategies, specialized training is needed. Based upon the reported familiarity frequencies of the preservice teachers in this study, more specialized training is needed in teacher education programs.
For students in K-12 schools to be successful in content areas, teachers must be prepared to help students by piquing their interest while activating their prior knowledge, teaching and modeling effective content reading strategies.

*Use.* There were overall statistically significant differences between the three Experience Groups in regard to the reported frequency of using the content area reading strategies listed on the CARS. Experience Group 1 reported the lowest frequency for use, and Experience Group 2 reported the highest use of the strategies. As with the findings presented earlier in this chapter for attitudes toward content area reading instruction and reported familiarity, there was also a decline in reported frequency use from Experience Group 2 to Experience Group 3.

When looking closer at the individual strategies in which each Experience Group reported using most often some interesting conclusions were drawn. The specific strategies Experience Group 1 reported using most often were computer programs and prior knowledge. As with the responses from Experience Group 1 in regard to familiarity, the strategies reported as being used most often by this group are strategies that are commonly used in K-12 schooling. It is possible that preservice teachers in Experience Group 1 merely recognized the terms, but did not necessarily know them as specific strategies used to teach content area reading. Experience Group 2 reported using scrambled words and word walls most often. Scrambled words and word wall strategies help students build vocabulary in content area courses, but neither of these strategies requires complex thinking or skills; they simply are used to acquaint students with content related terminology before using strategies to increase critical thinking, comprehension, and metacognitive skills. Experience Group 3 reported using word maps,
KWL 3 level guide, and ReQuest most often, which are more balanced in complexity than those reported by the other two groups. This finding is consistent with the findings from Howe, Grierson, and Richmond, (1995), a similar study of teachers with various levels of classroom teaching experience. Howe, Grierson, and Richmond found teachers who received specific instruction in content area reading reported an increase in the complexity and the reported use of specific content area reading strategies.

*Perceived Applicability.* There was not a significant difference between the Experience Groups in regard to their perceived applicability of the specific content area reading strategies listed on the CARS questionnaire. Oddly, Experience Group 1 reported the overall highest perceived applicability score of the three groups, followed by Experience Group 2. Prior knowledge and phonics were reported as most often applicable by Experience Group 1, while Experience Group 2 reported guided writing and DRA as most often applicable. Experience Group 3 responded most favorably for the use of conferencing, computer programs, DRA, and guided writing.

*Conclusions and Discussions of Familiarity, Use, and Perceived Applicability*

The results of this study suggest preservice teachers report familiarity with content area reading strategies; unfortunately many of the strategies are general reading strategies. After reviewing the most frequently reported strategies in all three area of familiarity, use, and perceived applicability, only a few of the strategies could be considered as specifically designed for reading instruction in content area courses. The overall results for familiarity, use, and perceived applicability of the specific reading strategies show that there is a difference in reported familiarity and use between the three Experience Groups, but there is no difference in reported perceived applicability.
The same decline noted in regard to attitudes between Experience Group 2 and Experience Group 3 were noted for the variables of familiarity, use, and perceived applicability. The decline between Experience Group 2 and Experience Group 3 might suggest that the preservice teachers did not retain the knowledge in which they gained during their coursework which may provide additional support for findings by Zeichner (1980). Zeichner (1980) suggested that what prospective teachers learn during field experience is often counterintuitive to what they have learned during their coursework. Ervay (1985) found the influence of cooperative teachers in the field far outweighs the information delivered within coursework at the university. If the cooperating teachers with whom teacher candidates were placed during the teacher candidacy semester did not use or support the use of integrating content area reading strategies into subject area courses, the teacher candidates may have been negatively influenced.

Elementary and Secondary Preservice Teachers’ Attitudes

The Attitudes Toward Content Area Reading (ATCAR) questionnaire, the same instrument used to ascertain differences between experience groups presented earlier, was used to assess elementary and secondary preservice teachers’ attitudes toward content area reading instruction. As a reminder, the questionnaire included of 30 statements which elicited a Likert scale response with options ranging from strongly disagree, disagree, neutral, agree, and strong agree (Appendix B).

Summary of the Results of Elementary and Secondary Preservice Teachers’ Attitudes

Is there is a difference in attitudes between preservice teachers who are seeking elementary (K-6) licensure and those seeking secondary (7-12) licensure in regard to incorporating reading instruction into content areas? Findings suggest that there is a
statistically significant difference in elementary and secondary preservice teachers’ attitudes toward content area reading instruction showing that the elementary preservice teachers reported a more positive attitude than secondary teachers.

Conclusions and Discussion of Elementary and Secondary Preservice Teachers’ Attitudes

Historically, research has consistently reported secondary preservice and inservice teachers’ negative attitudes toward content area reading. This may be explained by the differences in the focus of elementary and secondary teacher education programs. Elementary teachers are immersed in reading instruction throughout their teacher education programs for the primary purpose of early elementary school centers around teaching young students to read (Hoffman, J., Roller, C. M., & The National Commission on Excellence in Elementary Teacher Preparation for Reading Instruction, 2001). A recent shift in focus on content area reading in elementary classrooms is being brought to the forefront of reading research (Duke & Pearson, 2002). The more positive attitude reported by elementary preservice in this study is consistent with the findings from a study conducted by Midcalf (2008) which examined the attitudes of elementary preservice teachers. Overall the elementary preservice teachers reported a positive attitude toward content area reading instruction.

An explanation for the differences found between elementary and secondary preservice teachers attitudes toward content area reading may be rooted in the different requirements between the two licensure area programs. Generally speaking, secondary preservice teachers are mandated by state requirements to complete one or two three-credit hour reading courses (Hoffman, J., Roller, C. M., & The National Commission on
Excellence in Elementary Teacher Preparation for Reading Instruction, 2001; Stewart & O’Brien, 1989) and there are some states in which no reading courses are required for secondary education majors. It is important to note that the state in which this study was conducted does not require a stand-alone course in content area reading, but allows teacher education programs to decide whether to integrate content area reading throughout the coursework or to require a stand-alone course. Two of the universities required a stand-one course, while one did not. During the past 20 years, researchers such as Richard Vacca, Jo Anne Vacca, Harold Herber, Joan Herber, John Readance, Robert Rickelman, and David Moore have been forging the path in content area reading research in secondary classrooms. Sadly, this study continues to confirm what is already known about the attitudes of secondary preservice and inservice teachers, their attitudes remain less than positive.

Implications for Preservice Teacher Preparation

There are four key areas that must be addressed in order to prepare teacher candidates to effectively incorporate reading into every subject area course. First, teacher education programs should require content area reading instruction to be seamlessly integrated into all teacher education coursework. If teachers are to be prepared to teach reading across the curriculum in K-12 schools, they must experience the same type of instruction modeled in their education courses. Elementary preservice teachers should learn how to teach reading and reading to learn simultaneously and not in isolated courses (Duke & Pearson, 2002). Because the majority of coursework for secondary teacher education programs focuses on the licensure area in which the teacher candidate is seeking, strong content area reading courses and an integrated instructional approach
within content area courses is needed. Research on cognition and memory suggest content area reading strategies should not be taught in isolation, but should be seamlessly integrated into content instruction (Rawson & Kintsch, 2002). For preservice teachers to fully understand the need and usefulness of content area reading strategies, they must be taught the reading strategies using content on their instructional learning level. As preservice teachers experience the benefits of learning while using content area reading strategies personally, they will experience greater confidence and a more positive attitude toward incorporating the strategies into the content area courses they teach.

Second, as an extension to the first implication for preservice teacher preparation, all university faculty members who help to prepare future teachers should receive extensive professional development training in effective content area reading instruction. It is illogical to expect preservice teachers to embrace the integration of reading instruction across the curriculum if the faculty members who teach their required preparatory courses do not support and accept the responsibility for teaching reading in their courses. Readence, Bean, and Baldwin (1992) suggest five developmental states are needed for successfully learning and communicating information in content area texts: (a) awareness of strategies, (b) knowledge, (c) simulation or modeling, (d) practice, and (e) incorporation. These development states can easily be applied in preparing teachers. According to Fullan (1999), what matters cannot be mandated, but to make a real difference in K-12 students’ reading ability, academic success, and to decrease the rate in which students drop out of school, change must start at the top with those who prepare future teachers.
Third, the quality of field-based experience placements is essential for preservice teachers to make connections between educational theory and practice. Field experiences are designed to allow preservice teachers to connect theoretical knowledge learned during coursework with practical teaching applications in the social context of a classroom setting (Ganser, 1906; Hyman, 1990). Because preservice teachers spend a substantial amount of time during their teacher education programs in field experience settings (Heald, 1983; Posner, 2000) it is critical that those experiences model effective integration of content area reading into content area courses. Many researchers suggest that universities are exposing future teachers to inferior instruction and perpetuating poor models of teaching (Blanton & Moorman, 1985; Evans, 1986; Katz & Cain, 1987; and Zeichner, 1980). In this study, a decline between Experience Group 2 and Experience Group 3 in regard to attitudes, knowledge, and use of content area reading instructional practices suggests that the semester of teacher candidacy may have influenced the candidates in a negative direction. This aligns with findings from Blair (1978) where preservice teachers beliefs, values, and previously learned teaching practices related to teaching reading reverted after the completion of field experience placements.

Future Research

Over a century of research is available to support the overwhelming need for teachers to be prepared to incorporate reading instruction into the content areas they teach (Gray, 1927; Mueller, 1973; O’Brien & Stewart, 1990; Moss, 2005). This study of preservice teachers illustrates by their reported neutral attitude and limited knowledge of content area reading strategies that this knowledge is still not reaching teacher candidates. The findings from this study showed that preservice teachers report only an overall
neutral attitude toward content area reading instruction regardless of the influences of
field-based experience or licensure area. If teachers are to be effective in helping
students gain meaning across the curriculum, and improvements are expected in K-12
academic success in order to decrease the dropout rates in the United States, universities
with teacher education programs must require and model instruction that includes content
area reading all across the curriculum. Based upon previous research and the findings of
this study, the following recommendations for future research are offered.

First, more research is needed to evaluate the attitudes and knowledge of
university faculty members who teach preservice teachers enrolled in teacher education
programs. While a single course in content area reading could produce more than just a
positive change in attitudes, preservice teachers can learn best about the language, text
structures, and strategies associated with a particular discipline from the professionals
within that discipline. Research is needed to explore how prepared faculty members are
on university campuses to model reading instruction in courses in their department.

Second, as noted in this study, there was a noted decrease in the attitudes toward
content area reading between those just beginning the teacher candidacy semester and
those who had just completed the teacher candidacy semester. Further research is needed
to explore this decline between the two groups to determine what factors may have
influenced the decrease. It is possible that preservice teachers’ overall attitudes decrease
as they complete the teacher candidacy semester. One would expect that as teacher
candidates begin to link theory and practice along with the pressure of standardized tests
and the enormous responsibilities of being a classroom teacher they would experience a
decrease in overall attitude, not just content area reading. A future mixed study design is
recommended to follow a cohort of preservice teachers from the beginning of their program to the end. Additional research needs to explore the voices of preservice through qualitative interviews to better understand factors that may contribute to attitudes toward integrating content area reading instruction.

Third, the findings for this study are based upon preservice teachers from three state-supported universities in the southeastern part of the United States. A replication of this study to include more universities in different parts of the country is needed as well to provide a national view of preservice teachers’ attitudes and knowledge of incorporating reading into content area courses.

Summary

This chapter presented the findings, results, conclusions, and discussion of this study as well as implications for preservice teacher preparation and future research. The purpose of the study was to explore preservice teachers’ attitudes, familiarity, use, and perceived applicability of incorporating reading instruction into content area courses as influenced by their level of K-12 classroom field experience. Results from the quantitative survey design lead to the following conclusions. First, experience in the classroom does make a difference in preservice teachers’ attitudes towards content area reading. Second, experience in the classroom does make a difference in preservice teachers’ familiarity and use of content area reading strategies, but it does not make a difference in perceived applicability. Third, there is a difference in attitudes towards teaching content area reading between elementary and secondary preservice teachers.

It is the responsibility of teacher education programs train future teachers. The training must include a balance of content and pedagogical knowledge along with
appropriate field based classroom experience. Field experiences have long been viewed as the place where preservice teachers’ have the opportunity to connect the theory learned during their coursework with the practical application in the social context of the classroom. However, quite often preservice teachers are placed in poor settings where they are exposed to negative attitudes and ineffective instructional practices. This influence often causes preservice teachers to adopt the stance of the classroom teacher whom they respect as having more experience.

Reading is a process in which meaning is constructed by the learner; it is in essence the connection between information and understanding. Teaching K-12 students how to effectively use reading to learn the information found in texts associated with content areas helps to equip students with skills necessary to be academically successful and may decrease the high school dropout rates. More importantly than academic success and decreased dropout rates is the benefit that students will be better prepared for daily life. The skills needed to make good informed decisions are similar to the skills needed to read in content areas. Daily life requires adults to read unfamiliar text to make important decisions so reading instruction must continue throughout elementary and secondary schooling across the curriculum. To better prepare our children for with the skills necessary for life, every teacher must be a teacher of reading.
APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE

By answering and submitting this questionnaire, you are agreeing to participate in this study. Please make a check mark (✓) in the box by the appropriate response for each question. If the question asks for an opinion, identify the option that most closely represents your opinion. Your responses are confidential and will only be used to match your response with a questionnaire that will be administered.

1a. What is your major area of educational study?
   - Elementary
   - Secondary
   - K-12

1b. What grade levels will you be licensed to teach upon completing your degree?
   - PK-3
   - K-6
   - K-8
   - 4-8
   - K-12
   - 7-12

2. What is your current university classification?
   - Freshman
   - Sophomore
   - Junior
   - Senior
   - Graduate

3. Your age:
   - 18-22
   - 23-27
   - 28-34
   - 35-40
   - 41-50
   - 51+

4. Your gender:
   - Female
   - Male

5a. Which areas are you seeking teaching licensure, endorsement, or concentration? (check all which apply)
   - Science
   - Social Studies
   - English
   - Math
   - Music
   - Art
   - Psychology
   - Other, please specify ___________________

5b. - Elementary
   - Secondary

6. How many semesters of education courses have you completed?
   - 0
   - 1
   - 2
   - 3
   - 4
   - 5 or more

7. How many courses in content area reading instruction courses have you taken?
   - 0
   - 1
   - 2
   - 3 or more
APPENDIX B

ATTITUDES TOWARD CONTENT AREA READING (ATCAR):
A QUESTIONNAIRE FOR PRE-SERVICE TEACHERS

**Definition:** Content area reading includes reading in subject areas such as geography, history, mathematics, or science. Often expository in nature, content area text attempts to explain or to give information about a subject.

**Instruction:** Carefully read each statement below and indicate your response to each of the following statements by circling the appropriate number.

| Strongly Disagree = 1; Disagree = 2; Neutral = 3; Agree = 4; Strongly Agree = 5 |
|----------------------------------|-----------------|-----------------|-------|-------|-------|
| 1. Every teacher is a teacher of reading. | 1 | 2 | 3 | 4 | 5 |
| 2. The teaching of strategies for reading information text are best taught as separate skills. | 1 | 2 | 3 | 4 | 5 |
| 3. A slower rate of reading indicates that a student is having difficulty comprehending the text. | 1 | 2 | 3 | 4 | 5 |
| 4. Content reading should be assigned for a specific purpose. | 1 | 2 | 3 | 4 | 5 |
| 5. The teaching of reading should be limited to the language arts block. | 1 | 2 | 3 | 4 | 5 |
| 6. Even very young students should understand how to find information in textbooks. | 1 | 2 | 3 | 4 | 5 |
| 7. Pre-assessment of student’s interests should direct content reading instruction. | 1 | 2 | 3 | 4 | 5 |
| 8. Supplementary texts or less difficult materials are needed for students who read below grade level. | 1 | 2 | 3 | 4 | 5 |
| 9. Open-ended questioning techniques are effective in increasing comprehension of informational passages. | 1 | 2 | 3 | 4 | 5 |
| 10. When students revise passages of text, their comprehension increases. | 1 | 2 | 3 | 4 | 5 |
| 11. Special materials are needed in order to teach students how to gain information from text | 1 | 2 | 3 | 4 | 5 |
| 12. Students should be able to choose the amount of reading that they will do for a class assignment. | 1 | 2 | 3 | 4 | 5 |
| 13. Every subject area requires different reading strategies. | 1 | 2 | 3 | 4 | 5 |
| 14. A teacher should first introduce an information book by discussing how it might be read most effectively. | 1 | 2 | 3 | 4 | 5 |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 15. | The modeling of reading strategies has little effect on teaching students to read content area materials. | 1 | 2 | 3 | 4 | 5 |
| 16. | New vocabulary should be defined when encountered during content reading. | 1 | 2 | 3 | 4 | 5 |
| 17. | Integrating the teaching of reading strategies into content areas is necessary for increased comprehension. | 1 | 2 | 3 | 4 | 5 |
| 18. | If interested in a reading assignment, students will want to talk about it after it is completed. | 1 | 2 | 3 | 4 | 5 |
| 19. | Students must be taught how to read content area texts. | 1 | 2 | 3 | 4 | 5 |
| 20. | Cooperative learning aids in the comprehension of information books. | 1 | 2 | 3 | 4 | 5 |
| 21. | Stories are easier for beginning readers to understand than nonfiction or information books. | 1 | 2 | 3 | 4 | 5 |
| 22. | A teacher requires special training to teach students how to read content area materials such as textbooks. | 1 | 2 | 3 | 4 | 5 |
| 23. | Before assigning content area reading to students, the teacher should first teach the students how to find information. | 1 | 2 | 3 | 4 | 5 |
| 24. | Students who have problems in content area reading probably need remediation. | 1 | 2 | 3 | 4 | 5 |
| 25. | The ability to understand narrative and expository text develops at the same time. | 1 | 2 | 3 | 4 | 5 |
| 26. | Reading instruction must be incorporated into all subject areas. | 1 | 2 | 3 | 4 | 5 |
| 27. | Students can understand information texts when they are read orally to them, even if they cannot read them individually. | 1 | 2 | 3 | 4 | 5 |
| 28. | When given a choice, students will choose to read fiction instead of information books. | 1 | 2 | 3 | 4 | 5 |
| 29. | Textbooks are easier to read than nonfiction trade books, because they have a controlled vocabulary designed for the specific age of the child. | 1 | 2 | 3 | 4 | 5 |
| 30. | Primary grade children can explain the differences between fiction and nonfiction. | 1 | 2 | 3 | 4 | 5 |
APPENDIX C

CONTENT AREA READING STRATEGIES (CARS) QUESTIONNAIRE

**Directions:** Begin by reading the name of each strategy in **Column B**. Indicate your responses by circling the answer that most closely expresses your response.

Follow the steps below:

(1) **Column A:** Are you familiar with the strategy in **Column B**? Select *Yes* or *No*. If *Yes*, please answer the questions in **Column C** and **D** as well.

(2) **Column C:** Do you use this strategy? Select *Often*, *Seldom*, or *Never*.

(3) **Column D:** Should this strategy be used in the content area? Select *Often*, *Seldom*, or *Never*.

<table>
<thead>
<tr>
<th>Familiar?</th>
<th>Strategy</th>
<th>Do you use it?</th>
<th>Should it be used?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes / No</td>
<td>Advanced organizers</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Analogies</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Anticipation guides</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Cloze procedure</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Computer programs</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Conferencing</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>DRA</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>DRTA</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Discussion forums</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Enrichment activities</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Graphic organizers</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Guided writing</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Inserted questions</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Interest inventories</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>KWL 3 level guide</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Journal writing</td>
<td>3 2 1</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Familiar?</td>
<td>Strategy</td>
<td>Often</td>
<td>Seldom</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Matching definitions</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Modeling from text</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Morphemic analysis</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Meaning negotiation</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Oral conflict resolution</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Pattern guide</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Phonics</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Prediction</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Prior knowledge</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Puzzles</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Questioning methods</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Reciprocal teaching</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>ReQuest</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Scaffolding</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Scrambled words</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Think alouds</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Use of text structure</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Vocabulary cloze</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes / No</td>
<td>Word maps</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
January 8, 2010

Bridgette Davis
260 Timberton Drive,
Hattiesburg, MS 39401

Dear Bridgette,

This letter is to grant you permission to use two instruments for the purposes of your dissertation, including the Attitudes Toward Content Area Reading (ATCAR): A Questionnaire for Primary Grade Teachers as well as the Content Area Reading Strategies (ARS) Questionnaire, which are found in my dissertation, "The Effects of Professional Development on Content Area Reading Instruction in the Early Elementary Grades" which was published by the Graduate School of the University of Mississippi in Hattiesburg, MS in May 1966.

My best wishes to you in your future studies.

Sincerely,

Sirpa Grierson, Ph.D.
Associate Professor, English
4111 JFSB
Brigham Young University
Provo, UT 84602
Office: 1.801.422.1233
Fax: 1.801.422.0221
APPENDIX E

INSTITUTIONAL REVIEW BOARD APPROVAL

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board
118 College Drive #5147
Hattiesburg, MS 39406-0001
Tel: 601.266.6820
Fax: 601.266.5509
www.usm.edu/irb

HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 20081102
PROJECT TITLE: Preservice Teachers' Attitudes, Familiarity, Use, and Perceived Applicability of Content Area Reading Strategies
PROPOSED PROJECT DATES: 08/12/09 to 08/11/10
PROJECT TYPE: Dissertation or Thesis
PRINCIPAL INVESTIGATORS: Bridgette L. Davis
COLLEGE/DIVISION: College of Education & Psychology
DEPARTMENT: Educational Leadership & Research
FUNDING AGENCY: N/A
HSPRC COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 08/11/09 to 08/11/10

Lawrence A. Hosman, Ph.D.  
HSPRC Chair

5-12-09  
Date
APPENDIX F

THE UNIVERSITY OF MISSISSIPPI IRB APPROVAL

August 19, 2009

Ms. Bridgelle L. Davis
200 Timberlon Drive
Hattiesburg, MS 36401

Dr. Hollie Flice
CISE
The University of Southern Mississippi
Hattiesburg, MS 36401

Dear Ms. Davis and Dr. Flice:

This is to inform you that your application to conduct research with human participants, Preservice Teachers’ Attitudes Familiarity, Use, and Perceived Applicability of Content Area Reading Strategies (Protocol 10-011) has been approved as Exempt under 45 CFR 46.101(b)(2).

Please remember that all of The University of Mississippi's human participant research activities, regardless of whether the research is subject to federal regulations, must be guided by the ethical principles in The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research.

It is especially important for you to keep these points in mind:

- You must protect the rights and welfare of human research participants.
- Any changes to your approved protocol must be reviewed and approved before initiating those changes.
- You must report promptly to the IRB any injuries or other unanticipated problems involving risks to participants or others.

If you have any questions, please feel free to call me at (662) 915-7482.

Sincerely,

Diane W. Lindley
Coordinator, Institutional Review Board

A Great American Public University
www.olemiss.edu
APPENDIX G

MISSISSIPPI STATE UNIVERSITY IRB APPROVAL

From: "Christine Williams" <CWilliams@research.msstate.edu>
To: "Bridgette L. Davis" <ScienceEd@comcast.net>
Cc: "Terry Jayroe" <TJayroe@colled.msstate.edu>, "Lindon J. Ratliff" <LRatliff@meridian.msstate.edu>
Sent: Tuesday, September 1, 2009 3:28:27 PM GMT -06:00 US/Canada Central
Subject: Re: Davis Dissertation Data Collection at Miss State

Bridgette,

As a follow up to our earlier conversations and to the paperwork that you submitted for MSU IRB review, this is to state that you do not need MSU IRB approval to administer your survey in the MSU classes (so long as you departmental permission) nor do you need MSU IRB approval to have an MSU faculty member forward your recruitment email to students (current or prior). MSU is not engaged in your research, we are simply allowing you access to potential participants within the MSU classrooms.

The Federal guidance that verifies this can be found at http://hhs.gov/ohrp/humansubjects/guidance/engage08.html

I am copying the two pertinent sections below:

The following describes involvement that would make an institution not engaged in human subjects research:

(4) Institutions whose employees or agents:
   (a) inform prospective subjects about the availability of the research;
   (b) provide prospective subjects with information about the research (which may include a copy of the relevant informed consent document and other IRB-approved materials) but do not obtain subjects’ consent for the research or act as representatives of the investigators;
   (c) provide prospective subjects with information about contacting investigators for information or enrollment; and/or
   (d) seek or obtain the prospective subjects’ permission for investigators to contact them.

(5) Institutions (e.g., schools, nursing homes, businesses) that permit use of their facilities for intervention or interaction with subjects by investigators from another institution.

As you can see #4 relates to your asking Dr. Jayroe to forward the email to previous students and #5 pertains to you entering MSU classrooms and (with the permission of the professor) asking MSU students to complete the survey instrument after obtaining consent.

Good luck with the research. Please do not hesitate to contact my office if I can be of further assistance.

Regards,

Christine
APPENDIX H

PARTICIPANT INFORMED CONSENT LETTER

August 24, 2009

Dear Participant,

I am inviting you to participate in a research study I am conducting as a doctoral candidate at the University of Southern Mississippi. The purpose of the study is to examine preservice teachers' awareness of content area reading strategies. Along with this letter is a questionnaire that asks a variety of questions about content area reading and strategies that may be used. I am asking you to look over the questionnaire and, if you choose to do so, complete it and give it back to me. By answering and returning the questionnaire, you are agreeing to participate in this study. This study is anonymous so your personal identity will not be disclosed. It should take appropriately fifteen to twenty minutes to complete.

The results of this project will be used to analyze how aware preservice teachers are of content area reading strategies. The results of the survey may be useful for program evaluation and development. Results from the study will be made available to all participants, my dissertation committee, and presented in my dissertation. The overall results of this study may be included in future studies and may be published or presented in professional venues.

I do not know of any risks to you if you decide to participate in this survey and I guarantee that your responses will not be identified with you personally. I promise not to share any information that identifies you. You should not put your name on or any identifying statements or marks on the questionnaire. If you do not feel comfortable handing in your survey during this class meeting you may mail it to me at Bridgette L. Davis, Curriculum, Instruction and Special Education, 118 College Drive #5057, Hattiesburg, MS 39406-0001.

This questionnaire should take you about fifteen to twenty minutes to complete. Please read each question and respond with your best answer. Your participation is voluntary. There is no penalty if you wish not to participate. Regardless of whether you choose to participate, you may review the results in my dissertation.

This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about the rights as a research subject should be directed to the Chair of Institutional Review Board, The University of Southern Mississippi, 118 College Drive # 5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

If you have any questions or concerns about completing the questionnaire or about being in this study, you may contact me at (601) 266-6275 or Bridgette.L.Davis@usm.edu.

Sincerely,

Bridgette L. Davis
Doctoral Candidate

Note: For those wishing to participate in the drawing for a $100 Visa Gift, please write your email address or phone number where you may be contacted if your ticket is pulled.
REFERENCES

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