PRESERVICE STUDENT TEACHERS' KNOWLEDGE AND BELIEFS CONCERNING BOYS' LITERACY INSTRUCTION AND ITS CORRELATION TO THEIR TEACHER SENSE OF EFFICACY

A Dissertation

by

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This dissertation meets the standards for scope and quality of
Texas A&M University-Corpus Christi and is hereby approved.

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ABSTRACT

Current test data reveal that in every state, at every grade level tested, school-aged males are scoring lower on reading assessments than their female counterparts. Given the instrumental role of the elementary reading teacher and the data documenting growing male underachievement, this quantitative study investigated the relationship between preservice teachers' knowledge and beliefs and sense of self-efficacy for reading instruction for boys.

The quantitative study involved 97 participants enrolled in Texas A&M University-Corpus Christi's student teacher program during the Fall semester of 2012 and the Spring semester of 2013. Participants were distributed among the three elementary level Bachelor of Science in Interdisciplinary Studies degree programs: Bilingual, Early Childhood, and Reading. Descriptive data provided the information for this study as it related to what the student teachers knew about reading instruction for boys, what they believed about reading instruction for boys and whether, in effect, these aligned with their sense of self-efficacy as it related to boys and reading instruction.

Three instruments were administered: Knowledge About Boys and Reading Instruction Survey (KBRI), Beliefs About Boys and Reading Instruction Survey (BBRI), and the Teacher Sense of Efficacy for Boys and Reading Instruction Survey (TSEBRI). Data were analyzed using frequency distribution and multiple regression analysis.

Multiple regression analyses concluded that there was a statistical relationship between the preservice teachers' depth of knowledge and their teacher sense of efficacy for literacy instruction for boys. No statistical significance was found in looking at the relationship between the student teachers' beliefs about boys and reading and their teacher sense of efficacy.

Results indicate that the student teachers' perceptions concerning their sense of efficacy in regard to reading instruction for boys were more consistent and had higher associations with their knowledge about the subject than did the student teachers' beliefs about boys and reading and reading instruction. These findings suggest that student teachers' depth of knowledge and traditional beliefs about gender have important implications for teacher educators, teachers, administrators, and researchers, all of whom strive to ensure that all of today's students are equipped with the academic skills they will need to become productive citizens.

DEDICATION

This work is dedicated to my beautiful family. Your unwavering support sustained me during the most difficult of times. For Zachary, I am proud of you and the man you have become. I love you more than words can say, and I hope I have made you proud. For Clarrissa, thank you for loving the ones I care so deeply for. I thank God that Zachary found you and Alicia and brought you both into my life and into my heart. For my beautiful granddaughter, Alicia, I hope my accomplishments will serve as a reminder that Fleming women can do anything we set our minds to and I have no doubt that someday you will leave your mark on the world. I love you Alicia. And finally, for Ray who taught me to never, never, never give up. I said I would not and I did not. This was for you.

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CHAPTER I

INTRODUCTION

> Picture a student in your class who is really struggling with reading and writing. This student doesn't like to read, has difficulty sitting still and paying attention, and turns in crumpled, half-completed homework. We've all had students like this. However, chances are, as you picture this child in your mind, you are thinking of one of the boys in your class. (Connell & Gunzelmann, 2004, p. 14)

Background of the Study

Most boys enter kindergarten with enormous enthusiasm, wanting to read. Unfortunately, many of these boys who entered classrooms so full of excitement in September soon lose this eagerness because they begin to believe that the reading they are being asked to complete is boring and fails to connect with their interests and needs (Zambo & Brozo, 2009). Their impressions about reading begin to change soon after they are given a book chosen for them and then are asked to complete worksheets that they care nothing about. Lever-Chain (2008) found that for some boys, reading had "become a school task associated with standards…to be met" (p. 89) and that they quickly disengaged when the reading curriculum did not align with their interests. What was once enjoyable and exciting had become boring and frustrating. Moreover, according to Dr. Leonard Sax (2007), "From kindergarten to college (boys are) less resilient and less ambitious than they were a mere twenty years ago" (para. 1).

Elementary reading curriculum emphasizes the left-brain cognitive skills of speaking, reading, and writing, which usually develop at a slower rate in boys (Connell & Gunzelmann, 2004). Yet, in spite of this developmental difference, beginning at kindergarten and first-grade levels, boys are required to accomplish the same standards that may favor girls (Conlin, 2003). They are expected to sit still, speak articulately, write legibly, work well with others, color nicely, and be neat and organized (Connell & Gunzelmann, 2004, p. 14), resulting in the absence

of *goodness-of-fit*, a pattern of smooth interaction between the individual and social surroundings, including family, school, and community (Berger, 2003). All too often, the boys who have repeated difficulties in the classroom begin to believe that they do not measure up socially or academically. They assume that they are "bad" and that school is not a fun place to be. While it is true that many boys continue to enjoy school and become great readers, many others leave aliterate, completely uninterested in reading.

The lack of enthusiasm, developmentally appropriate instruction and curriculum, and *goodness of fit* are evidenced in boy's academic performance when reading assessment results are disaggregated. Current data from the National Center for Education Statistics (Snyder & Dillow, 2012) revealed that girls are consistently outperforming boys in reading assessments at all levels tested, in every state. Whitmire (2006) found boys were 50% more likely to be retained in elementary school than girls. In high school, the retention rate for boys was about 10 percentage points higher than for girls (Snyder & Dillow, 2010) and the retention gap was even larger for minority males. A study released by the Council of Great City Schools, a committee of leaders from the nation's largest urban school districts, brought a great deal of attention to the state of the Black male student in the United States (Lewis, Simon, Uzzell, Horwitz, & Casserly, 2010). This study found that only 12% of Black fourth-grade boys were proficient in reading, compared with 38% of White boys. And, while the NCES report found that the dropout rates in high school had decreased from 10 years before, the 5% dropout rate for minorities was more than twice the 2% rate for White students (Chapman, Laird, & KewalRamani, 2010).

In an effort to ensure the public was informed about just such trends in achievement, the Nation's Report Card was established by Congress in 1969 (NCES, 2011). The Report Card, a program under the U.S. Department of Education, communicates the findings of the National

Assessment of Educational Progress (NAEP). NAEP is responsible for grade and state testing, reporting by achievement levels. Participation in these assessments is required to receive Title I funds. NAEP assessments are uniformly administered and the results serve as a common measure between states. The assessment materials used remain essentially the same from year-to-year, allowing NAEP to provide a clear picture of student academic progress over time (NCES, 2011). Utilized as a "common yardstick," the assessments measure achievement within all 50 states. NAEP reports assessment results as scale scores that summarize student group performance per subject area. NAEP's scale for reading ranges from 0-500.

The 2012 NAEP Report Card revealed that 4th grade girls and boys scored slightly higher on the reading assessment than in 1992, but that the gap between sexes continued to remain fairly constant, between six and eight points (Table 1).

Table 1. Average NAEP Reading Scale Scores of 4th Graders by Gender, 1992-2011

4th Grade Students	1992	1994	1998	2000	2002	2003	2005	2007	2009	2011
All	217	214	215	213	219	218	219	221	221	221
Male	213	209	212	208	215	215	216	218	218	218
Female	221	220	217	219	222	222	222	224	224	225

The gender reading achievement gap increased in 8th grade. Current 8th grade trends from Snyder and Dillow (2012) indicate that female students were scoring approximately nine points higher than male students. While each group had improved their performance slightly from 1992, reading performance differences between the sexes continued to remain flat at an approximate 9-10 point difference and the gap was wider than at grade 4 (Table 2).

Table 2. Average NAEP Reading Scale Scores of 8th Graders by Gender, 1992-2011 (Data Not Available for 2000)

8th- Grade Students	1992	1994	1998	2002	2003	2005	2007	2009	2011
All	260	260	263	264	263	262	263	264	265
Male	254	252	256	260	258	257	258	259	261
Female	267	267	270	269	269	267	268	269	270

Boys' reading achievement levels continued to decline in high school. Data from the Snyder and Dillow (2010) report, the last time data were available for this level, indicated that the reading achievement gap between boys and girls had decreased slightly when compared to the 1992 scores but had increased from 2005 scores (Table 3).

Table 3. Average NAEP Reading Scale Score of 12th Graders by Gender, 1992-2009 (Data Not Available for 2011)

12th Grade	1992	1994	1998	2002	2005	2009
All	292	287	290	287	286	288
Male	287	280	282	279	279	282
Female	297	294	298	295	292	294

This achievement trend phenomena has also been examined by the Center on Education Policy (CEP, 2010), a national, independent advocate for public education who collects assessment results from every state. The Center's goal is to help Americans better understand the role of public education in a democracy and the need to improve the academic quality of public schools. CEP (2010) looked at reading achievement trends from 2002 through 2008 and

confirmed boys trailing in all states. Former CEP president Jack Jennings (as cited in Claiborne & Siegel, 2010) wrote that

> The cause for concern is that this is an unmistakable and clear trend, a national trend. Mainly, we found no state in which boys did not lag behind girls in reading at the elementary level, the middle level and the high school level. So, it is clear: boys are not doing as well as girls in reading. (para. 6)
>
> In the past, boys did not do better in the first couple of years of school, girls did better but then boys caught up. The difference now is we're finding that boys are not catching up. (para. 8)

CEP analysis of 2010 Texas Assessment of Knowledge and Skills (TAKS) results revealed that the gender gap in reading proficiency not only failed to narrow but actually widened at the 4th and 8th grade levels. This gendered achievement gap was also noted in the number of students commended in reading (Table 4).

Table 4. Texas Grades 4 and 8 TAKS Summary Data by Gender for Reading, 2010

Gender	Grade Level Tested	Number Tested	Average Scale Score	% Meeting Standard	% Commended
Male	4	166,843	647	84	34
Female	4	163,963	658	87	38
Male	8	167,622	803	87	41
Female	8	164,337	825	91	49

Gender reading achievement trends have also been examined at the international level. Findings from a study conducted in the United Kingdom (Mullis, Martin, Gonzalez, & Kennedy, 2003) reported reading assessment results for 10-year-olds from more than 35 countries using the Progress in International Reading Literacy Study (PIRLS) results. PIRLS studies the reading achievement, behaviors, and attitudes of 4th-grade (10 years old) students both in the United

States and other participating countries. Assessment results found that girls scored higher in reading achievement than boys in every country assessed. The 2010 PIRLS results confirmed that girls not only outperformed boys in reading but that the gap had actually widened by more than one-fifth from the 1998 results (Organization for Economic Co-operation and Development [OECD], 2010). In their 2004 study, Twist, Gnaldi, Schagen, and Morrison reanalyzed a portion of the 2003 PIRLS data, looking specifically at students' reading attitudes. The United States and the Netherlands were identified as the two countries that had the highest percent of students with low attitudes toward reading and the United States had more 10-year-old students with negative reading attitudes than 33 other countries (Wozniak, 2010).

The Program for International Student Assessment (PISA) is the United States' source for internationally comparative information for reading in the upper grades (age 15). A special task force established in 2003 by the International Reading Association (IRA), was given the task of analyzing PISA's cross-national literacy studies (Brozo, Shiel, & Topping, 2008). One portion of the study that received a great deal of attention was the committee's findings in the area of reading engagement. PISA (as cited in Brozo et al., 2008) defined reading engagement as "the time students report reading a diversity of materials for pleasure and their interests and attitudes towards reading" (p. 307). Results confirmed a gendered relationship between reading engagement and achievement. In all countries, females viewed reading more positively, read more often, and outperformed males on reading assessments. United States teens placed 20th among the 32 participating countries for engagement in reading with American boys' engagement levels falling well below the PISA average and American girls' rating slightly higher than average (Brozo et al., 2008, p. 309).

As documented, statistics indicated that boys continue to fall behind girls for reading achievement (Sax, 2005). The Education Alliance (2007) reported the majority of available evidence suggested that there is a "crisis in terms of the literacy achievement of boys" (p. 9). Reading ability is a key factor for overall academic success and those lacking literacy skills often find themselves powerless in today's society (Brozo, 2002). Why are so many boys indifferent when it comes to the printed word? Why are girls continuing to outperform boys on reading assessments from kindergarten through high school? This issue regarding boys and their reading habits and reading achievement should cause educators to pause and question how elementary classroom teachers are addressing the struggles and disconnect of boys in reading.

Significance of the Study

Researchers continue to search for causes regarding gender gaps in reading achievement. While studies of this nature historically have focused on adolescent boys, research interest has begun to shift to the elementary level (Zambo & Brozo, 2009). What is happening in elementary schools that is causing some boys to struggle in reading matters, have low reading motivation and/or low achievement? Are beginning elementary school teachers entering their literacy classrooms with expectations of success for all and the knowledge tools to make it happen? Teachers who begin their careers with the knowledge about the differences in gender learning needs in the classroom and positive beliefs and attitudes regarding their students will be more effective in using instructional practices that motivate boys to learn.

Moyers' (2010) dissertation study, *Perspectives on Young Boys' Reading: A Survey and Conversations with Early Childhood Teachers*, examined 31 early childhood teachers' perceptions concerning male readers in primary classrooms. She determined that many primary teachers are not looking at the role boys' interests and needs play in the reading classroom.

Citing Merisuo-Storm, Moyers (2010) suggested that because attitudes toward reading develop early, an elementary teacher can potentially have a very strong positive or a very strong negative effect on a child's decision to become a reader. Stating that classrooms will only be effective if teachers are prepared to work with boys, she called for an examination of teachers' competencies as they pertained to boys' instructional needs and the teaching of reading (p. 19). Moyers suggested that teacher education programs look for biases that might lead teacher candidates to treat boys differently. She also recommended an examination of elementary teacher education programs, taking a closer look at preparing students for teaching boys. Moyer's study found that elementary teachers are overwhelmingly female and may not have a familiarity with the needs of boys if they teach from experience.

Research on the development of teacher knowledge indicates that it depends, at a certain level, upon an individual's prior beliefs regarding teaching. Studies have also found that the educational beliefs that preservice teachers developed over time had an impact on how they respond to the various experiences they have while enrolled in a teacher education program and their receptiveness to future professional development opportunities (Stoube, 2009). Preservice teachers entering teacher education programs are not likely to change their preexisting beliefs about teaching, and these beliefs can serve as a "filter" when the teachers are exposed to new knowledge, both in their university courses and during their practicum experiences (Kagan, 1992). There was a need to understand the belief systems that preservice teachers bring with them about boys and reading instruction as they entered their student teaching experience. This study contributed to the existing body of knowledge regarding teachers' reading behaviors as they relate to boys reading instruction by focusing on preservice student teachers, a population that had not been examined in previous research.

Theoretical Framework

This study investigated student teachers' formal teacher knowledge, their beliefs, and their teacher sense of efficacy as it related to reading instruction for boys. The theoretical framework for examining the preservice teachers' knowledge about boys and reading instruction was Lee Shulman's (1986, 1987) seminal work on teacher knowledge that he contended was a distinctive form of teachers' professional knowledge that he referred to as *pedagogical content knowledge* (PCK). Shulman believed that while this form of knowledge built upon subject matter knowledge or knowledge of general principles of pedagogy, it was also different. For Shulman, pedagogical content knowledge was a form of *practical* knowledge that was used by teachers to guide their actions in highly contextualized classroom settings (Rowan, Schilling, Ball, & Miller, 2001).

Shulman's (1986) study posited that general pedagogical knowledge was broad and unattached to specific knowledge. He believed that general pedagogical knowledge included classroom management techniques and instructional theories, but not particular instructional strategies. Shulman (1987) defined pedagogical content knowledge as teachers' interpretations and transformations of subject-matter knowledge in the context of facilitating student learning. He suggested that there were six key elements of pedagogical content knowledge: (a) knowledge of representations of subject matter (content knowledge); (b) understanding of students' conceptions of the subject and the learning and teaching implications that were associated with the specific subject matter; and (c) general pedagogical knowledge (or teaching strategies). To complete what he called the knowledge base for teaching, he included three other elements: (d) curriculum knowledge; (e) knowledge of educational contexts; and (f) knowledge of the purposes of education.

Also relevant to the theoretical foundation framing this study is Bandura's (1977) social cognitive theory and his theory on self-efficacy. His social cognitive theory suggested that personal factors (including self-efficacy beliefs) and behaviors interact with the environment to influence each other through a process of reciprocal determinism (Tschannen-Moran & Woolfolk-Hoy, 2007). Bandura's (1997) self-efficacy theory had its foundation in social cognitive theory (Valadez, 2006) and focused on reciprocal interactions between personal, behavioral, and environmental factors (Schunk & Zimmerman, 2007). As an example, classroom learning could be shaped by factors found within the academic environment, especially the reinforcements experienced by oneself and by others. In his seminal work, *Self-Efficacy: Toward a Unifying Theory of Behavioral Change*, Bandura (1997) defined self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Goddard, Hoy, and Hoy (2000) suggested that teacher efficacy is a type of self-efficacy defined as "the outcomes of cognitive process in which people construct beliefs about their capacity to perform at a given level of competence" (p. 481). Bandura maintained that an individual's beliefs had an effect on his/her efforts, especially their determination when encountering problems, and the ways they cope with the anxiety they experience in dealing with these problems.

Purpose of the Study

This study had two main purposes: to examine and describe preservice student teachers' knowledge, beliefs, and teacher sense of efficacy concerning elementary school boys and reading instruction and to investigate the relationship between the preservice teachers' knowledge, beliefs, and teacher sense of efficacy concerning elementary boys and reading instruction.

Research Questions

The study was guided by the following research questions:

1. What are preservice student teachers' knowledge levels regarding reading instruction for elementary boys?
2. What are preservice student teachers' beliefs regarding reading instruction for elementary boys?
3. To what extent do preservice student teachers' knowledge and beliefs regarding reading instruction for elementary boys relate to their teacher sense of efficacy for literacy instruction?

Definition of Terms

Education courses are the set of college or university courses for those students who plan to teach. Preservice teachers are required to complete both subject-area-specific courses and courses that focus on developing their knowledge of teaching skill, assessment, and educational philosophy and learning theory. As part of their coursework, potential teachers usually spend time in actual classrooms observing students and their teachers.

Gender is the behavioral, cultural, or psychological traits typically associated with the sex of an individual, as defined in the 2012 Merriam-Webster Online dictionary.

*Preservice teacher*s are students enrolled in programs of teacher education. This term encompasses both preservice teachers involved in coursework and field experiences.

*Self-efficac*y is defined by Bandura (1997) as "one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Mastery experiences, vicarious experiences, verbal persuasions, and psychological states contribute to the development of self-efficacy judgments.

Student teacher is defined as a preservice teacher in the final year of a degree program, who is working in schools under the guidance of classroom teachers and supervisors from their university.

Teacher efficacy is defined as the extent to which teachers believe that they have the ability to have a positive impact on student learning (Bandura, 1997).

Teacher's sense of efficacy for literacy instruction refers to the self-beliefs that a teacher possesses regarding his or her ability to teach literacy effectively. This is a self-reported measure using the Teacher Sense of Efficacy for Literacy Instruction Scale (TSELI) (Tschannen-Moran & Johnson, 2011).

Limitations of the Study

There were several limitations to the study. First, the participants of the study were preservice teachers enrolled at one university and in three educational programs. Second, in examining the knowledge, beliefs, and teacher sense of efficacy for these preservice teachers, the study utilized the following variables: (a) gender, (b) ethnic background, (c) age, (d) teaching experience, and (e) teacher area of certification. Representative of the demographics found in most South Texas elementary schools, gender representation was unbalanced with only two male responses. Additionally, both the ethnicity and age variables were highly weighted with only two subgroups.

Limitations in survey research must also be discussed. This study attempted to measure the participants' knowledge and beliefs about gender roles in reading instruction and related educational practices using a self-administered questionnaire rather than face-to-face interviews. The following are limitations and concerns in using questionnaires or survey methodology:

1. There is the possibility of misunderstanding the questions by the participants. Question phrasing can have an effect on how the respondents comprehend and answer the questions. Because surveys are self-administered and anonymous, the researcher cannot correct most misunderstandings.
2. Questionnaires can be too long, complicated, or boring for the participants to fill out accurately.
3. Questionnaires usually seek responses to pre-determined choice-answers developed by the researcher and participants' opinions might not be reflected on the range of choices on the questionnaires (Gay & Airasian, 2000; Gillham, 2000).
4. Student teachers' responses to questionnaires occurred during class time and may carry some biases in the data because the students might feel obligated to respond in a way that did not necessarily reflect their real opinions.

Summary

Existing studies related to boys and reading have been almost exclusively qualitative in nature, focusing on student responses regarding their interests in reading rather than examining teachers' perspectives on their students as readers. This quantitative study expands the body of knowledge by focusing on preservice student teachers' perceptions regarding boys and reading instruction at the elementary level. The study is organized into five sections and includes references and appendices. Chapter I provides a rationale for the investigation of elementary level preservice student teachers' beliefs and knowledge concerning boys and early literacy instruction. Research questions concerning these perceptions and understandings about gender differentiation are submitted. Chapter II reviews literature that is relevant to the study, Chapter III outlines the research method, including data collection and analysis of strategies, Chapter IV

presents the results from the study, and Chapter V contains a discussion of the study's findings, implications of the study, and recommendations for future research.

CHAPTER II

REVIEW OF LITERATURE

> Ideas about how boys and girls are "supposed to be" are planted early. The messages boys receive about what it means to be male in this society are connected to their social-emotional and academic development. If we focus on boys' school experience early on, we will improve education for all children, (Froschl & Sprung, 2005, p. 3)

To clarify and bring up-to-date the theoretical frameworks that guided this examination of preservice teachers' knowledge, beliefs, and teacher sense of efficacy concerning gender differences in reading instruction and achievement, a look into previous research was necessary. This section reviews literature relevant to the study and is organized into the following sections: boys and reading, teacher knowledge, teacher beliefs, teacher sense of efficacy, and reading teacher preparation.

Boys and Reading

Gender gaps in academic achievement have long held the attention of educational researchers. More than a century ago, Ayres (1909) wrote *Laggards in Our Schools*, in which he expressed a concern about male deficits in reading achievement. Ayres (1909) recognized the tendency for boys to repeat early grades and attributed it to the dominance of female teachers:

> In the current discussion of what has been termed the feminization of our schools much has been made of the alleged bad effects of too exclusively feminine instruction on the moral fiber and character of the boys but little evidence has been brought forward to substantiate these claims. Here, we have indisputable evidence that there is more retardation among our boys than among our girls in the elementary schools. (p. 157)

Kagan (1962) reawakened interest in this "sex-of-teacher" hypothesis. He suggested that children's view of school as feminine resulted from an introduction to school by a teacher who was probably female and who approved of traditionally "feminine" behaviors, such as obedience and good manners. Kagan (1962) suggested "the introduction of men into the primary grades,

and an appreciation of the importance of creating a masculine atmosphere in the primary grades, may reduce the frequency of reading problems in young boys" (p. 160).

Gates' (1961) findings were the first to popularize the idea of female reading superiority in the elementary classroom. His study established that the reading abilities of girls exceeded those of boys at the elementary school level. He measured the performances of 13,114 school children in grades 2-8 with his Gates Reading Survey that was comprised of three assessments designed to measure fluency, vocabulary, and comprehension. Gates evaluated and compared scores between sexes at each grade level for all three of the reading measures. Girls performed significantly better on 18 of the 21 comparisons. Differences in fluency and vocabulary measures rose slightly as the grade levels increased, with comprehension remaining more constant (Below, Skinner, Fearrington, & Sorrell, 2010). Gates (1961) proposed that the information included in his study indicated that girls demonstrated "superiority" in reading performance that did not decline as the students matured but instead that girls continued to outperform boys throughout their school years (p. 432).

What does current research reveal about the reading achievement gap for boys? According to a study by Taylor and Lorimer (2003), in every demographic group, girls surpassed boys academically in reading. A meta-analysis of 139 research studies demonstrated significant reading achievement gaps favoring adolescent girls over adolescent boys (Lietz, 2006). In these studies, boys and girls displayed differences in their achievement in reading, their attitudes about reading, their engagement in reading, and their motivation to read, all of which impact reading performance. The statistics that speak to the severity of the problem are clear, however, the answers are not. Boys and girls are different and educators must acknowledge these differences in order to provide the best education for all.

Gender and Science

A new understanding of some of these differences has been provided by research in the areas of child development and neuropsychology. This research acknowledged the discrepancy between the cognitive and emotional development of boys and girls, both in rate and sequence. These differences are most pronounced in the areas of language, spatial memory, motor coordination, and relational skills (Sax, 2005). Gurian (2007) noted in his book, *The Minds of Boys*, that the female brain "utilized more neural pathways and brain centers for word production and expression of experiences; and for emotion and cognition through words" (p. 10). It is believed that as a result of these brain variations, girls learn more words sooner, remember their meanings longer, and use them more (James, 2009). Biological differences can have implications for educational practice; however, the extent to which these biological differences manifest themselves and the resulting implications for teaching practices is still undetermined. Eliot (2010b) maintained that "brain differences are indisputably biological, but they are not necessarily hardwired. The often-overlooked fact is that experience itself changes brain structure and function" (p. 22). Stating that almost all "sex differences start out small—as mere biases in temperament and play style," Eliot (2010b) maintained that gender differences strengthened as the children's "pink- or blue-tinted brains" met a gender-infused culture. (p. 23).

Gender and Society

Eliot (2010a) believed that when it came to gender gaps, boys and girls begin their lives a little bit different, but that differences were soon magnified by a society that encouraged them to see themselves as fundamentally different creatures. Differences in boys' social/emotional development and school performance have raised questions about the impact of gender expectations on academic well-being. Pollack's (1998) book *Real Boys: Rescuing Our Sons*

From the Myths of Masculinity and Kindlon and Thompson's (1999) *Raising Cain: Protecting the Emotional Life of Boys*, both focused on the ways in which boys were socialized from early childhood forward to conform to the societal conception of what it meant to be a man. Pollack (1998) coined the phrase the *Boy Code* to express the constraints on boys' emotional development and the resulting inner emotional pain that many boys carry around under the façade of being "normal" and "fine." Kindlon and Thompson (1999) labeled this "emotional illiteracy."

In 1998, Pollack studied what he called the *Boy Code*, which he asserted was an unrecorded inventory of social norms cataloging how boys should behave. Pollack contended that boys learned this unspoken code everywhere – from their parents, their teachers, their coaches, and their peers. He proposed this code made it clear that boys were supposed to act tough even when they were suffering emotionally from academic, social, or family problems. At school boys were expected to act cool, be strong, and not display their true feelings in a feminine manner, whether inside or outside of the elementary classroom, and to never cry in public (Eliot, 2009; Pollack, 1998). Consequently, boys were less likely to share their opinions about literature, less likely to articulate when they were having difficulties with assignments, when they were frustrated, or when they did not understand the material. Instead, boys fidgeted, got distracted, got in trouble, and many times just quit (Connell & Gunzelmann, 2004; Pollack, 1998). Labeling this "mis-education," Kindlon and Thompson (as cited in Murray, 1999) wrote that schools were "antiboy," beginning at the early elementary level by emphasizing reading and restricting physical activity. For boys who generally learn to read later and were usually more physically active, this can become an action plan for academic decline.

Gender and the Teacher

"I would argue strongly that the critical factor for boys succeeding at school is the relationship between them and their teachers" (Irwin, 2009, p. 70). Another theory posited as to why some boys fall behind girls academically was that teacher attitudes, classroom norms, and instructional styles favor girls. It has been argued that factors such as women's dominance in elementary-level teaching and as the primary caregivers of children lead boys to view literacy as a feminine activity (Newkirk, 2002). This theory attributed boys' failure in reading and writing to the belief that they perceived these activities as feminine (Dutro, 2002; Tenenbaum & Leaper, 2002; Whitmire, 2010).

Teachers vary in their point of view concerning the role human gender differences play in reading success. Some teachers believe these differences are rooted in purely biological factors, while others attribute classroom gender differences to the process of socialization. Many teachers believe that gender achievement differences result from a combination of both these factors. The depth of teachers' knowledge and the strength of their convictions concerning this key issue determines the extent to which they believe that they can and should attempt to impact gender roles in their classrooms and to what extent they take the steps to do so (Singh, 1998). Previous research has indicated that a teacher's beliefs about his/her students' knowledge and abilities varied by gender and were important influences of classroom processes (Beilock, Gunderson, Ramirez, & Levine, 2010). The classroom teacher continues to be cited as a major factor in gender achievement gap studies.

In a 2008 study, Koch, Steelman, Mulkey, and Catsambis examined behavior, gender and classroom placement in ability groups for kindergartners and found that "early placement decisions may influence, with some permanency, what comes next in a student's academic life"

(p. 411). This qualitative study submitted by Koch et al. (2008) created vignettes designed to examine the influences of behavior and gender on reading group placement. The researchers wanted to explore the influence that teachers' gender stereotyping played when assigning kindergarteners to ability reading groups. In the vignettes, each student had scored within the average range for reading achievement, but the teachers were required to place the gender neutral students in either high or low ability groups based on their depicted behavior. For well-behaved subjects, the teachers inferred 57.9% be female compared to only 42.1% inferred to be male. The bad behavior vignettes resulted in extreme results with only one evaluator concluding that the student was female and "a staggering 97.4 percent believing the naughtiest child male" (Koch et al., 2008, p. 421).

The Early Childhood Longitudinal Study (ECLS) was launched in 1999 by the U.S. Department of Education to investigate ongoing reading trends. The Early Childhood Longitudinal Study for Early School Experiences (ECLS-K) collected information from a nationally representative sample of kindergartners, parents, teachers, and schools all across the United States. This program is comprised of three longitudinal studies that examined child development, school readiness, and early school experiences. ECLS-K measured children's ability to identify uppercase and lowercase letters of the alphabet by name, associate the letters with sounds, both at the beginning and the ending of words, recognize common sight words, and to read words in context.

Tach and Farkas' (2006) research utilized data from the *Early Childhood Longitudinal Survey of Kindergarten Children (*ECLS-K) study. They examined the consequences of placement in ability-divided reading groups in kindergarten and 1st grade. Tach and Farkas' (2006) determined that placement in kindergarten class reading groups was impacted by

incoming levels of reading and math ability as well as preschool behavioral problems that were "more commonly observed among males and among children from lower socioeconomic status" (p. 1059). They found that when teachers underestimated males' reading abilities, it negatively affected their learning and particularly if ability grouping is used.

Robinson and Lubienski (2011) examined ECLS-K data from the class of 1998-1999, a cohort sample of children they followed from kindergarten through the 8th grade. Using the ECLS-K longitudinal data, Robinson and Lubienski investigated male and female achievement in math and reading, examining the data to identify when gender gaps first occurred, and where the gaps in achievement were most prevalent. Results from their 2011 study using the ECLS-K longitudinal information found that on all measures tested, girls consistently measured more proficient than boys in school reading readiness (Robinson & Lubienski, 2011). In a paper presented at the 2011 Society for Research in Educational Effectiveness Conference (SREE), Robinson and Lubienski discussed this gap in reading achievement favoring girls and although the gap narrowed over time, it eventually widened among low-achieving boys who struggled to keep up with their classmates.

> Clearly, the boys start out behind girls in reading achievement. In general, the mid-achieving boys eventually catch up, but the lowest-achieving boys don't. In other words, if you're a boy and you're really struggling to read, you most likely won't catch up with your peers. It's those boys at the bottom that teachers should be most concerned about when it comes to reading. (Robinson & Lubienski, 2011, para 10)

Additionally, the teachers' own evaluations of males and females were compared to the gender patterns on the assessments. The contrast in the teacher perspectives and the assessment results were suggested as one possible cause of the gender gap, signifying the importance of an improved awareness of the needs of particular student groups. "Our results suggest that there is

still a gender gap, not only with achievement, but with teachers' perceptions" (Robinson & Lubienski, 2011, para 5).

American children's author John Coy connected boy's reading issues to an educational and library culture dominated by women and their reading interests (Knight, 2007). When he visited schools and talked with teachers, Coy (as cited in Knight, 2007) observed that when the teachers identified students who did not like to read, it was often skewed toward boys. He discovered that boys were usually the most reluctant readers in the classrooms and they frequently did not like the literary classics they were assigned to read. Coy (as cited in Knight, 2007) observed: "All the people telling boys what to read or what was good to read were women" (para. 11).

Gender and the Curriculum

Many teachers mention boys' responses to curriculum topics as a factor in their underachievement (National Literacy Trust, 2012). When asked what would make the most difference in raising boys' reading levels, one teacher reported "Freedom in the curriculum for children to pursue more child-led interests which would necessitate independent reading and encourage them to read more and more widely" (National Literacy Trust, 2012, p. 21). The Commission also found that many teachers had a very limited knowledge of contemporary and attractive texts for boys. Another study, conducted by the United Kingdom Literacy Association, surveyed 1,200 primary-level teachers and asked them to name six writers of fiction for children and only one teacher named a significant writer for boys (National Literacy Trust, 2012).

Smith and Wilhelm (2002) found that boys differ from girls in the choices they made for reading material, choosing from a variety of non-traditional texts. Newkirk (2002) investigated "what counts in literacy?" (p. 169). He questioned the limited definition that schools used to

rationalize the use of some reading materials, predominantly fiction, while excluding others genres such as popular culture. Newkirk (2002) wrote that "that more tightly we draw the circle of acceptability, the more students are left out" (p. 172). Smith and Wilhelm (2002) believed that redefining literacy allowed one to explore the power that different types of texts had on engaging an audience of readers, particularly boys. They suggested that by expanding the definition of literacy, credibility could be given not only to the reading interests of boys but also to classroom instruction that used multiple forms of literacy and that this would help students to develop into more functionally literate members of today's society (Wozniack, 2010). Texts can be either print or non-print and involve popular culture, media, and new technologies (Alloway & Gilbert, 1997; Blair & Sanford, 2004; Marsh, 2006; Smith & Wilhelm, 2002). Many boys have literacy skills not recognized in the classroom but that are potentially powerful and useful in technologies of the future. Surfing the net, reading video screens, and engaging in computers all demand levels of literate competencies that do not figure highly in school measurement of literacy (Alloway & Gilbert, 1997).

Reading interests are closely connected to learning as it can make everything meaningful for the student. For boys, there appears to be a connection between their engagement in reading and their interests in the subject (Zambo & Brozo, 2009). It is important for teachers to be aware of what motivates boys to read (Brozo, 2002; Merisuo-Storm, 2006). Boys are often not interested in what is offered through the traditional reading programs in school because they are looking for meaningful experiences with books that are relevant to their experiences (Dyson, 2007) and they must have a cognitive and emotional investment in their learning process if education is to be meaningful for them (Clay, 2003).

Gender and Motivation

In addition to the well-publicized academic issues connected to male readers are the more significant but less recognized differences between boys and girls in reading motivation (Guthrie & Greaney, 1991; Lever-Chain, 2008; Merisuo-Storm, 2006). Reading research has found motivation to be a major element in reading success (Gaffney & Anderson, 2000; Guthrie & Wigfield, 2000; Lever-Chain, 2008). Reading motivation can affect readers' success even more than socioeconomic status (Guthrie & Wigfield, 2000). The influence of reading motivation is especially significant for boys. Boys demonstrate lower levels of reading motivation and experience a decreasing attitude toward reading as they get older (Guthrie & Greaney, 1991; Pitcher et al., 2007).

It has been recognized for a number of years that adolescent boys reported decreased motivation to read (McKenna, Kear, & Ellsworth, 1995; Wigfield & Guthrie, 1997); however, recent investigations have revealed that gender differences related to attitude and motivation are also present in younger readers (Durik, Vida, & Eccles, 2006; Mohr, 2006; Pecjak & Peklaj, 2006; Smith & Wilhelm, 2002). Marinak and Gambrell (2010) examined 288 average third-grade readers in their study, *Reading Motivation*: *Exploring the Elementary Gender Gap*. They determined gender to be one of the most powerful factors related to reading motivation when they examined the self-concept of the reader and the value the reader placed on reading. Marinak and Gambrell discovered that while both the average male and female 3rd grade readers were equally self-confident about their reading abilities, boys tended to value reading less. These findings brought a new light to the topic of motivation and gender and suggested that by 3rd grade, boys were reporting less value for the act of reading itself. Marinak and Gambrell (2010) asserted that for boys, school was often seen as a "means of achieving something else" (p. 131)

and that boys viewed reading as something done at school and not as an activity for their future lives.

Reichert and Hawley (2009) also examined the topic of boys and reading motivation in their 2009 article, *Reaching Boys: An International Study of Effective Teaching Practices.* They determined that boys quickly disengage from a lesson when the delivery was not "right" for them, and that the boys who became disengaged soon developed negative motivational orientations toward literacy tasks. Motivated readers engage in reading more often and possess a more positive attitude toward reading (Baker & Wigfield, 1999). Recommendations suggested by researchers, with respect to motivating boys, include introducing them to series books, providing safe spaces within the classroom for reading, and the use of reading material that is meaningful and relevant (Dutro, 2002; Merisuo-Storm, 2006).

Understanding and addressing gender-based differences would help to ensure that all students have equal opportunities to learn. For educators, the goal must be to meet the diverse learning needs of each student in the classroom and to create an educational system that has the courage and the wisdom to value, encourage, and celebrate the innate gender differences, while creating an equal educational opportunity for every child (Sax, 2005).

Teacher Knowledge

> First, teachers need to understand subject matter deeply and flexibly, so that they can help students create useful cognitive maps, relate ideas to one another, and address misconceptions. Teachers need to see how ideas connect across fields and to everyday life. This kind of understanding provides a foundation for pedagogical content knowledge (Shulman 1987), which enables teachers to make ideas accessible to others. The audience is also key: A skillful teacher figures out what students know and believe about a topic and how learners are likely to "hook into" new ideas. (Darling-Hammond, 1998, p. 6)

Historically, the knowledge bases for teacher education focused on the content knowledge of the teacher (Shulman, 1986). Dewey was the first to express his beliefs about the

false contrasts made between the two constructs of method and subject matter. Dewey (1916) posited, “Method means that arrangement of subject matter which makes it the most effective in use. Never is method something outside of the material” (p. 165). Schwab (1964) defined teacher knowledge as an emphasis on one or more of the commonplaces of education, which included subject matter, the learner, the teacher, and the environment. He believed that while issues in a study could be interconnected, educators should choose to focus on just one.

In 1986, Shulman transformed the way teacher knowledge was viewed by introducing the idea of *pedagogical content knowledge* (PCK). He maintained that the emphasis on teachers’ subject knowledge and pedagogy was being treated as mutually exclusive and had resulted in teacher education programs where either subject matter or pedagogy dominated (Shulman, 1987). Shulman (1986) suggested that general pedagogical knowledge such as classroom management techniques and instructional theories were too broad and unattached to specific subject knowledge and the instructional strategies that would support that subject. To address this separation, he suggested that by introducing the notion of PCK, the necessary relationship between the two would be considered. Pedagogical content knowledge represented an effort to capture the instructional strategies teachers use when they teach specific subject matter content (Friedman & Lee, 2010).

Pedagogical content knowledge includes:

> the most useful forms of representation …, the most powerful analogies, illustrations, examples, explanations, and demonstrations—in a word, the most useful ways of representing and formulating the subject that make it comprehensible to others….Pedagogical content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult (Shulman, 1986, p. 7)

Pedagogical content knowledge provided the intellectual impetus for new studies that investigated how teachers need to know the subject they teach (Ball, 1988). Delpit (1995)

suggested that the relationship between knowledge of the learners and pedagogical content knowledge might be more significant than the relationship between subject matter content knowledge and pedagogical content knowledge. She believed that attention to cultural influences on teaching styles should accompany teaching strategies. In her 2006 article, *Constructing 21st Teacher Education,* Darling-Hammond wrote about the things that teachers should know and be able to do in their work. These involved understanding how people learn and how to teach effectively, including the aspects of the pedagogical content knowledge that incorporate language, culture, and community contexts for learning. Darling-Hammond (2006) believed "Teachers also need to understand the person, the spirit, of every child and find a way to nurture that spirit" (p. 300).

Shulman's perspective of subject matter knowledge in teaching has had far-reaching consequences for teacher education programs (Ben-Peretz, 2011). Teachers' knowledge bases must include opportunities for the reexamining of subject matter content from the perspective of student learning and the student. At the core of PCK is the method in which the subject matter is transformed for teaching (Mishra & Koehler, 2006), that is when the teacher interprets the subject matter and finds various ways to represent it in order to make it accessible to every learner.

Teacher Beliefs

Shulman's (1987) construct of pedagogical content knowledge (PCK) does not, however, frame all investigations into teacher knowledge. Teacher knowledge can also be looked at through the teacher's personal practical knowledge and experiences (Butt & Raymond, 1987; Connelly & Clandinin, 1988; Elbaz, 1983). Teacher practical knowledge is described as the "kinds of knowledge, as integrated by the individual teacher in terms of personal values and

beliefs and as oriented to the practical situation" (Elbaz, 1983, p. 5). There is data to support that what a teacher knows is defined in highly subjective terms. Kagan (1992) believed that "the more one reads studies of teacher beliefs, the more strongly one suspects that this piebald of personal knowledge lies at the very heart of teaching" (p. 85). What differentiates knowledge from beliefs is that knowledge can be tested and validated.

While described as the most valuable psychological construct to teacher education, beliefs have been acknowledged as being notoriously difficult to define (Pintrich 1990). Pajares (1992) labeled beliefs as a "messy construct [that] travel in disguise and often under alias" (p. 2). He believed that the main confusion with the concept revolved around the distinction between knowledge and beliefs, that knowledge could be equated with facts that were given and shared and that beliefs were contestable. Nespor (1987) maintained that while the two constructs were different in many ways, and often conflicted with each other, beliefs could be considered a form of knowledge. He asserted that whereas knowledge was conscious and often changed, beliefs were unconsciously held, often tacit and resistant to change. Furthermore, when they did change, it was not "argument or reason that alters them, but rather a conversion or gestalt shift" (Pajares, 1992, p. 311).

Beliefs develop during early stages of life. They occur because of experiences and determine an individual's ideas about the world. Beliefs represent the various attributes that an individual links to an object. The object of a belief can "be a person, a group of people, an institution, a behavior, a policy, an event, etc., and the association attribute may be any object, trait, property, quality, characteristics, outcome, or event" (Fishbein & Ajzen, 1975, p. 12).

Beliefs can also be defined as existential presumptions that are the personal truths everyone holds and are characterized by making judgments and evaluations about phenomena,

subject matter, and individuals (Pajares 1992). Pajares speculated that individual beliefs endured even when challenged by reason, evidence, or experience.

Lortie (1975) argued that beliefs about teaching were acquired early and established well before education students entered college. He wrote of an "apprenticeship of observation" that he argued was largely responsible for any preconceptions that preservice teachers had about teaching. Richardson (1996) found in his studies that teacher beliefs came from three categories of experience: (a) personal experience, (b) experience with schooling and instruction, and (c) experience with formal knowledge.

Numerous studies have confirmed that teachers possess theoretical beliefs about reading and writing and that these beliefs shape the nature of their instructional practices (Fang, 1996). Wray, Medwell, Poulson, and Fox (2002) found that effective teachers of literacy had a consistent set of beliefs regarding the nature and learning of reading and that they were more coherent in their beliefs and tended to favor activities that corresponded to these beliefs.

Preservice teachers' belief systems can influence their learning (Collinson, 1996) and affect how they obtain knowledge, interpret course content, and integrate it into their teacher education experiences (Anderson & Holt-Reynolds, 1995). Pajares (1992) contended that preservice teachers' beliefs could be changed if they had a "conversion experience." As Pajares (1993) concluded, "We ought to be interested in the beliefs of preservice teachers not because we wish these future educators to share similar, appropriate conceptions, but because the nature and importance of individuals' beliefs is such that they must be a focus of the dialogue in teacher education" (p. 52).

More recent research has shown the impact of teacher education programs on teacher beliefs (Grisham, 2000; Grossman et al., 2000). Preservice teachers' understanding of their own

beliefs is an important step in learning to teach and apply practices (Lin & Gorrell, 1998). For preservice teachers, the awareness of their own beliefs is essential for knowledge restructuring when learning to teach. While it may be difficult to change beliefs, finding self-awareness about beliefs regarding teaching and learning is a critical factor in becoming an effective teacher (Bennett, 1995, 1997). This study looked at preservice teachers' beliefs about boys and reading and examined whether professional knowledge gained from texts and coursework were related to these beliefs (Connell, 1996; Pajares, 1992).

Teacher Efficacy

Efficacy is a concept that was first discussed more than 30 years ago when Bandura (1977) published his research on this topic. Bandura presented self-efficacy as a mechanism of behavioral change and self-regulation and connected it to his social cognitive theory. Bandura's social cognitive theory added a social element, arguing that people can learn new information and behaviors by watching other people. For Bandura, the learner was viewed as being integrated with the environment in which he/she was learning and that the learner's cognitive responses, behaviors, and environment all worked together to create learning (Bandura, 1986). He found that learners observed work modeled and built their self-efficacy, which was their belief that they can accomplish the work modeled. Bandura (1977) defined self-efficacy as "a belief in one's capabilities to organize and execute the course of action required, producing given attainments" (p. 3). He proposed that efficacy beliefs were powerful predictors of behavior because they were ultimately self-referential in nature and directed toward specific tasks. He believed self-efficacy was the faith in one's capabilities to make plans for and conduct activities to produce certain outcomes, as well as the perception that the surrounding context was controllable (Bandura, 1993, 2004). Self-efficacy is not a measure of skill; rather, it reflects what individuals believe

they can do with the skills they possess. In the last few decades, research revealed that self-efficacy was interconnected to work performance because it affected the amount of effort expended, persistence at the task, resilience when facing with obstacles, and perceived stress. Individuals who have high self-efficacy put in sufficient effort that produces successful outcomes, whereas those who have low self-efficacy are more likely to give up too soon and then fail at the task (Durgunoglu & Hughes, 2010). In short, people adjust their efforts in agreement with the effects that they expect their actions to have.

Bandura (1993) maintained that individuals who are high in self-efficacy were more successful and mastery-oriented, viewed failures as the result of insufficient effort, and that they changed strategies and performed better to get a more positive outcome. In contrast, those individuals with low self-efficacy usually attached failure to low ability and gave up rather than trying alternate plans. High self-efficacy is linked with better goal setting, trying to meet challenges, and experiencing less anxiety when facing a barrier because there is trust in one's abilities to overcome obstacles (Durgunoglu & Hughes, 2010).

The study of teachers' sense of efficacy began in the middle of the 1970's with the RAND Corporation study of reading instruction among minority and low-income students in urban areas (Armor et al., 1976). Researchers for this group were looking for variables to explain differences in the effectiveness of certain methods and certain teachers. The RAND researchers assessed the extent to which the teachers believed they could control students' motivation and performance and whether the teachers thought environmental factors could overwhelm any of powers they could exerted at school (Tschannen-Moran & Johnson, 2011). They found teacher self-efficacy positively related to reading achievement among minority students (Tschannen-Moran & Johnson, 2011, p. 751) and that the teachers who believed that they could significantly

influence their students' motivation and learning produced students who had higher reading achievement than those teachers who believed that they could do little because of the problems imposed by the student environment.

Tschannen-Moran and McMaster (2009) described teacher self-efficacy as a perceived capability to impart knowledge and to influence student behavior, even that of the unmotivated or challenging students. Tschannen-Moran and McMaster stated that there was a growing body of empirical evidence supporting Bandura's (1977) theory that teachers' self-efficacy beliefs were related to the effort they invested in teaching, in the goals they set, in their persistence when things did not go smoothly, and in their resilience in the face of setbacks. A teacher's sense of efficacy has been shown also to have a powerful correlation to teaching and learning (Tschannen-Moran & Woolfolk-Hoy, 2001; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). Highly efficacious teachers are more sensitive to the needs of students, less critical of student mistakes, more willing to work longer with students who had problems, and make a greater contribution to the learning experiences of students (Tschannen-Moran & Woolfolk-Hoy, 2001). Self-efficacy scores have also been related to teacher commitment, teacher strategies and teacher practice (Durgunoglu & Hughes, 2010). Additionally, teachers with high expectations worked harder and dealt with the needs of low-performing students (Ross & Gray, 2006). In summary, teachers with high efficacy beliefs positively affect the quality of teaching and student learning (Cerit, 2010).

Literature on preservice teachers and efficacy (Narang, 1990; Walker, 1992) indicates that most education majors begin their university education courses with a very high level of self-efficacy. Narang (1990) wrote that novice teachers had positive beliefs in their teaching skills, but that there was evidence that as the preservice teachers moved forward through their

program their level of teaching self-efficacy began to change. These levels of efficacy frequently declined as the preservice teacher progressed through the curriculum and made their transition into teaching (Barnes, 1998). Furthermore, this decline was connected to the level of understanding that the novice teacher held concerning the intricacies of the teaching process. Highlighting the importance of student teachers' perceived preparedness, Smylie (1988) reported that the confidence preservice teachers' posessed for their teaching methodology and skills was a major factor related to their teacher sense of efficacy.

In a conference paper presented at the annual meeting of the American Educational Research Association, Hoy (2000) described an ongoing study documenting the changes a new teacher's efficacy takes from entry into the teacher preparation program to their first year of teaching. What Hoy found was that efficacy tended to rise during teacher preparation but then fell during the actual first year teaching experience. Novice teachers showed a significant drop in their efficacy scores as they experienced real classrooms. Raudenbush, Rowan, and Cheong (1992) argued that the level of self-efficacy within a teacher depends on how well prepared a teacher perceived himself/herself.

A teacher's belief in his/her ability to instruct students and to influence their performance is a strong indicator of instructional effectiveness (Bandura, 1997). In addition, preservice teachers' beliefs and attitudes affect the way they learn to teach and their perceptions, judgments, decision-making, and actions in the classroom (Johnston, 1992).

Reading Teacher Preparation

> Putting a quality teacher in every classroom is key to addressing the challenges of reading achievement in schools. Knowledgeable, strategic, adaptive, and reflective teachers make a difference in student learning. (International Reading Association, 2007, p. 1)

While research in reading has increased considerably in the last 30 years, research in reading teacher preparation has not matched the pace. Anders, Hoffman, and Duffy (2000) asserted that research on reading teacher preparation accounted for less than 1% of reading studies conducted since the 1980's. More recently, however, there has been an increase in studies concerning what effective teachers of reading must know. In 2007, the International Reading Association (IRA) compiled research data on teacher preparation for reading instruction. The IRA posited that newly graduated classroom teachers entering the classroom must have the following content knowledge: (a) conceptual understandings about the foundations of language development, (b) proficiency with formal and informal assessment tools to determine readers' reading strengths and weaknesses, and (c) expertise with instructional strategies and materials for readers of all backgrounds and abilities. The IRA report indicated that teacher preparation programs that provide this content knowledge will produce teachers who are better prepared to teach reading. However, a college degree in education and content knowledge alone does not automatically equate to a highly effective reading teacher just as having the necessary knowledge and skills to perform a task does not ensure that the task will be performed successfully (Bandura, 1986). Often overlooked is the interaction between teachers' skills and knowledge and their beliefs. Additionally, a teacher's sense of efficacy can determine how much motivation, effort, and persistence he or she puts into this process.

Building on earlier studies that examined preservice teachers' knowledge about teaching and learning, preservice teachers' beliefs about teaching and learning, and preservice teachers' sense of efficacy about teaching and learning, the purpose of this research was to study preservice educational knowledge, their beliefs and, the impact they have on their sense of efficacy as it relates to boys and reading.

CHAPTER III

METHODOLOGY

Chapter III is organized into the following subsections: (a) purpose, (b) research questions, (c) research design, (d) instrumentation, (e) research setting, (f) study population, (g) data collection, (h) data analysis, and (i) chapter summary.

Purpose

This descriptive study was designed to identify and describe the depth of knowledge, the beliefs, and teacher sense of efficacy for boys' reading instruction that Texas A&M University-Corpus Christi (TAMU-CC) preservice student teachers' possessed and to measure the relationship among the three. Gender, age, ethnicity, experience, and teacher certification areas in the teacher education program were also reviewed in relationship to the three research questions. The study contributes to the existing body of knowledge regarding reading teacher behavior as it relates to boys and reading, with the focus on preservice student teachers in post-secondary education, a population that had not been examined in previous research.

Research Questions

1. What are preservice student teachers' knowledge levels regarding reading instruction for elementary boys?
2. What are preservice student teachers' beliefs regarding reading instruction for elementary boys?
3. To what extent do preservice student teachers' knowledge and beliefs regarding reading instruction for elementary boys relate to their teacher sense of efficacy for literacy instruction?

Research Design

A quantitative research approach was employed for this study. Creswell (2003) described a "quantitative approach as one in which the investigator primarily uses post-positivist claims for developing knowledge…employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data" (p. 18). Quantitative design methods are also called statistical research. Quantitative methods collect and analyze numerical data acquired from formal instruments. The main objective for this type of research is to describe the data and characteristics of the subjects studied.

Survey research involves the collection of information from a sample population in order to understand or describe a larger population of interest. Surveys typically ask people about attitudes, images, decisions, behavior, affiliations, and basic demographic information (Alreck & Settle, 1995). Versatility, efficiency, and generalizability make surveys advantageous for data collection (Schutt, 2004). The most common scale used for attitude surveys is the Likert scale. Likert scales ask respondents to indicate their level of agreement or disagreement with particular statements and typically consist of four or five points and are labeled from "strongly agree" to "strongly disagree" (Alreck & Settle, 1995).

Descriptive research provided information for this study as it related to what preservice teachers knew about reading instruction for boys, what they believed about reading instruction for boys, and whether in effect, these aligned with their teacher sense of efficacy about boys reading instruction. The study used a non-experimental design to investigate the stated problem as it described something that has occurred and examined the relationships between things.

Convenience samplings of undergraduate elementary education preservice teachers, registered in the student teaching program at Texas A&M University-Corpus Christi, were

completed during the Fall of 2012 and Spring 2013. Prior to a class meeting, elementary-level student teachers were asked in a cover letter to respond to a questionnaire containing three individual surveys regarding boys and reading instruction (Appendix A). This study was reviewed and granted approval through an exempt review by the Institutional Review Board for Texas A&M University-Corpus Christi (Appendix B).

Instrumentation

The instrument utilized, the Student Teachers' Knowledge, Beliefs and Teaching Sense of Efficacy Concerning Boys and Reading Questionnaire, contained a demographic section intended to gather descriptive data from the student teachers and three specific surveys designed to address the three research questions presented regarding boys and reading (Appendix C).

Demographic Data

The initial section of the questionnaire was the demographic information section. This section was comprised of a series of statements that asked respondents to report descriptive data about themselves. The statements addressing demographic information included:

1. Please indicate your sex.
2. Which of the following categories best describes your age?
3. Which of the following best describes your racial background?
4. Which BSIS program are you enrolled in?
5. Do you have any of the following teaching experiences in a school?
    a. Teacher (taught in a private school or preschool counts)
    b. Teacher Aide
    c. Reading Tutor
    d. Reading Intervention Teacher or Aide
    e. No experience

Knowledge About Boys and Reading Instruction Survey (KBRI)

The first section of the questionnaire, the KBRI, was a researcher-designed survey instrument, intended to measure the depth of knowledge that preservice student teachers possess in relation to reading achievement and reading instruction for elementary boys. The researcher developed the instrument after reviewing literature and related research on the same issues. The KBRI survey items were derived from research that examined gender learning needs, differences in reading and reading instruction, and the perspectives of teachers concerning these topics. In developing the KBRI survey**,** the knowledge survey component of the questionnaire, items were modified from several studies that investigated teacher knowledge, teacher knowledge about reading instruction, and teacher knowledge concerning boys and reading (Elbaz, 1983; Gilbert-Whitner, 2009; Moyers, 2010; Phelps & Schilling, 2004; Rowan et al., 2001).

Based on established survey methods and high-quality literacy surveys, the survey items were developed in three phases: (a) drafting, (b) review from a panel of experts, and (c) finalizing. The questions were designed with a close-ended format (e.g., true/false and multiple-choice items). After drafting, the KBRI survey items were shared with a panel of experts, four literacy experts, and one survey research consultant. The questionnaire was also communicated to the University's Associate Dean of the College of Education, who examined the questions from the student teaching program viewpoint. The assessment of the KBRI by both the panel of experts and the student teacher director led to the dropping of some items, improvement of the survey format, simplifying patterns in the survey, and the reordering of some items. Editing based on the responses from the panel was completed and the questionnaire received a final review from the researcher's dissertation committee.

The Knowledge About Boys and Reading Instruction survey was designed with the purpose of measuring preservice student teachers' depth of knowledge regarding the elementary

male and reading instruction and reading achievement. The KBRI survey contained 20 items generally classified into three categories: (a) gender and achievement, (b) gender and reading instruction, and (c) gender identities in school (Table 5).

Validity of the Knowledge About Boys and Reading Instruction survey (KBRI). Validity was established through a peer review. The 20-item KBRI survey was submitted to a panel of four experts in the field of reading and literacy instruction and a survey research consultant who reviewed the items for content validity.

Table 5. Question Samples for the Knowledge About Boys and Reading Instruction Survey (KBRI)

Category	Sample Item
Gender and Achievement	"Gender Achievement tends to equal out in high school." (T/F)
Gender and Reading Instruction	"Boys will resist reading stories about girls, more than girls resist reading about boys." (T/F)
Gender Identities at School	"__students tend to "call out" and participate the most in the reading classroom." (multiple choice)

Beliefs About Boys and Reading Instruction Survey (BBRI)

To measure the preservice student teachers' beliefs regarding reading achievement and instruction for elementary boys, a survey employed by the Commonwealth of Australia's Department of Education, Science and Training, was selected (see Table 7 for sample items). This survey explored the Australian teachers' beliefs concerning the reasons for boys' poorer literacy achievement and included their views of appropriate and effective programs, strategies, and classroom organization (Alloway, Freebody, Gilbert, & Muspratt, 2002). Containing 15 items, the survey used a 5-point Likert response scale that asked teachers to indicate the degree

to which they agreed or disagreed with statements that included a broad range of issues related to boys' literacy performance at school. The Australian survey was modified for this study, replacing three questions concerning gender-segregated schools and classrooms with questions classified under the remaining three themes: maleness, development and pedagogy, and literacy interests (Table 6).

Table 6. Question Samples for the Beliefs About Boys and Reading Instruction Survey Question Samples (BBRI)

Category	Sample Items
Maleness	"Teachers need to understand more about male culture to improve reading instruction for boys."
Development and Pedagogy	"The way that boys' brains develop accounts for literacy learning differences."
Literacy Interests	"Boys prefer technological forms of literacy to print-based forms of literacy."

Validity of the Beliefs About Boys and Reading Instruction survey (BBRI). A confirmatory factor analysis was performed to verify concurrent validity with the Australian Department of Education survey.

Reliability of the Beliefs About Boys and Reading Instruction survey (BBRI). Reliability of the internal consistency of the BBRI was determined by using Cronbach's alpha (Cronbach, 1951). This test produced a reliability coefficient of 0.84. A coefficient alpha with a value above 0.7 is generally considered a sufficient indication of internal consistency and should be considered reliable (DeVellis, 2003).

Teacher Sense of Efficacy for Boys and Reading Instruction (TSEBRI)

In 2004, Tschannen-Moran and Johnson constructed a new measure for a Teachers' Sense of Efficacy for Literacy Instruction (TSELI), and in 2011 they re-tested its relationship to demographic factors and contextual variables in teacher preparation and professional development experiences, and general teaching self-efficacy beliefs (Tschannen-Moran & Johnson, 2011). Bandura (1997) wrote of the relationship of perceived efficacy and context-specific domains and Pajares (1996) warned of measures that were too context specific and lose predictive power for anything beyond that context. Heeding them both, Tschannen-Moran and Johnson delivered an instrument that was neither too specific nor too general.

A modification of the TSELI instrument was used in section three of the Teacher Sense of Efficacy for Boys and Reading Instruction (TSEBRI) questionnaire to measure the preservice student teachers' efficacy levels in teaching elementary boys to read. The Teacher Sense of Efficacy for Boys and Reading Instruction (TSEBRI) was a 20-item survey that used a Likert response scale with a 5-point continuum range with 1 indicating "None at All," and 5 indicating "A Great Deal." Sample items included:

- How well can you meet the needs of struggling boy readers?
- To what extent can you help your male students monitor their own use of reading strategies?

Dr. Johnson and Dr. Tschannen-Moran approved the modification of this instrument (Appendix D).

Validity of the Teacher Sense of Efficacy for Boys and Reading Instruction instrument. A confirmatory factor analysis assessment was performed to verify concurrent validity with Tschannen-Moran and Johnson's original TSELI.

Reliability of the Teacher Sense of Efficacy for Boys and Reading Instruction instrument. Reliability and internal consistency of the Teacher Sense of Efficacy for Boys and Reading Instruction survey was determined by using Cronbach's alpha method (Cronbach, 1951) and produced a reliability coefficient of 0.96. All items contributed to the reliability. Any Cronbach's alpha coefficient with a value above .7 is assumed to have good internal consistency and should be considered reliable (DeVellis, 2003).

Research Setting

The target population, preservice student teachers, were enrolled in the teacher education program offered by Texas A&M University-Corpus Christi (TAMU-CC). TAMUCC is a Master's College and University, as designated by the Carnegie Classification standards. At the time of this study, TAMUCC was identified as an urban, public, and comprehensive university serving more than 10,000 students representing 48 states and 67 foreign countries. In addition, TAMUCC has been designated a Hispanic-Serving Institution and named one of the top 100 colleges serving Hispanic populations by the May 2011 *Hispanic Outlook in Higher Education Magazine* ("Top 100 Colleges," 2011). Finally, *U.S. News and World Report* (2011) has ranked TAMU-CC 21st among regional public universities in the Western United States.

Study Population

The population included in this study were EC-6 Generalist preservice teachers who were enrolled in the Texas A&M University-Corpus Christi student teacher program, pursuing a BSIS degree. The Bachelor of Science in Interdisciplinary Studies (BSIS) degree is an interdisciplinary major that consists of an academic or delivery system specialization and a combination of supporting fields. One hundred and twenty-seven (127) EC-6 student teachers were eligible to take part in the study, and 97 completed the questionnaire. This represented a participation rate

of 76%. Of these 97 participants, 61 were enrolled as Early Childhood Generalists (ECE), 22 were enrolled as Reading Generalists (RDG), and 14 were enrolled as Bilingual Generalists. Demographic information for the student teachers was collected through the Student Teachers' Knowledge, Beliefs, and Teaching Sense of Efficacy Concerning Boys and Reading Questionnaire.

Data Collection

Before collecting data, approval was given by the Texas A&M University-Corpus Christi Review Board (IRB) (Appendix B). Next, the Director of Student Teaching was approached regarding the student teachers' participation in the study. This involved a personal meeting, during which the researcher described the study and provided copies of the surveys to be used.

Surveys were administered in the students' natural environment, regular course meetings held at Texas A&M University-Corpus Christi. Data were collected over two semesters, the Fall of 2012 and the Spring of 2013. This researcher met with all student teachers at the meeting explaining the purpose of the study and informing the students that survey completion was voluntary and survey completion would imply teacher consent. Students were also told their response forms would be anonymous, coded to preserve confidentiality, and the results would be available for viewing upon request.

Data Analysis

The Student Teachers' Knowledge, Beliefs and Teaching Sense of Efficacy Concerning Boys and Reading Questionnaire provided the quantitative data used for this study. Data from the three surveys were collected, coded, and analyzed through the Statistical Package for the Social Sciences (SPSS) computer software.

Research Question 1

What are preservice student teachers' knowledge levels regarding reading instruction for elementary boys?

Data collected from Part 1 of the questionnaire, labeled the Knowledge About Boys and Reading Instruction Survey (KBRI), provided the information necessary for a comparative analysis between student teachers enrolled in each Bachelor of Science in Interdisciplinary Studies (BSIS) degree programs. Additionally, Cross Tabulations with Chi-Square Test of Statistical Significance were run to identify any significant differences for correct answer responses among the three BSIS groups.

Research Question 2

What are preservice student teachers' beliefs regarding reading instruction for elementary boys?

Part 2 of the questionnaire, labeled the Beliefs About Boys and Reading Instruction (BBRI) Survey, provided the data necessary to answer Research Question 2. Confirmatory analysis was performed to create factors identifying categories for the belief questions. Means and standard deviations for these factors were compared to identify the beliefs that the student teachers held the strongest. In addition, a comparison between the students' beliefs and the students' BSIS major was performed.

Research Question 3

To what extent do preservice student teachers' knowledge and beliefs regarding reading instruction for elementary boys relate to their Teachers' Sense of Efficacy for Literacy Instruction?

Part 3 of the questionnaire, labeled the Teacher Sense of Efficacy for Boys and Reading Instruction (TSEBRI), provided the data necessary to answer the first part of Research Question 3. Confirmatory analysis was performed to create factors identifying categories for the teacher efficacy responses. Means and standard deviations for these factors were compared to identify the efficacy statements about which the student teachers felt the strongest. A comparison was performed between the preservice student teachers' sense of efficacy results and their BSIS degree plan.

The last step in the analysis was to perform a multiple regression, which was used to examine the extent to which student teachers' literacy knowledge and beliefs correspond with their efficacy levels for teaching elementary boys to read.

Chapter Summary

This chapter described the sample demographics for the preservice student teachers participating in this research study and the three instruments used to capture information on the preservice teachers' depth of knowledge, beliefs, and teacher sense of efficacy concerning boys and reading. The procedures used to collect data and the techniques utilized to analyze the data were also detailed.

The next chapter will provide the findings from the data collected. This data are presented in three sections: (a) characteristics of the participants, (b) a presentation of the findings, and (c) a discussion of the findings and conclusions.

CHAPTER IV

RESULTS

Chapter III described the methodological framework of this study; this included information on research procedures, instrumentation, and data collection. In this chapter, the findings for the preservice teachers' survey responses concerning the depth of their knowledge, beliefs, and teacher sense of efficacy for boys reading instruction are presented. This data are presented in three sections: (a) characteristics of the participants, (b) a presentation of the findings, and (c) a discussion of the findings and conclusions.

Characteristics of the Participants

The data-gathering instrument utilized in this survey was the Student Teachers' Knowledge, Beliefs and Teaching Sense of Efficacy Concerning Boys and Reading Questionnaire, which consisted of three separate surveys. The questionnaire was distributed to all elementary level (EC-6) preservice teachers, enrolled at the Texas A&M University-Corpus Christi (TAMU-CC) student teacher program during the Fall semester of 2012 or Spring semester, 2013. Ninety-seven (97) respondents completed and returned questionnaires to the researcher during a given classroom period. The participants varied to some extent in their demographic descriptors such as sex, age, race, teaching experience, and degree focus for their Bachelor of Science in Interdisciplinary Studies (BSIS) degree. Demographic characteristics of the participants are presented in the next section.

Ninety-seven (97) participants were distributed among the three Bachelor of Science in Interdisciplinary Studies degree programs for the elementary level teacher: BSIS Early Childhood (EC), Reading (RDG), and Bilingual (BIL). Of the 97 participants, 61 (63%) were EC students, 22 (23%) were RDG students, and 14 (14%) were BIL.

The majority of the 97 participants, 95 (98%), were female and 2 (2%) were males. The participants were also relatively young with the majority of student teachers less than 30 years old. Distribution of participants' ages as follows: 67 (69.1%) of the 97 participants were 30 years old or younger, 18 (18.6%) were 31-40 years old, and 12 (12.4%) of the students were 41 years old or older.

Most of the participants were either Caucasian or Hispanic. Out of the 97 participants, 49 (51%) were Caucasian, 42 (44.8%) were Hispanic, 2 (2.1%) participants were Asian American, and 2 (2.1%) student teachers coded their ethnicity as other. One participant did not respond to this question, leaving the sample number as 96.

More than one-half of the 97 participants, 50 (51.5%), stated that they did not have any teaching experience, and 47 (48.5%) reported some form of previous teaching experience (either formal or informal). Six of the participants reported multiple types of classroom teaching experiences.

Findings

The purpose of this study was twofold: (a) to identify student teachers' knowledge, beliefs, and teacher sense of efficacy as it connected to boys reading instruction and achievement and (b) to determine if there was a relationship between the three. To fulfill this purpose, the following three questions were developed.

1. What are preservice student teachers' knowledge levels regarding reading instruction for elementary boys?
2. What are preservice student teachers' beliefs regarding reading instruction for elementary boys?

3. To what extent do preservice student teachers' knowledge and beliefs regarding reading instruction for elementary boys relate to their teacher sense of efficacy for literacy instruction?

What follows is a presentation of the findings as they relate to each research question. Section Three will provide a discussion of the findings and conclusions are presented.

Research Question Results

The Student Teachers' Knowledge, Beliefs, and Teaching Sense of Efficacy Concerning Boys and Reading questionnaire provided the quantitative data used in this study. Data from each of the three surveys in the questionnaire were collected, checked for accuracy, coded, and analyzed through Statistical Package for the Social Sciences (SPSS) computer software and data information explored to answer each of the research questions.

Research Question 1

What are preservice student teachers' knowledge levels regarding reading instruction for elementary boys?

Part 1 of the questionnaire, the Knowledge about Boys and Reading Instruction Survey (KBRI), was designed to assess the knowledge that student teachers possess in association with reading instruction and reading achievement for elementary age boys. The survey contained 20 closed-response questions, 15 true/false, and 5 multiple choice (Appendix C).

A frequency distribution table was prepared to organize the knowledge data. Data were collected from the KBRI and used for a comparative analysis of question responses from each Bachelor of Science in Interdisciplinary Studies (BSIS) degree program group (Table 7).

Table 7. Comparative Analysis of Answer Selections by Bachelor of Science in Interdisciplinary Studies (BSIS) Degree Program Focus

	BSIS Groups							
	EC (n=61)		RDG (n=22)		BIL (n- 14)		Total Sample (n=97)	
question #	# correct	# incorrect	# correct	# incorrect	# correct	# incorrect	# correct	# incorrect
TF1	43	18	17	5	10	4	70	27
TF2	50	11	19	3	13	1	82	15
TF3	54	7	18	3	12	2	84	12
TF4	15	46	6	16	8	6	29	68
TF5	27	34	8	14	6	7	41	55
TF6	49	12	20	2	13	1	82	15
TF7	40	21	17	5	11	2	68	28
TF8	46	15	16	6	12	2	74	23
TF9	42	19	18	4	6	8	66	31
TF10	47	14	17	5	10	4	74	23
TF11	23	38	10	12	2	12	35	62
TF12	13	48	9	13	4	10	26	71
TF13	53	8	18	4	11	3	82	15
TF14	40	21	16	6	12	2	68	29
TF15	39	22	17	5	13	1	69	28
MC1	49	11	19	3	8	6	76	20
MC2	10	49	1	21	2	12	13	82
MC3	11	49	1	21	4	10	16	80
MC4	51	10	20	2	9	5	80	17
MC5	24	36	9	13	2	12	35	61

A chi-square test was then performed to determine if there was a significant relationship between the response number ratios (correct/incorrect) and the student teachers' BSIS degree paths (Table 8). Results uncovered no statistical significance (p=.518).

Table 8. Overall Differences Between BSIS Responses for the KBRI Knowledge Assessment Survey

BSIS	Correct	Incorrect	Total
EC	726	489	1215
% within BSIS	59.8	40.2	100.0
Reading	276	163	439
% within BSIS	62.9	37.1	100.0
Bilingual	168	110	278
% within BSIS	60.4	39.6	100.0
Total	1170	762	1932
% within BSIS	60.6	39.4	100.0

There was not a statistically significant difference in overall results for correct answers among the three BSIS groups. Early Childhood student teachers (EC) had an overall percentage of 59.8% correct answers on the KBRI, the Reading BSIS group's scores were 3 percentage points higher with 62.9% correct, and the Bilingual BSIS group's scores fell at 60.4%. Results indicated that both as a whole and by each BSIS group, preservice student teachers' knowledge level regarding current research for brain-based gender differences and gender-specific instructional strategies in the classroom was minimal.

Research Question 2

What are preservice student teachers' beliefs regarding reading instruction for elementary boys?

Part 2 of the questionnaire, the Beliefs About Boys and Reading Instruction Survey (BBRI), provided the necessary data to answer Research Question 2. A set of 15 belief statements were provided to participants to explore their perceptions regarding boys' literacy learning. The student teachers' were asked to rate their degree of agreement or disagreement for

each statement (Appendix C) on a 5-point Likert scale with 1 equaling strongly disagree and 5 equaling strongly agree and 3 being neutral. A total of 97 participants rated these statements with one set of responses being excluded due to survey incompletion, leaving the sample number 96. Means and standard deviations for this survey are shown in Table 9. Cronbach's (1951) alpha test for reliability produced a reliability coefficient of 0.84. According to Pallant (2010), the closer Cronbach's coefficient alpha is to 1.0, the greater the internal consistency of the items in the scale.

It is notable that the means for most statements were on the "agree" side of the scale (greater than 3.0). Two statements that received particularly high mean ratings (greater than 3.6) were items 3 and 14, dealing with boys' behavior and gender as a factor to a student's approach to reading. On average, participants disagreed slightly with statements 6 and 7, which dealt with the lack of high-interest books geared for boys' interest in school and compulsory entry age for school as it relates to boys.

To explore the patterns of association among these items and to provide a simpler set of issues for later discussion, an Exploratory Factor Analysis using Principal Axis factoring was conducted. This procedure took into account the correlations among the 15 items and reduced the dimensionality of the total set by forming a smaller set of underlying components. The 15 belief item loading is shown in Table 10. Three distinct factors emerged and were identical to those identified in the *Australian Department of Education Study: Boys and Literacy* (Alloway et al., 2002). As a result, Concurrent Validity was established. The three names chosen by the Australian Department of Education to label the subscales in the *Boys and Literacy* study were Maleness, Development and Pedagogy, and Literacy Interests and this study kept the same scale labels.

Table 9. Means and Standard Deviations for the 15 Beliefs About Boys and Reading Instruction Survey (BBRI) Statements

Statement	Mean	SD	N
1. If there were more male teachers in primary schools, boys' literacy learning would improve.	3.42	.89	96
2. Teachers need to understand more about male culture to improve reading instruction for boys.	3.52	.91	96
3. Boys' behavior at school significantly affects their levels of literacy achievement.	3.71	1.00	96
4. There has been a lack of focus on boys' education over the last two decades.	3.06	1.00	96
5. The way that boys' brains develop accounts for boys' literacy learning.	3.23	.89	96
6. There are not enough books of high-interest value to boys available in schools.	2.72	1.03	96
7. Boys are not ready for school at the compulsory entry age, which is six years old in Texas.	2.45	1.10	96
8. Boys prefer to read non-fiction to fiction.	3.11	1.06	96
9. If schools adopted different assessment practices, boys' literacy results would improve.	3.22	.78	96
10. Boys often think that reading and writing activities are more appropriate for girls and women.	3.22	.92	96
11. Boys prefer technological forms of literacy to print-based forms of literacy.	3.54	.89	96
12. Some groups of boys have lower reading levels than others.	3.59	.87	96
13. Many current teaching practices in literacy classrooms are not conducive to boys' literacy learning.	3.18	.91	96
14. Gender can be a factor in a student's approach to reading.	3.60	.92	96
15. Boys often tend to be less engaged than girls during reading instruction.	3.54	.89	96
16. Total	3.27	.52	96

Table 10. Rotated Factor Analysis Indicating the Loadings for the 15 BBRI Statements

Belief Statements	1	2	3
1	.601	.300	.049
2	.628	.231	.117
3	.722	.054	.087
4	.320	.246	.422
5	.497	.097	.311
6	.216	.136	.646
7	-.080	.095	.730
8	-.133	.541	.117
9	.277	.247	.482
10	.229	.495	.218
11	.184	.654	.115
12	.241	.378	.063
13	.499	.245	.425
14	.266	.586	.205
15	.257	.499	.101

At this point, the statements from each factor were arranged together and interpretive labels were added to reflect a definition for of each group factor. The three new groups were renamed scales and the resulting three scale groups are presented in Table 11 with the corresponding questions.

Table 11. Labeled BBRI Subscales With the Corresponding Questions

Subscale	Mean	SD
Maleness		
1. If there were more male teachers in primary schools, boys' literacy learning would improve.	3.42	.89
2. Teachers need to understand more about male culture to improve boys' literacy learning.	3.52	.91
3. Boys' behavior at school significantly affects their levels of literacy achievement.	3.71	1.00
5. The way that boys' brains develop accounts for boys' literacy learning.	3.23	.89
13. Many current teaching practices in literacy classrooms are not conducive to boys' literacy learning.	3.18	.91
Literacy Interests		
8. Boys prefer to read non-fiction to fiction.	3.11	1.06
10. Boys often think that reading and writing activities are more appropriate for girls and women.	3.22	.92
11. Boys prefer technological forms of literacy to print-based forms of literacy.	3.54	.89
12. Some groups of boys have lower reading levels than others.	3.59	.87
14. Gender can be a factor in a student's approach to reading.	3.60	.92
15. Boys often tend to be less engaged than girls during reading instruction.	3.54	.89
Pedagogy and Development		
4. There has been a lack of focus on boys' education over the last two decades.	3.06	1.03
6. There are not enough books of high-interest value to boys available in schools.	2.72	1.00
7. Boys are not ready for school at the compulsory entry age, which is six years old in Texas.	2.45	1.10
9. If schools adopted different assessment practices, boys' literacy results.	3.22	.78

Reliability for each scale was determined, as measured by Cronbach's Alpha (Table 12). All three scales were within the acceptable reliability range (George & Mallery, 2003).

Table 12. Reliability Coefficients for the Three Belief Scales

Scale	Cronbach's Alpha	Number of Items (n=)
Scale 1: Maleness	.77	5
Scale 2:Literacy Interests	.74	6
Scale 3: Development and Pedagogy	.71	4

Means of agreement were calculated for the three Beliefs About Boys and Reading Instruction Survey (BBRI) scales, recalling that the higher the mean (closer to 5), the more overall agreement for the statement indicated by the respondent and the lower the mean (closer to 1), the more overall disagreement for the statement by the respondents (Table 13).

Table 13. Mean and Standard Deviation for the Three BBRI Scales

Boys and Literacy Scale	Mean	Standard Deviation
Maleness	3.41	0.67
Literacy Interests	3.44	0.61
Development and Pedagogy	2.86	0.72

On the 5-point Likert scale utilized, 1 equaled strongly disagree and 5 equaled strongly agree, and 3 was considered neutral. The "Literacy Interests" scale had the highest score of agreement with a mean score of 3.44. This was followed very closely by the "Maleness" scale, whose mean score was 3.41. Both of the two scales' means fell above neutral 3 mark. The scale group with the least agreed upon statements was boys' "Development and Pedagogy" with a

mean score of 2.85. However, this mean score was still only slightly on the disagree side of the rating.

Finally, to allow for comparisons between the Bachelor of Science in Interdisciplinary Studies (BSIS) degree programs, mean values were standardized. Standard normal distribution or z- scores allow for raw scores to be transformed into standard deviations units (Johnson & Christensen, 2004). Subsequently, the mean becomes zero and its standard deviation becomes 1. This permits the comparison of data obtained at different scales and allowed for the analysis of patterns of agreement among the three BSIS groups, using the three scales for belief statements (Table 14).

Table 14. Standardized Means for BSIS Groups for the BBRI Survey

BBRI scales	Early Childhood (n = 60)	Reading (n = 22)	Bilingual (n = 14)
Maleness	-.0306	-.1383	.3485
Literacy Interests	.0143	-.1434	.1642
Dev. & Pedagogy	-.0225	-.0293	.1423

Research Question 3

To what extent do preservice student teachers' knowledge and beliefs regarding reading instruction for elementary boys relate to their teacher sense of efficacy for literacy instruction?

The Teacher Sense of Efficacy for Boys and Reading Instruction (TSEBRI), Part 3 of the questionnaire, supplied the data necessary to answer the first part of this question. A set of 20 Likert-scale statements were presented to explore the respondents' teaching self-efficacy beliefs about reading instruction for boys. The survey was adapted from several Likert-scale self-efficacy instruments, including the Teacher Sense of Efficacy for Reading Instruction, developed

by Dr. Tschannen-Moran and Dr. Johnson (2011). All surveys had demonstrated high reliability and validity. The language of the questions for the TSEBRI was modified to reflect the nature of the project as it referred to the student teachers' attitudes and beliefs about reading instruction and reading achievement for boys. As an example of an adaptation, an item such as: "To what extent can you recommend a variety of quality children's literature to the students in your room?" was changed to "To what extent can you recommend a variety of quality children's literature to the male students in your room?"

Ninety-seven (97) participants rated these statements; however, six sets of responses were excluded due to non-completion of this part of the questionnaire, resulting with a sample number of 91. A reliability analysis of the Teacher Sense of Efficacy for Boys Reading and Instruction (TSEBRI) and Cronbach's alpha test (Cronbach, 1951) produced a reliability coefficient of 0.93. Reliability values can range from 0 to 1, with higher values indicating greater reliability (Pallant, 2010, p. 6). Therefore, a reliability factor of 0.93 is considered excellent reliability. The original 2011 TSELI study findings revealed Cronbach's alpha= 0.96. A Confirmatory Factor Analysis using Principal Axis Factoring followed, examining items from the TSEBRI to determine whether results were consistent with the 2011 TSELI findings by Tschannen-Moran and Johnson (p. 756). Consistency was then determined between the study's modified TSELI, the Teacher Sense of Efficacy for Boys and Reading Instruction (TSEBRI) and Tschannen-Moran and Johnson's Teacher Sense of Efficacy for Literacy Instruction, the TSELI.

An Exploratory Factor Analysis was conducted to explore patterns of associations among the 20 TSEBRI items. Finding the one factor solution as the best choice, the results supported Tschannen-Moran and Johnson's 2011 study and a 2012 follow-up study, *A Study of Factors That Contribute to Preservice Teachers' Sense of Efficacy for Literacy Instruction* (Martin,

2012). Tschannen-Moran and Johnson (2011) wrote that their findings suggest that "teacher self-efficacy is a multifaceted construct based on multiple subskills" (p. 756). Furthermore, Tschannen-Moran and Johnson (2011) determined that teacher self-efficacy in literacy instruction "can be considered an important set of skills that contribute to an overall set of self-efficacy beliefs among elementary teachers" (p. 756). Loadings from the one factor solution are presented in Table 15. All but three of the 20 items (factors 1, 3, 4) showed strong factor coefficients when the one factor analysis was performed. The remaining factor coefficients all fell within the range of .519 to .765 and explained 43% of the variance in the TSEBRI.

Table 15. Confirmatory Factor Analysis for the Teacher Sense of Efficacy for Boys and Reading Instruction (TSEBRI) – One Factor

Factor	Factor Coefficient
1	.325
2	.519
3	.429
4	.470
5	.562
6	.649
7	.684
8	.558
9	.667
10	.649
11	.675
12	.725
13	.702
14	.763
15	.717
16	.765
17	.680
18	.585
19	.622
20	.754

Descriptive statistics, mean and standard deviation, were then calculated for each of the 20-item statements (Table 16). This allowed for a closer look at individual item ratings. The student teachers' agreement levels were the highest for TSEBRI statement number 10, "To what extent can you model effective reading strategies?" The mean average response to this question was 4.37. The statements that rated the lowest response means were items 3 and 4. These items asked, "To what extent can you adjust your reading strategies that you are using with your male students, based on ongoing formal assessments?" and "To what extent can you adjust your reading strategies you are using with your female students, based on ongoing formal assessments?" The response ratings mean for the male student statement was 3.67 and the response ratings mean for the female students were 3.64.

Table 16. Means and Standard Deviations for the 20 Teacher Sense of Efficacy for Boys and Reading Instruction (TSEBRI) Statements

Statement	SD	N	Mean
1. To what extent can you use a student's oral reading mistakes as an opportunity to teach effective reading strategies?	3.84	.87	91
2 How much can you do to control a student who is dominating a literary discussion.	3.65	.77	91
3. To what extent can you adjust your reading strategies you are using with your male students, based on ongoing formal assessments?	3.67	.90	91
4. To what extent can you adjust your reading strategies you are using with your female students, based on ongoing formal assessments?	3.64	.86	91
5. How well can you meet the needs of struggling female readers?	4.12	.73	91
6. How well can you meet the needs of struggling male readers?	4.02	.82	91
7. To what extent can you provide your students with opportunities to apply their prior knowledge to reading tasks?	4.05	.84	91
8. To what extent can you help your male students monitor their own use of reading strategies?	3.89	.72	91
9. To what extent can you help your female students monitor their own use of reading strategies?	3.88	.79	91
10. To what extent can you model effective reading strategies?	4.37	.73	91
11. To what extent can you provide specific, targeted feedback to students' during oral reading?	4.18	.78	91

Table 16 (continued)

Statement	SD	N	Mean
12. To what extent can you recommend a variety of quality children's literature to the male students in your room?	4.04	.83	91
13. To what extent can you recommend a variety of quality children's literature to the female students in your room?	4.15	.77	91
14. How well can you motivate the male students in your room who show low interest in reading?	4.04	.80	91
15. How well can you motivate the female students in your room who show low interest in reading	4.12	.79	91
16. How well are you able to adjust your reading materials to the proper reading level for individual students?	4.11	.80	91
17. To what extent can you get the male students in your room to talk with each other in class about books they are reading?	4.03	.81	91
18. To what extent can you get the female students in your room to talk with each other in class about books they are reading?	4.08	.75	91
19. How well are you able to adjust your reading instructional materials to ensure your male students see the value in reading?	3.91	.85	91
20. How well are you able to adjust your reading instructional materials to ensure your female students see the value in reading?	3.99	.81	91
TOTAL	3.99	.52	91

Next, a comparison involving the three Bachelor of Science in Interdisciplinary Studies (BSIS) degree programs was performed to allow analysis for each BSIS group's overall item ratings for the efficacy statements (Table 17). Interpretation for Table 17 was as follows: The overall mean for the student teachers' responses for the TSEBRI survey was 3.99. For those student teachers participating in the Early Childhood (EC) BSIS delivery system, response scoring for their teacher sense of efficacy beliefs about reading instruction for boys placed their mean scores at 4.01. For those student teachers participating in the Reading (RDG) BSIS delivery system, response scoring for their teacher sense of efficacy beliefs about reading instruction for boys also placed at 4.01. For those student teachers participating in the Bilingual (BIL) BSIS delivery system, the response scores fell slightly below the overall mean at 3.86. This group's ratings had a slightly less positive level than the first two groups. However, all three

BSIS groups response means fell higher than the neutral 3, indicating a higher degree of perceived self-efficacy for reading instruction for boys.

Table 17. Means and Standard Deviations for BSIS Groups for the TSEBRI Survey

BSIS	N	Mean	SD
Early Childhood	56	4.01	.46
Reading	22	4.01	.54
Bilingual	13	3.86	.71
Total	91	3.99	.52

Multiple Regression Analysis

The last step in the data analysis process was to perform a multiple regression analysis. Multiple regression analysis research permits the examination of the influence of each of the predictor variables on a criterion variable in a given model (Field, 2009). Multiple regression analyses do not, necessarily, imply causation; however, relationships and associations may be used for predictive purposes. A Hierarchical Multiple Regression analysis was conducted to examine potential factors that predict the student teacher sense of efficacy for literacy instruction for boys (Table 18). The regression analysis was used to examine the extent that student teachers' literacy knowledge and beliefs corresponded with their teaching self-efficacy levels for teaching elementary boys to read. The measure of the teachers' sense of efficacy for literacy instruction (SE) was the dependent variable. Besides knowledge and beliefs, the following predictor variables were considered: BSIS Instructional Delivery Systems, age, ethnicity, and experience. Instead of the measure of Beliefs, the three beliefs subscales, Maleness, Literacy Interests, and Development and Pedagogy, were considered as predictor variables (Figure 1).

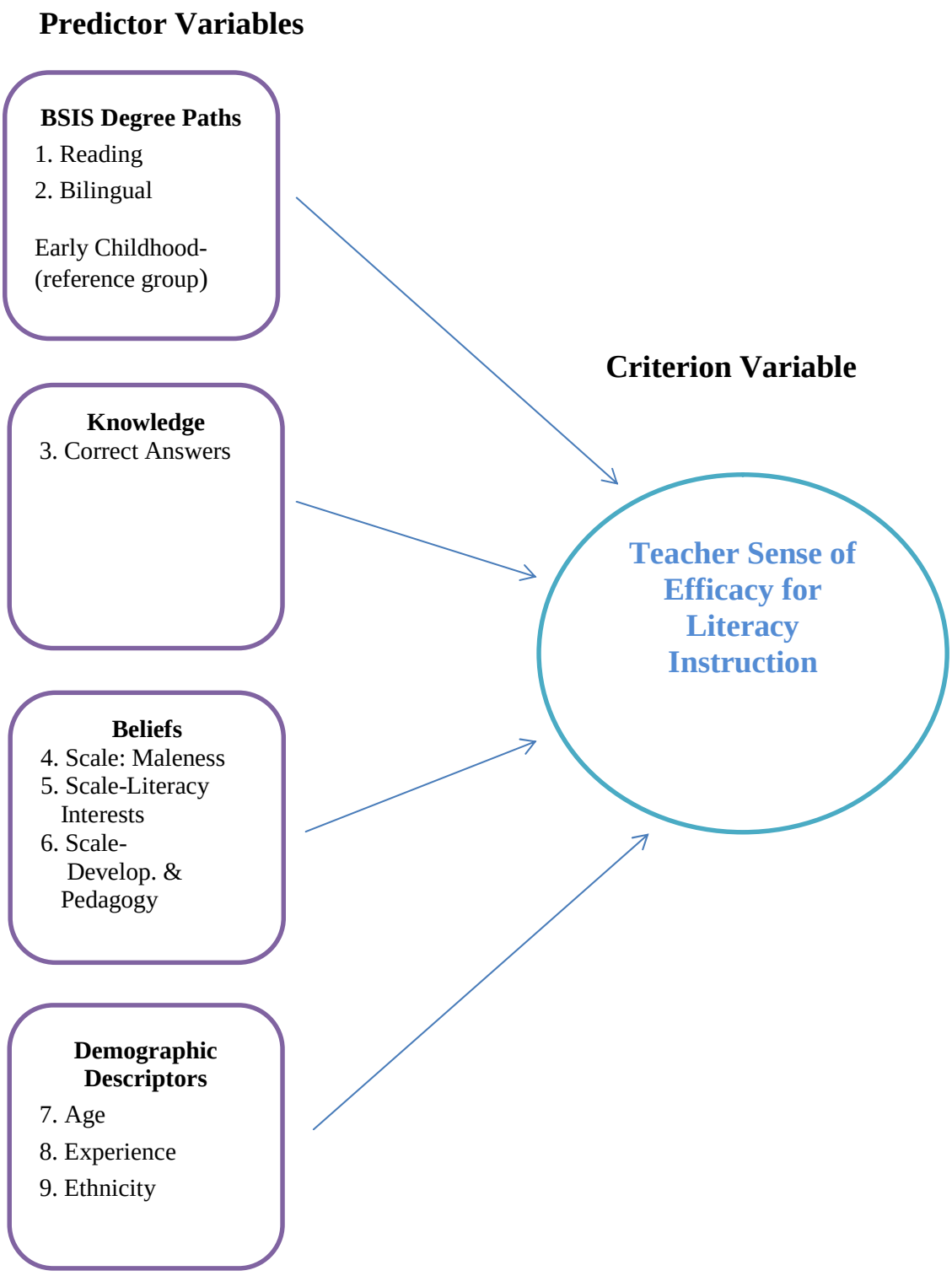

Figure 1. Initial Multiple Regression Predictor Variables Model for the Teacher Sense of Efficacy for Literacy Instruction for Boys' Relationship Comparison

The original sample of 97 participants was reduced to 91 because of missing values. A sample of 90 participants allowed for, at the most, six predictor variables. An acceptable standard requires 15 participants per predictor variable (Field, 2009). Of the nine possible predictor variables, six were chosen. These six predictors were selected based on the information required to answer Research Question 3. The six predictors were: correct knowledge scores, beliefs scales (maleness, literacy interests, and development and pedagogy), and two BSIS variables (Figure 2).

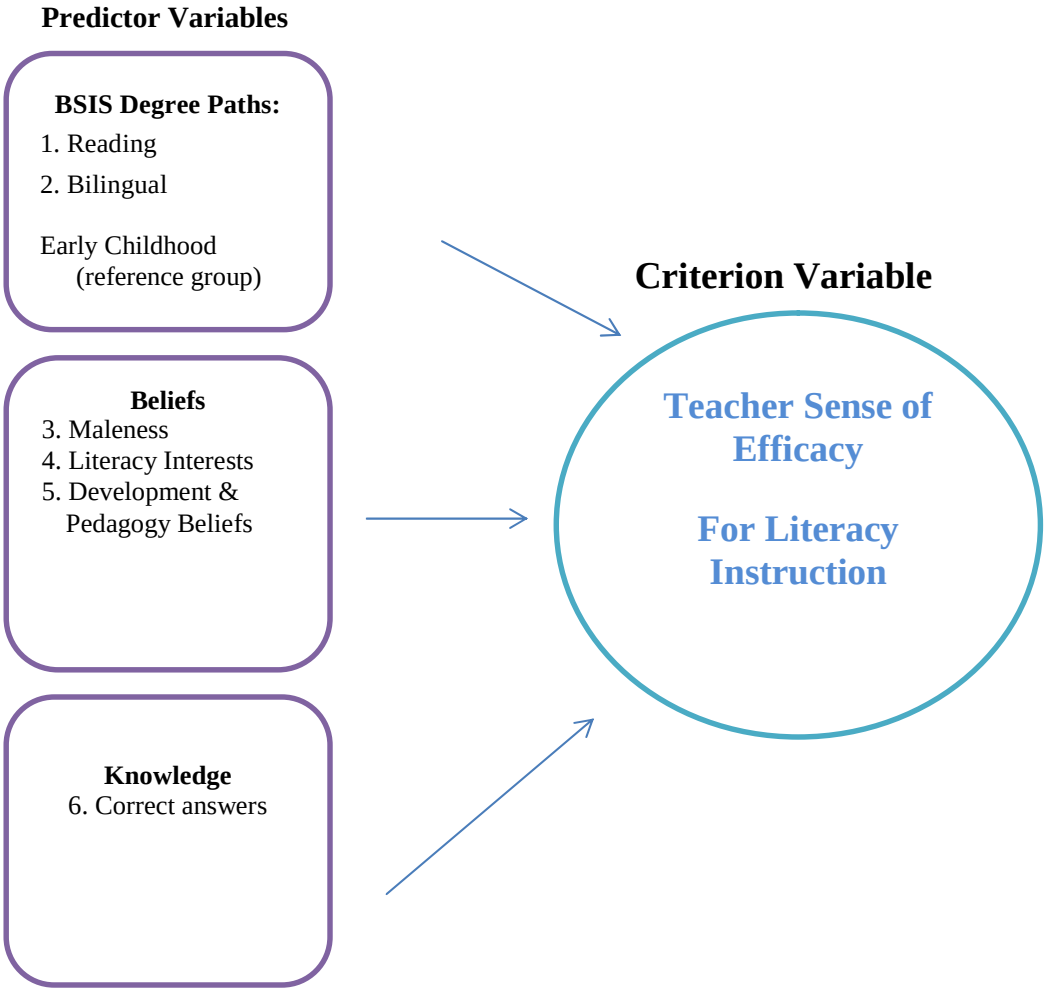

Figure 2. Final Multiple Regression Predictor Variables Model for the Teacher Sense of Efficacy for Literacy Instruction for Boys' Relationship Comparison

The predictor variables were examined before entry into the regression analysis. First, two transformations of predictor variables were performed. Two dummy variables were created from the three BSIS Instructional Delivery Systems variable (EC, Reading, and BIL). The first dummy variable (BSIS 1) was coded as EC = 0, Reading = 1, and BIL = 0. Similarly, the second dummy variable (BSIS 2) was coded as EC = 0, Reading = 0, and BIL = 1. Summed scores were used for all continuous predictor variable scores. The summed scores for correct knowledge and beliefs scales (maleness, literacy interests, and development and pedagogy) were examined for normality. Based on normality plots and the Shapiro-Wilk test for normality, the distribution of the correct knowledge scores was found to violate the normality assumption. A Square Root reflective transformation of the correct knowledge scores was performed. The normality plots and the Shapiro-Wilk test indicated that the distribution of the transformed correct knowledge scores was acceptable. Therefore, the two BSIS dummy variables and the transformer summed correct knowledge scores replaced the BSIS and the summed correct knowledge scores in the regression analysis.

Second, bivariate correlations between the outcome measure (SE) and each of the predictor variables were computed and ranked from highest to lowest. Table 18 presents the ranked bivariate correlations between the nine predictor variables and self-efficacy.

Third, the data were examined for influential cases and outliers. Influential cases are suspected when Cook's Distance values are greater than 1.00. For this data, the range of the Cook's Distance values was 0.00 to 0.14. Therefore, no influential cases were detected. The critical Centered Leverage Value (CLV) was computed using the following formula: [(3*P)/n], where P = number of predictors plus one and n = 90. For this data, critical Centered Leverage Value (CLV) = [(3*7)/90] = 0.23. The actual CLV ranged from .01 to 0.30.

Therefore, at least one outlier on the set of predictors was detected. Futher examination of the data indicated that only one case was identified as an outlier. This case was not removed because one case out 90 cases is a very small percentage and should not adversly influence the results. Cases were examined for outliers on the outcome measure (SE). The range of the standardized residuals was -2.22 to 2.16. Because no standardized residual was smaller than -3.00 or larger than 3.00, no outliers on the outcome measure were detected.

Table 18. Ranked Bivariate Correlations Between Predictor Variables and the TSEBRI

Variable	*r*	*P*	r_{pb}	*p*
Sum – Transformed Knowledge Correct scores	-.280**	.004		
Sum –Maleness	.213*	.022		
Ethnicity			-.204	.060
Sum-Literacy Interests Beliefs	.134	.103		
Experience			.111	.293
BSIS-2 (BIL/EC)			-.105.	.163
Age			.057	.589
BSIS 1 (RDG/EC)			.015	.445
Sum-Development & Pedagogy Beliefs	-.010	.462		

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

The six predictor variables were entered into the regression equation based on the rankings shown on Table 19. The R Square change is the amount of variance in the outcome measure explained by a predictor, its uniqueness. The transformed correct knowledge scores variable was entered first and accounted for 7.85% of the variation in Teacher's Self-Efficacy (SE) and was statistically significant, $F(1, 88) = 7.49$, $p < .01$. Maleness was entered second

and accounted for 1.69% of the variation in SE and was not statistically significant, $F(1, 87) = 1.62$, $p = .21$. Literacy Interests was entered third and accounted for 0.00% of the variation in SE and was not statistically significant, $F(1, 86) = 0.00$, $p = .98$. BSIS 2 (BIL) was entered fourth and accounted for 1.36% of the variation in SE and was not statistically significant, $F(1, 85) = 1.30$, $p = .26$. BSIS 1 (Reading) was entered fifth and accounted for 0.08% of the variation in SE and was not statistically significant, $F(1, 84) = 0.07$, $p = .79$. Development and Pedagogy was entered last and accounted for 0.83% of the variance in SE and was not statistically significant, $F(1, 83) = 0.78$, $p = .38$. The six predictor model accounts for 11.81% of the variation in SE. Table 19 reveals the results of the unique contribution of each predictor variable.

Table 19. Unique Contributions of the Predictor Variables in Explaining the Variation in Teachers' Self-Efficacy

Predictor	R	R^2	Uniqueness	F Change	p
Correct Knowledge Scores (Transformed)	.28	.08	7.85%	7.49	< .01
Maleness	.31	.10	1.69%	1.62	.21
Literacy Interests	.31	.10	0.00%	0.00	.98
BSIS (BIL)	.33	.11	1.36%	1.30	.26
BSIS (Reading)	.33	.11	0.08%	0.07	.79
Development and Pedagogy	.34	.12	0.83%	0 .78	.38

Results of the regression analysis were then interpreted in a second manner. Table 20 presents the regression coefficient information. The coefficients yield the prediction equations. The coefficients labeled "Estimate" are the unstandardized coefficients and the ones labeled "Beta" are the standardized coeeficients. These coefficients indicate the direction and strength

of the relationship between each predictor variable and the outcome measure, while controlling the effects of all other predictors. Althougth both set of coefficients predict the outcome measure (SE), the standardized coefficients are more interpretable because the predictor and outcome measure are standardized to a mean of 0 and a standard deviation of 1 (Green & Salkind, 2003).

Table 20. Estimate of Regression Coefficients for the Predictor Variables

Predictor	Estimate	STD Error	Beta	t	p	VIF
Constant	81.39	11.03		7.38	< .001	
Correct Knowledge Scores (Transformed)	-4.01	2.35	-.20	-1.71	.09	1.28
Maleness	.64	.41	.20	1.56	.12	1.56
Literacy Interests	.11	.35	.04	.31	.76	1.46
BSIS (BIL)	-3.83	3.17	-.13	-1.21	.23	1.10
BSIS (Reading)	-.54	2.58	-.02	-0.21	.84	1.08
Development and Pedagogy	-.39	.44	-.11	-0.89	.38	1.43

Using the single predicted model, the:

$Predicted\ Z_{SE} = -.28\ Z_{Transformed\ Correct\ Knowledge\ Scores} = -.28\ (-1.23) = 0.34$ and

Predicted SE = mean + ($Predicted\ Z_{SE}$ * standard deviation) = 79.87 + (0.34 * 10.39)

= 83.40

Results indicated that for this example, both models yielded a good prediction of the observed SE (80). The single preditor model was not as accurate as the six predictor model, but the simpler model was less complex and avoided having to gather data for the other five predictors.

After reviewing the results of the two regression examples, two final issues should be addressed. First, the issue of multicollinearity could have caused the six predictor model to predict a similar value for SE as the single predictor model. Multicollinearity can adversly

affect results of a regression analysis. Multicollinearity can exist when predictor variables are moderately to highly intercorrelated and they may provide the same information about the outcome measure (Mertler & Vannatta, 2005). Variance Inflation Factor indicates the strength of the linear relationship between a given predictor and remaining predictors (Stevens, 1992). The Variance Inflation Factor (VIF) for each predictor variable is shown in Table 20. All predictor variables have VIF values greater than 1.00, but none are close to a value of 10.00, which is considered problematic (Stevens, 1992). The VIF values for Maleness (1.56), Literacy Interests (1.46), and Development and Pedagocy (1.428) are the highest of all predictors. Recall that the unique contribution of Literacy Interests and Development and Pedagogy were only 0.00% and 0.83%, respectively. On the other hand, the unique contribution of Maleness was 1.69%. The possibility exists that Literacy Interests and Development and Pedagogy provided much of the same information that Maleness provided. In addition, as shown on Table 18 the correlations between Literacy Interests and BSIS 2 (BIL), and Self-Efficacy (SE) were .134 and -.105, respectivily, while, the unique contribution of BSIS 2 (BIL) was 1.36%. Second, the issue of parsimony should be addressed. When evaluating and selecting a good set of predictor variables, a parsimonious solution should be given more weight. That is, a simpler solution with fewer variables should be considered better than a more complex solution with many variables (Mertler & Vannatta, 2005). The results of the regression analysis indicated that the student teachers' sense of efficacy for boy's reading instruction could be predicted by the number of correct answers on the Knowledge About Boys and Reading Instruction Survey (KBRI). Additionally, the student teachers' ratings of the Beliefs scale *Maleness* could be considered a small contributor.

Summary

This study investigated the relationship between preservice teachers' knowledge and beliefs and their teachers' sense of efficacy for literacy instruction for boys as well as the impact of the student teachers' focus for their Bachelor of Science in Interdisciplinary Studies (BSIS) degree. The development of the Student Teachers' Knowledge, Beliefs and Teacher Sense of Efficacy Concerning Boys and Reading Questionnaire was detailed along with a description of the study participants.

Findings from the study indicated that the teacher sense efficacy for literacy instruction did not significantly differ across the three Bachelor of Science in Interdisciplinary Studies (BSIS) degree plans for the elementary level teacher. However, the multiple regression analysis did find that the number of correct answers of the knowledge survey and their beliefs about males in the classroom were an influence on the level of efficacy the preservice teachers assumed about their teaching sense of literacy instruction for boys included.

This chapter presented the results of the study. The next and final chapter presents the research findings and their relationship to previous investigations. In addition, the final chapter discusses the implications of these findings for literacy teaching and learning for elementary boys.

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

The persistent debate surrounding the topic of boys' underachievement in reading was the motivation for this study. It is in the elementary grades that the joy for reading begins to develop in children. If, as achievement data indicate, gender does have an effect on literacy acquisition, then gender-specific strategies should have a positive impact on the success rate for boys (and/or girls). And, if gender-specific teaching strategies have an effect on boys' reading achievement and motivation, then failure to consider them could explain the gendered crisis in literacy education. This supposition was borne out of current gender reading achievement differences documented in every state at every level at which reading is assessed (NCES, 2011).

Jack Jennings called the gender gap in reading in the U.S. "an education crisis that is not receiving nearly the attention it ought to" (Jennings, 2011, para. 1). Because national statistics continue to report increasing numbers of underachieving boys, it is vitally important that educators consider the impact of instructional strategies and teacher education programs in the context of gender and student achievement (Sax, 2007). Teacher education faces the daunting task of producing the next generation of reading teachers and these reading teachers must be prepared to meet the needs of the struggling boy (and girl) readers.

Research relating to teachers of reading has revealed that effective teachers own a vast amount of knowledge about literacy and have consistent philosophies about reading instruction (Wray et al., 2002). A teacher's literacy philosophy includes specific beliefs concerning the nature of reading and how it is acquired and is internally consistent with their practices

(Burgess, Lundgren, Lloyd, & Pianta, 1999). These literacy beliefs play an important role in quality instruction (Poulson, Avramidis, Fox, Medwell, & Wray, 2001). Equally as important is a strong sense of self-efficacy, a key theme among first-year teachers who "exemplified responsive and mindful teaching" (Maloch, Fine, & Flint, 2003, p. 349). This study contributed to the existing body of knowledge regarding teacher knowledge, teacher beliefs and teacher sense of efficacy as they relate to boys and reading by focusing on preservice student teachers, a population that had not been examined in previous research.

Chapter V is divided into four sections with the first section providing a brief description of the study. Section two concentrates on each of the three research questions that framed the study, and section three addresses the findings and the implications for teacher educators and teacher education programs. The chapter concludes by addressing the findings in terms of implications for teacher educators and recommendations for future research.

Description of the Study

As described in Chapter I, there were two purposes for this study. The first to identify the literacy knowledge, beliefs, and teaching self-efficacy for boys' reading instruction of 97 student teachers (EC-6) at one South Texas University. The second purpose of the study was to determine if there was a relationship between the preservice student teachers' Bachelor of Science in Interdisciplinary Studies (BSIS) degree focus and their teaching efficacy levels regarding boys reading instruction. A quantitative descriptive research design was employed to carry out this investigation and three measurement instruments were utilized: (a) a researcher designed knowledge survey, (b) a beliefs scale created by the Australian Department of Education to measure their primary school teachers' beliefs about boys and literacy, and (c) a modified version of Tschannen-Moran and Johnson's (2011) Teacher Sense of Self-Efficacy

for Literacy Instruction (TSELI). Both the beliefs scale, the Beliefs About Boys and Reading Instruction (BBRI) and the modified efficacy instrument, the Teacher Sense of Efficacy for Boys and Reading Instruction (TSEBRI), utilized Likert scales for measurement and the results were reported through means and standard deviation.

Findings from the study indicated that the teacher's sense of efficacy for literacy instruction did not significantly differ across the three Bachelor of Science in Interdisciplinary Studies (BSIS) degree plans. However, multiple regression analysis did find that the number of correct answers on the knowledge survey, the KBRI, and the preservice student teachers' beliefs about males in the classroom were an influence on the level of efficacy the preservice teachers assumed concerning their sense of efficacy for literacy instruction for boys.

Research Questions

Research Question 1

What are preservice student teachers' knowledge levels regarding reading instruction for elementary boys?

Examination of the results from descriptive data gathered by the first boys and reading survey, the *Knowledge About Boys and Reading Instruction Survey* (KBRI), could lead to the conclusion that the preservice teachers, as a whole, had little-to-no knowledge of brain-based gender differences and gender-specific instructional strategies. Data information was also separated by the BSIS Instructional Delivery System and examined. These findings indicated that there was not a statistically significant difference in assessment results among the three groups. According to Table 14 in Chapter IV, the overall differences between BSIS responses for the KBRI Knowledge Assessment Survey were minimal with each group selecting

approximately 60% correct responses for the 25 KBRI questions. Based upon the findings, BSIS degree focus for the preservice teachers' does not impact knowledge level results.

In 2000, Anders et al. presented the question, "How should teachers be taught to teach reading?" (p. 719). The existing literature suggests teacher knowledge as the largest factor that is consistently associated with teacher education (Coleman et al., 1966; Hanushek, 1997; Metzler & Woessmann, 2012). Preservice teachers need to understand foundational knowledge such as theories of literacy, qualities of proficient readers, and be provided the preparation to enable "a diverse group of students to learn ever more complex material" (Darling-Hammond, 2006, p. 300).

Moreover, as cited in Chapter II, Shulman (1986, 1987) found that teachers need to understand the subject matter deeply and flexibly so they could help students create useful cognitive maps, relate ideas to one another, and address misconceptions. Also included in Chapter II, Singh (1998) found that the depth of knowledge concerning reading-gendered issues usually determined the extent to which teachers believed that they could and did attempt to impact the gender roles in their classrooms and also the extent to which they took the steps to do so. Knowledge of reading gender needs is a valuable component that seems to be missing from the university studied, and access to this information should be considered in future teacher education program.

The small sample size for two of the BSIS groups, Reading (22), and Bilingual (14) is one possible explanation for the finding of no statistical differences in correct score percentage means. Larger sample sizes for these two groups might have led to statistically significant differences. Additionally, the design of the survey, which used only closed-ended questions, might have limited the amount of information attained.

Research Question 2

What are preservice student teachers' beliefs regarding reading instruction for elementary boys?

Part 2 of the Boys and Reading questionnaire, the *Beliefs About Boys and Reading Instruction Survey* (BBRI), provided the information necessary to answer Research Question 2. Scores fell at about the overall mean for each of the three scale sets concerning perceptions about boys' literacy learning for those student teachers participating in the Early Childhood BSIS delivery system. The standardized mean score for "Maleness" was -.0306, for "Literacy Interests" .0143, and for "Development and Pedagogy" the standardized mean score was -.0225. These scores placed all three almost exactly at the standardized mean level of zero. For student teachers participating in the Reading BSIS delivery system, the scores were slightly below the overall mean for both the "Maleness" scale (-.1383) and the "Literacy Interests" scale (-.1434), and at about the overall standardized mean of zero for the "Development and Pedagogy" scale (.0293). Data results indicated that this group agreed slightly less with the belief statements than the Early Childhood group. Student teachers participating in the Bilingual BSIS delivery system scored themselves slightly above the overall mean on both the "Literacy Interests" scale (.1642) and the "Development and Pedagogy" scale (.1423) and even more above the overall standardized mean of zero on the "Maleness" scale (.3485). Overall, the Bilingual BSIS group seemed to agree more strongly with the belief statements than the first two groups.

Several major points can be drawn from the examination of the data for the preservice student teachers' views on literacy performance in school and its association with the particular problems of boys. It was notable that the means for most statements were on the "agree" side of

the scale (greater than 3.5). Four statements that received particularly high mean ratings were statements 1, 2, 3 and 5, dealing with boys' behavior, a need for greater understanding of male culture, boys' brain development, and the need for more males in the literacy classroom. These all relate to conditions that fell under the subscale "Maleness." This group of factors was shown to have the highest overall mean of approval by the preservice teachers on the Beliefs survey (BBRI). When the multiple regression analysis was performed, "Maleness" was found to be one of two factors seeming to affect preservice teachers' sense of teaching self-efficacy for boys reading instruction.

On the flip side, respondents disagreed slightly with statements that fell under the subscale "Development and Pedagogy." Two of the item statements listed under this subscale were: *There are not enough books of high-interest value to boys available in schools* and *Boys are not ready for school at the compulsory entry age, which is six years old in Texas.* Finally, results of from the first two Boys and Reading surveys, KBRI and the BBRI, indicated that while the student teachers held rather strong beliefs about boys and literacy learning, their level of knowledge concerning the topic would not allow for much support.

As discussed in Chapter II's literature review, belief systems can influence preservice teachers' learning (Collinson, 1996) and affect how they obtain knowledge, interpret course content, and integrate it into their teacher education experiences (Anderson & Holt-Reynolds, 1995). Beliefs are part of a construct that "name, define, and describe the structure and content of mental states that are thought to drive a person's actions" (Richardson, 1996). Beliefs about teaching usually come from personal experience (Clandinin, 1986), prior schooling, instructing experiences (Anning, 1988; Knowles, 1992), and interaction with formal knowledge. A number of studies have shown the resilience of preservice teachers' beliefs and that these strongly-held

ideas can significantly affect what and how the future teachers internalize the content of the teacher education program (Massengill, Mahlios, & Barry, 2005). Pajares (1992) asserted that the lack of consideration of preservice teachers' beliefs was one possible cause for outdated and ineffective teaching practices. Consequently, he recommended that their beliefs should be recognized, valued, and acted upon by teacher educators. Grossman et al. (2000) provided the rationale for teacher educators to strive to impact prior beliefs held by their students as they found that they served as a gold standard against which practices are judged.

Research Question 3

To what extent do preservice student teachers' knowledge and beliefs regarding reading instruction for elementary boys relate to their teacher sense of efficacy for literacy instruction?

A teacher's self-efficacy level not only impacts his/her behaviors, but it influences his/her ability to engage students and assist them in their learning (Armor et al., 1976). Teachers with positive self-efficacy tend to be less critical of students when they make mistakes (Ashton & Webb, 1986) and persevere longer in their attempts to help a struggling student (Gibson & Dembo, 1984). Table 22 reported the means and standard deviations for the *Teacher Sense of Efficacy for Boys and Reading Instruction* (TSEBRI) statements. The 20 Likert-scale statements explored the respondents' teaching self-efficacy beliefs about reading instruction for boys. Overall total mean results from the survey data for the TSEBRI fell at 3.99, which was almost 1 point above the neutral 3 line, indicating a higher degree of perceived self-efficacy by the preservice teachers for their ability to deliver gender specific reading instruction for boys. Both fall and spring survey timeframes took place at the beginning of the student teaching experience. For this reason, these results seemed to support findings from prior studies that were cited in Chapter II. The research studies cited had found that

undergraduate education majors often began their teacher education programs with high levels of self-efficacy and that these levels of self-efficacy frequently declined as preservice teachers progressed through their curriculum and made the transition into teaching (Barnes, 1998; Hoy, 2000; Narang, 1990; Walker, 1992).

Separate analysis for each BSIS group's overall item ratings for the 20 self-efficacy statements found that for both the Reading and Early Childhood BSIS groups, efficacy ratings fell at about the 3.99 mean, while the Bilingual BSIS group's overall mean fell at a slightly less positive level with 3.86. However, as stated above, all three means were well into the positive side of the Likert scale, indicating the preservice teachers had strong confidence in their abilities to deliver reading instruction designed for gender groups.

Multiple regression analysis was used to analyze the statistical relationship between the preservice teachers' sense of teaching efficacy for boys reading instruction and their Bachelor of Science in Interdisciplinary Studies (BSIS) degree focus. According to the statistical analysis, there was not a statistical relationship between the two (Table 18 and Table 20). The BSIS degree path factor proved to be weak predictors of the preservice student teachers' sense of efficacy for boys and reading instruction, having no significant impact on his or her self-efficacy beliefs for literacy instruction. The largest predictor for the preservice teacher's sense of efficacy for boys' reading instruction was found to be the amount of knowledge on this topic that he/she possessed.

Recommendations

The findings from this study support the recommendation for teacher education programs to take a closer look at the preparation of students for gendered-reading learning differences, especially given the fact that elementary teachers are overwhelmingly female and

may not have a familiarity with the needs of boys if they teach from their experiences and their beliefs. In order to build the students' knowledge core, there is a need for specific, focused instruction on the topic of understanding reading learning differences based on gender. Based on the literature review and results from this study, the following recommendations are made.

1. Teacher education programs should provide more emphasis on reading learning differences, including gender specific teaching strategies, taking a closer look at the preparation of their students for teaching boys, especially given the fact that elementary school teachers are overwhelmingly female and may not have an understanding of the needs of boys if they teach from experience.
2. Teacher educators must be committed to teaching their students about reading learning differences, including gender specific issues for reading instruction. If the issues are addressed by only a few committed faculty members, then only a portion of preservice teachers will learn about gender equity in reading (Sanders, 2002). Additionally, if only a few teacher educators address gender issues in reading, preservice reading teachers receive mixed messages about its significance.
3. When making curriculum choices, teacher education programs must focus on all specific reading learning differences, not just gender specific needs. The curriculum in teacher education literacy classrooms, and the accompanying instructional materials, needs to incorporate information of a variety of identified specific learning issues: whether gender, socioeconomic, or minority-based. Each has shown to be a factor in the success for boys and girls. Content of textbooks and instructional materials throughout all reading education courses is critical.

4. Preservice teachers' literacy beliefs need to be acknowledged and considered in any attempt to improve literacy instruction. It is important for teacher educators to identify preservice teachers' beliefs and professional knowledge about gender and reading instruction early in their teacher preparation program and provide experiences for the students to understand, reflect, and inform these beliefs as they relate to their professional knowledge.

Suggestions for Future Research

There is still a lot of work to be done to continue this conversation regarding boys and reading. The findings from this study have implications for further research. Suggestions include:

1. Replicate this study with a larger population. A larger sample may yield different results and allow for a more diverse sample population. Demographically this study's sample population was overwhelming young and female with only two ethnicities represented, Hispanic and Caucasian.
2. Conduct a longitudinal study with the original sample members and resurvey the student teachers at the end of their first year of teaching and again after their third year. Teachers who were preservice teachers at the time of the initial study would have now been practicing classroom teachers and new results could be acquired and compared and contrasted with the original results.
3. Expand the study to include elementary teachers (EC-6th grade) from diverse school districts with a focus on diversity in the areas of socio-economic level, ethnic makeup of the school, geographical areas, and the size of the school district.

4. Conduct a study that compares responses from practicing teachers at both the elementary and secondary level. The interactions with different age groups of students might be a factor in teachers having different views regarding the role of gender in reading instruction.
5. Modify the study's research design to include both qualitative and quantitative data. Multiple methods for collecting the data could be employed to gain a deeper understanding of the student teachers' beliefs about gender and reading instruction. Teacher interviews would allow the researcher to gain the preservice teachers' views and concerns about boys reading instruction. Classroom visits done during literacy instruction time would allow the researcher to link and compare survey responses with interviews and classroom practice.

Summary and Conclusions

This study focused on bringing forth the understandings of preservice student teachers to assist in a better understanding of their perspectives in regards to boys' instruction and reading achievement. Underachievement data reports indicate that boys in the United States are more likely to struggle in reading, be served in special education classes, and be disciplined more frequently (Brozo, 2006). As educational reforms and policies stress the significance of teacher quality and reading achievement, it is important that students have teachers who are motivated, committed, and capable of helping all children develop into engaged and skillful readers. Many school children in America are attending schools where instruction is delivered by well-meaning teachers who are unaware of current social and scientific gender research and its importance in the reading classroom.

Findings from this study bring forth many questions about teaching and learning in the 21st century, including questioning the skill level of the teacher and his/her level of competency in the teaching of reading and knowledge of boys (Merisuo-Storm, 2006; International Reading Association, 2007). Research has confirmed that teachers' self-efficacy beliefs are more impressionable early in their learning cycle and become resistant to change once they are set. It seems logical that teacher educators and school leaders must provide preservice and novice teachers the kind of support that would lead to the development of strong, resilient self-efficacy beliefs about gendered reading instruction needs and successful reading instruction for all.

Final Remarks

As a part of my duties as a public school administrator, I participated in both retention and special education meetings, and I was always concerned with the disproportionate number of boys reviewed in these meetings. The findings from this study, supported by the literature reviewed, revealed that although data and research information addressing the gender achievement gap in reading is prolific, gender-informed classroom discussions and supporting pedagogical practices that embrace differentiation in instruction do not seem to be significantly addressed at the university level. Knowing what I know now regarding the identified needs of girls and boys as readers, gender-informed instructional strategies will become a component in all future educational reading courses where I am the instructor and in future discussions with my colleagues.

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APPENDIX A: LETTER TO STUDENT TEACHERS

Dear TAMU-CC Student Teacher,

I am a doctoral student in the Department of Curriculum and Instruction at Texas A&M University-Corpus Christi. This fall, I am conducting a survey using a questionnaire that explores the relationship between a teacher's knowledge, beliefs, and sense of self-efficacy in the areas of reading achievement and reading instruction, including reading instruction of male elementary students.

I am collecting data from student teachers majoring in Elementary Education with BSIS certification. You have been selected because you fit this profile. Your participation is voluntary.

All information acquired in this study will be used to further understand student teachers' self-efficacy with reading instruction for boys and the factors that affect teaching efficacy. Your participation is greatly needed and appreciated. The completion of the survey will require approximately 20 minutes. All information collected will be kept confidential and the completed questionnaires will not be associated with any individual student. Results will be reported in terms of group summarizations, not individual responses. All surveys will be securely stored in my office and destroyed after summarized into group findings. In addition, you have the option to not take the survey.

If you are willing to participate in this study, please complete the attached questionnaire and return it to me today. If you have any questions about the survey, please call me at 361-825-3298 or send an email to kathleen.fleming@tamucc.edu.

Thank you in advance for your time and participation.

Sincerely,

Kathleen Fleming
Graduate Assistant
Department of Curriculum & Instruction

Dr. Corinne Valadez
Dissertation Chair
Associate Professor
Department of Curriculum and Instruction

The Research Compliance Office and/or the Institutional Review Board at Texas A&M University-Corpus Christi have reviewed this research study. For research-related problems or questions regarding your rights as a research participant, you can contact Erin Sherman, Research Compliance Officer, at (361) 825-2497 or erin.sherman@tamucc.edu

APPENDIX B: IRB EXEMPTION

ERIN L. SHERMAN, MAcc, CRA, CIP
Research Compliance Officer
Division of Research, Commercialization and Outreach

6300 Ocean Drive, Unit 5844
Corpus Christi Texas 78412
O 361.825.2497 • F 361.825.2755

September 24, 2012

Ms. Kathleen Fleming
6626 Pharaoh Drive
Corpus Christi, TX 78412

Dear Ms. Fleming,

The research project entitled "Preservice Student Teachers' Knowledge and Beliefs Concerning Boys' Literacy Instruction and Its Correlation to Their Teacher Sense of Efficacy" (IRB# 112-12) has been granted approval through an exempt review under category 7.1.2(2). You are authorized to begin the project as outlined in the IRB protocol application.

Please submit an IRB Amendment Application for any modifications to the approved study protocol. Changes to the study may not be initiated before the amendment is approved. Please submit an IRB Completion Report to the Compliance Office upon the conclusion of the project. Both report formats can be downloaded from IRB website.

All study records must be maintained by the researcher for three years after the completion of the study. Please contact me if you will no longer be affiliated with Texas A&M University – Corpus Christi before the conclusion of the records retention timeframe to discuss retention requirements.

Please contact me if you have any questions.

Sincerely,

Erin L. Sherman

Erin L. Sherman

APPENDIX C: Survey Questionnaire

ID Number: Birthday 00-00-0000

Demographic Information-Please circle your response.

1. Please indicate your sex:
    a. Male
    b. Female

2. Which of the following categories best describes your age?
    a. 20 years old or younger
    b. 21-30 years old
    c. 31-40 years old
    d. 41-50 years old
    e. 51 years old or older

3. Which of the following best describes your racial background?
    a. Caucasian
    b. African American
    c. American Indian
    d. Asian
    e. Hispanic
    f. Other (please specify) _____

4. Which BSIS program are you enrolled in?
    a. Interdisciplinary Studies: EC-6 generalist, Early Childhood
    b. Interdisciplinary Studies: EC-6 generalist, Reading
    c. Interdisciplinary Studies: EC-6 Bilingual Generalist

5. Do you have any of the following teaching experiences in a school? Please check all that apply.
    a. Teacher (taught in a private school or preschool counts)
    b. Teacher Aide
    c. Reading Tutor
    d. Reading Intervention Teacher or Aide
    e. No experience

Part 1: True or False (T or F):

— Gender achievement gaps in reading tend to equal out in high school.

— Elementary girls score higher than elementary boys do on the Texas state reading assessment.

— High School boys score higher than High School girls do on the Texas state reading assessment.

— In elementary and middle school, boys score significantly higher on the Texas state math and science assessments.

— Gender achievement gaps in math and reading have widened in the last ten years.

— In elementary school, boys are more likely to be retained than girls.

— Boys make up the majority of students served in special education.

— In tests for various cognitive intelligences, boys tend to score higher on spatial tests and girls tend to score higher on visual and verbal tests.

— Gender gaps in achievement have proved to be equal across racial/ethnic groups.

— Boys and girls come to school equally prepared in reading readiness skills.

— Boys value reading as an activity less than girls do.

— Girls tend to comprehend expository text better than boys do.

— Boys are more likely to be involved in a disciplinary infraction at school.

— Children bring their gender identities with them that first day of preschool.

— Boys will resist reading stories about girls, more than girls resist reading about boys

Multiple Choice: Please circle your answer choice.

1. When student scores on standardized tests are compared based on gender, female students generally score higher than male students in which of the following content areas?
    a. Art
    b. Language arts
    c. Math

2. Which of the following groups of students is least likely to receive teacher attention in the reading classroom?
    a. Minority males
    b. White males
    c. Minority females
    d. White females

3. ____students tend to "call out" and participate most in the reading classroom.
    a. Male
    b. Female
    c. Neither a male or female majority

4. ____are most likely by middle school to be grade repeaters or to dropout.
    a. Males
    b. Females
    c. Neither a male or female majority

5. Which of these is <u>not</u> a gender-friendly reading instructional strategy?
    a. Include movement in your instruction
    b. Accent the visual
    c. Incorporate student interest and choices
    d. Use reading choice as a reward for good behavior

6. Please indicate your level of familiarity with the topic of boys and reading instruction.
    a. Never heard of it
    b. Heard of it but don't know where
    c. Limited knowledge
    d. Confident in my knowledge level
    e. I could teach the class

Part 2:

Please indicate your level of agreement by marking any one of the five responses in the columns on the right side, ranging from
(1) “strongly disagree” to (5) “strongly agree.”

		strongly disagree				strongly agree
1.	If there were more male teachers in elementary schools, boys’ literacy learning would improve.	1	2	3	4	5
2.	Teachers need to understand more about male culture to improve reading instruction for boys.	1	2	3	4	5
3.	Boys’ behavior at school significantly affects their levels of reading achievement.	1	2	3	4	5
4.	There has been a lack of focus on boys’ education over the last two decades.	1	2	3	4	5
5.	The way that boys’ brains develop accounts for literacy learning differences.	1	2	3	4	5
6.	There are not enough books of high-interest value to boys available in schools.	1	2	3	4	5
7.	Boys are not ready for school at the compulsory entry age, which is six years in the state of Texas.	1	2	3	4	5
8.	Boys prefer to read non-fiction to fiction.	1	2	3	4	5
9.	If schools adopted different assessment practices, boys’ reading achievement results would improve.	1	2	3	4	5

10. Boys often think that reading activities are more appropriate for girls and women.	1 2 3 4 5	
11. Boys prefer technological forms of literacy to print-based forms of literacy.	1 2 3 4 5	
12. Some groups of boys have lower reading levels than others.	1 2 3 4 5	
13. Many current teaching practices in literacy classrooms are not conducive to boys' literacy learning style.	1 2 3 4 5	
14. Gender can be a factor in a student's approach to reading.	1 2 3 4 5	
15. Boys often tend to be less engaged than girls during reading instruction.	1 2 3 4 5	

Modified teacher survey: *Boys, Literacy and Schooling: Expanding the Repertoires of Practice* (Alloway, Freebody, Gilbert, & Muspratt, 2002)

Part 3:

Directions: Please indicate your confidence in your personal capacity to accomplish the following instructional practices by marking any one of the five responses in the columns on the right side, ranging from (1) "None at all" to (5) "A Great Deal."

		None at all				A Great Deal
1.	To what extent can you use a student's oral reading mistakes as an opportunity to teach effective reading strategies?	1	2	3	4	5
2.	How much can you do to control a student who is dominating a literary discussion?	1	2	3	4	5
3.	How well can you meet the needs of struggling female readers?	1	2	3	4	5
4.	How well can you meet the needs of struggling male readers?	1	2	3	4	5
5.	To what extent can you provide your students with opportunities to apply their prior knowledge to reading tasks?	1	2	3	4	5
6.	To what extent can you help your male students monitor their own use of reading strategies?	1	2	3	4	5
7.	To what extent can you help your female students monitor their own use of reading strategies?	1	2	3	4	5
8.	To what extent can you model effective reading strategies?	1	2	3	4	5
9.	To what extent can you provide specific, targeted feedback to students' during oral reading?	1	2	3	4	5

10. To what extent can you recommend a variety of quality children's literature to the male students in your room?	1 2 3 4 5
11. To what extent can you recommend a variety of quality children's literature to the female students in your room?	1 2 3 4 5
12. How well can you motivate the male students in your room who show low interest in reading?	1 2 3 4 5
13. How well can you motivate the female students in your room who show low interest in reading?	1 2 3 4 5
14. How well are you able to adjust your reading materials to the proper reading level for individual students?	1 2 3 4 5
15. To what extent can you get the male students in your room to talk with each other in class about books they are reading?	1 2 3 4 5
16. To what extent can you get the female students in your room to talk with each other in class about books they are reading?	1 2 3 4 5
17. How well are you able to adjust your reading instructional materials to ensure your male students see the value in reading?	1 2 3 4 5
18. How well are you able to adjust your reading instructional materials to ensure your female students see the value in reading?	1 2 3 4 5

Modified, with permission, from Tschannen-Moran (2010) *Teacher Sense of Efficacy in Language Instruction Scale*.

Directions: Please indicate your confidence in your personal capacity to accomplish the following instructional practices by marking any one of the five responses in the columns on the right side, ranging from (1) "None at all" to (5) "A Great Deal."

	None at all				A Great Deal
1. To what extent can you use a student's oral reading mistakes as an opportunity to teach effective reading strategies?	1	2	3	4	5
2. How much can you do to control a student who is dominating a literary discussion?	1	2	3	4	5
3. To what extent can you adjust your reading strategies you are using with your male students, based on ongoing formal assessments?	1	2	3	4	5
4. To what extent can you adjust your reading strategies you are using with your female students, based on ongoing formal assessments?	1	2	3	4	5
5. How well can you meet the needs of struggling female readers?	1	2	3	4	5
6. How well can you meet the needs of struggling male readers?	1	2	3	4	5
7. To what extent can you provide your students with opportunities to apply their prior knowledge to reading tasks?	1	2	3	4	5
8. To what extent can you help your male students monitor their own use of reading strategies?	1	2	3	4	5
9. To what extent can you help your female students monitor their own use of reading strategies?	1	2	3	4	5

10. To what extent can you model effective reading strategies?	1 2 3 4 5
11. To what extent can you provide specific, targeted feedback to students' during oral reading?	1 2 3 4 5
12. To what extent can you recommend a variety of quality children's literature to the male students in your room?	1 2 3 4 5
13. To what extent can you recommend a variety of quality children's literature to the female students in your room?	1 2 3 4 5
14. How well can you motivate the male students in your room who show low interest in reading?	1 2 3 4 5
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16. How well are you able to adjust your reading materials to the proper reading level for individual students?	1 2 3 4 5
17. To what extent can you get the male students in your room to talk with each other in class about books they are reading?	1 2 3 4 5
18. To what extent can you get the female students in your room to talk with each other in class about books they are reading?	1 2 3 4 5
19. How well are you able to adjust your reading instructional materials to ensure your male students see the value in reading?	1 2 3 4 5

20. How well are you able to adjust your reading instructional materials to ensure your female students see the value in reading?	1 2 3 4 5

Tschannen-Moran, M., & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education*. doi:10.1016/j.tate.2010.12.005

APPENDIX D: PERMISSION TO USE AND MODIFY THE TSELI SURVEY

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Professor
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October 2012

Dear Kathleen Fleming:

You have permission to use the Teachers Sense of Efficacy for Literacy Instruction that I developed with Dr. Denise Johnson for your dissertation research. Please use the following citation when referencing the scale:

Tschannen-Moran, M. & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education.* *doi:10.1016/j.tate.2010.12.005*

You may download a copy of the instrument and directions for administration from my website at http://mxtsch.people.wm.edu. I would like to receive a brief summary of your results when you are finished.

Sincerely,

Megan Tschannen-Moran