

IMPLEMENTATION OF THE TEXAS COLLEGE AND CAREER READINESS
STANDARDS: IMPROVING THE COLLEGE AND CAREER READINESS OF
HIGH SCHOOL STUDENTS

A Record of Study

by

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ABSTRACT

Today's students need college and career readiness skills to ensure they are prepared for postsecondary success, whether this includes further education or entering the workforce. All students need subject area courses that maintain a high level of rigor to prepare them to be college and career ready. To improve the college readiness of high school students, teachers need to incorporate the Texas College and Career Readiness Standards (CCRS) into their instruction. The Texas CCRS specify what students should know in order to be successful in postsecondary entry-level courses. The purpose of this study was to increase the implementation of the Texas CCRS in classroom lessons of the English, mathematics, science, and social studies teachers in a high school setting. This study attempted to address teachers' understanding about the Texas CCRS and application of these standards in lessons in their classrooms. In this explanatory sequential mixed-methods study design, quantitative and qualitative data were gathered as part of the research design using two distinct phases. The research design included pre- and post-survey questionnaires. ASVAB assessments' results of students for two years, and observation of a subsample of teachers of implementation of a classroom lesson of the Texas CCRS. The pre- and post-survey questionnaires demonstrated no statistical significance as a result of the Texas CCRS PD on the teaching efficacy levels of core-subject teachers at the school. However, the qualitative data collected revealed the recognition of teachers of the need for continuing PD on the Texas CCRS and the value of implementing the standards in lesson planning and classroom lessons to help

improve college and career readiness of all high school students. This research study provided teachers with the opportunity to increase their teaching efficacy and build knowledge of the Texas CCRS and college and career readiness.

DEDICATION

To my husband, Billy, for your unconditional love and support. You have provided love and support not only during the completion of my research study but also during the completion of my master's degrees. Thank you for your patience as I worked to complete this goal. I could not have achieved it without your help with household chores and with the children.

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NOMENCLATURE

AP	Advanced Placement
CCRS	Texas College and Career Readiness Standards
SAT	Scholastic Aptitude Test (SAT)
PD	Professional Development
TSIA	Texas Success Initiative Assessments
TEKS	Texas Essential Knowledge and Skills
ASVAB	Armed Services Vocational Aptitude Battery

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CHAPTER I

INTRODUCTION

The Context

The ultimate goal of K-12 school systems is to prepare their graduates for success after graduation from high school. Not only is it important for the demands of our current economy that we prepare students to be college and career ready, but it is also necessary for their future success and stability. Unfortunately, many students are unable to enroll into a college-bearing college course due to their requirement of remediation due to gaps in their reading, writing, and mathematical knowledge (Foley, Mishook, & Lee, 2013). As a result of this issue, many students are unable to earn a college degree or enter into their chosen career path.

National or International Context

It is vital that students today are college and career ready to be prepared for postsecondary training or to enter the workforce. While the postsecondary training that each student chooses may vary, all high school students need the necessary background to allow each student to be successful in their chosen path. Moore et al. (2010) stated, “Careers of the 21st century now require some form of postsecondary education” (p. 818). Seventy-three percent of the fastest growing occupations require some form of postsecondary education or training (Dohm & Shniper, 2007). Schools need to provide students opportunities to develop college and career readiness, which is a prerequisite skill necessary to be academically prepared for the 21st century (Conley, 2009).

However, today's postsecondary educators face the challenge of many of today's graduating seniors not having the necessary skills to be successful in entry-level courses in English or mathematics at a college or university. According to ACT (2009b), only 23% of the nation's 2009 graduating seniors were likely to be successful in entry-level credit-bearing courses at a college or university. While in Texas, ACT (2009a) stated that only 22% of the 2009 graduating class was prepared to be successful in entry-level credit-bearing courses at a college or university.

Chaney, Burgdorf and Atash (1997) explained that until recently, high schools focused on helping students meet college eligibility requirements and with the college admissions process. Conley (2007) reported that educational leaders and policy-makers are realizing that meeting basic eligibility requirements for college does not necessarily mean that students are being prepared for college-level work. As a result, many high schools are now focusing on improving the college and career readiness of students. Cline, Bissell, Hafner, and Katz (2007) discussed two ways that college readiness differs from traditional views, including the focus shifting from completing the basic eligibility requirements to preparing students to be successful in college-level work. Researchers added, "College readiness is closely related to workforce preparedness, and those equipped to do well in college are also more likely to possess the skills to help them succeed in the workforce as well as in the world" (p. 30).

High schools in the United States want to prepare their students to be college and career ready after graduation. However, many times they may be unsure what "college and career readiness" means. Conley (2010) defined the construct as

the level of preparation a student needs in order to enroll and succeed--without remediation--in a credit-bearing course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program, or in a high-quality certificate program that enables students to enter a career pathway with potential future advancement (p. 21).

While Soulé and Warrick (2015) defined college and career readiness as helping students “to become effective citizens, workers, and leaders; to learn what they need to join 21st century communities and workplaces; and to thrive in learning environments aligned with the real world” (p. 178). While ACT (2007) defined college readiness as “the level of preparation a student needs to enroll and succeed--without remediation--in a credit-bearing general education course at 2-year or 4-year institution, trade school, or technical school” (p. 5). Conley (2007b) clarified college readiness in a similar way, but he narrows his definition to a “postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program” (p. 5). While Foley et al. (2013) described being college ready as when a student can successfully complete a credit-bearing course in a postsecondary setting.

While many schools struggle with the definition of college and career readiness for their students, they also grapple with the most effective ways to better prepare students for the future, whether it involves attending college, trade school, or going straight to work after high school graduation. Currently, the goals of schools in the United States are based upon meeting the needs of an “industrial economy operating on an agrarian society” (Soulé & Warrick, 2015, p. 178). However, our society has changed

due to technological advances as well as the increasing global society. According to 21st Century Knowledge and Skills in Educator Preparation (2011), “There is widespread consensus, however, that our education systems are failing to adequately prepare all students with the essential 21st century knowledge and skills necessary to succeed in life, career and citizenship” (p. 6). As a result, our schools need to adapt and alter our curriculum and teaching methods to help our students be successful in this changing workforce environment.

College and career readiness efforts often focus on improving academic achievement, which requires the systemic involvement from all staff members of a school (Stone-Johnson, 2015). This means `administrators, counselors, and teachers must build a collaborative relationship to effectively improve college and career readiness. Some high schools have realized that this collaborative relationship can also extend to the building of a partnership between colleges and high schools to help prepare students to enter successfully into college-level courses.

Situational Context

The rural school district in this study has a student population of 975, consisting of an elementary, a junior high, and a high school, which are located in northeast Texas. According to the Texas Education Agency (TEA) Texas Academic Performance Report for 2015-2016 District Performance, the demographic composition is 14.2% African American, 0.4% Native American, 67.9% White, 12.1% Hispanic, 0.2% Asian, and 5.2% two or more races. Sixty-five percent of the students are economically disadvantaged, and 35.3% of the students are identified as at risk. Special education

services are provided to 6.5% of the students, 4.7% of the students are English Language Learners (ELL), and 0.9% of the students are classified as gifted and talented. The district has a 96.1% attendance rate. The high school has a 96.4% graduation rate and 1.8% dropout rate. The high school offers several advanced courses as well as various dual credit courses. Advanced courses include both Advanced Placement (AP) courses, including AP Calculus, AP Biology, AP Physics, and AP Chemistry as well as honors courses in the core subject areas. Students also are able to enroll in dual credit courses through the local community college, which generally includes English Composition, British Literature, U.S. History, Government, Economics, College Algebra, and Statistics as well as other courses that the students are interested in completing. Table 1 outlines the rates concerning the college and career readiness data for the school district as compared to the state (Texas Education Agency, 2017). The school district's scores from the Texas Assessment Performance Report (TAPR) for 2014-2015 compiled by TEA are below the state average for the advanced course and dual credit completion rate as well as for college-ready graduates in the categories of English language arts, mathematics, and both subjects. As far as the ACT, the scores for the school district are below state average in each category, except for English language arts and writing. On the Texas Success Initiative Assessment (TSIA), which is a test used to determine if a student is ready for college-level course work, data demonstrate the school district scores are below the state average in both English language arts and mathematics.

Table 1. College and Career Readiness Data

	High School	State Average
Advanced Course and Dual Credit Completion Rate for Grades 11 and 12	31.4%	54.5%
College-ready Graduates – English Language Arts	39%	42%
College-ready Graduates – Mathematics	37%	38%
College-ready Graduates – Both Subjects	34%	35%

Table 1 Continued

	High	State
	School	Average
ACT Score –	21.0	20.1
English Language		
Arts and Writing		
ACT Score –	20.3	20.9
Mathematics		
TSIA – English	5.5%	10.6%
Language Arts		
TSIA -	5.5%	7.1%
Mathematics		

The school district is comprised of students from predominantly economically disadvantaged households. At the high school, the student population has decreased during the past years from 293 in 2015-2016 school year to 270 during 2016-2017. In the county of the school district, 16.5% of persons 25 years or older have attained a bachelor’s degree or higher in the years 2012 to 2016 (“Educational attainment 2012-

2016”, n.d.). Many of our parents have not graduated from college, resulting in their graduating students who choose to attend college being identified as first generation college students. First generation college students generally require more support in order to be successful in their postsecondary academic careers. In order for these students to be prepared for successfully completing the college level coursework, it is vital for the students to develop college and career readiness skills during their high school career.

For the past two school years, the high school has focused on encouraging our students to take advanced courses as well as to take the ACT, SAT, and TSIA as part of our goal to increase college and career readiness of our students. While the campus has shown an increase in the number of students who are choosing to take these college entrance assessments, the overall average ACT and SAT scores have only demonstrated a small increase above the state average. At around the same time, the ACT national average composite score demonstrated a decrease over the past years, which could have affected the district’s score being able to show a slight increase over the state score. The ACT national average composite score was 20.9 in 2012-2013, 21.0 in 2013-2014, 21.0 in 2014-2015, 20.8 in 2015-2016, and 21.0 in 2016-2017 (American College Test, 2017). Also, several students taking the TSIA are unable to pass the reading, writing, and mathematics assessments on the first try. This results in students having to retake the tests multiple times or having to enroll in developmental English and mathematics courses in college. As a result, both the district and campus administration would like to continue the focus on preparing graduates who are college and career ready. Due to the

vital nature of the development of preparing students for college and career for the district, I have chosen this as the focus for this action research study.

The Problem

Today's students need college and career readiness skills to ensure they are prepared for postsecondary success, whether this includes further education or entering the workforce. All students need subject area courses that maintain a high level of rigor to prepare them to be college and career ready. According to the Partnership for 21st Century Skills (2008), it is essential students are exposed to instruction, which includes development of critical thinking, problem solving of complex open-ended problems, creativity and entrepreneurial thinking, and communicating and collaborating since these skills are necessary in our global world.

Relevant History of the Problem

In order to improve the college readiness of students at the high school, teachers need to incorporate the Texas College and Career Readiness Standards (CCRS) into their instruction. The Texas CCRS specify what students should know in order to be successful in postsecondary entry-level courses. The Texas CCRS should be consistently implemented in mathematics, English, science, and social studies classrooms to increase the instruction and ensure all students are prepared to enter and compete postsecondary educational programs.

As part of this project, I will provide professional development (PD) on the Texas CCRS as well as support to teachers while they are implementing these standards into their scope and sequence. The PD will also include training for teachers on how to

incorporate the Texas CCRS while teaching the Texas Essential Knowledge and Skills (TEKS) for their classes. While the TEKS outline a set of core skills that should be mastered by students, the Texas CCRS describes skills that ensure students succeed after high school graduation. The Texas CCRS were designed to be used in conjunction with the TEKS. By including these standards in lessons, teachers will increase the rigor of their lessons for students as well as to contribute to a college and career ready culture at the campus. The goal is to increase the college and career readiness of all students.

Significance of the Problem

Many students at the high school are not able to pass the TSIA in reading, writing, and mathematics even though they have completed junior and senior level high school mathematics or English courses. According to TEA on the Texas Academic Performance Report for 2016-2017, the TSIA English Language Arts campus passing rate is 18.7, which is below the state passing rate of 22.6. Also, the TSIA Mathematics campus passing rate is 10.7 as compared to the state passing rate of 18.1%.

During the fall semester of 2017, I conducted a pilot study, which included a semi-structured interview with one teacher from each of the following subjects: English, mathematics, and science. After speaking to these teachers, I discovered that some of the staff members at the high school are currently not consistently implementing the Texas CCRS standards in their lessons. Two of the teachers, which included the English and mathematics teachers, admitted that they are unsure of how to begin using these standards in their classroom lessons. The English teacher confessed she was not familiar with these standards and had never received any training on implementation. The

mathematics teacher stated she was familiar with the standards but had not attended training. The science teacher explained she had received training on the Texas CCRS during various science trainings, so she is not only familiar with the standards but has also included these in her lessons on a consistent basis. Overall, two out of the three high school teachers involved in the pilot study are not consistently implementing the Texas CCRS in their lessons. As a result, rigor of lessons in some high school courses is not preparing students to be college and career ready. By incorporating the Texas CCRS standards, teachers will better prepare students to be able to pass the TSIA as well as score at the state average or higher on the ACT and SAT exams.

Without incorporation of Texas CCRS at the high school, students are not gaining the necessary skills to enter colleges and universities prepared to successfully complete college level courses. I wanted to determine the number of students who were required to retake the TSIA. This information came from students at our school taking the TSIA. I keep records on the students' scores on this. I figured this average from the students' testing results. I do this myself since I was told by NTCC, which is the local college that administers this test to our students, that I am unable to access a report on my school's testing results. Fifty-seven percent of students taking the TSIA tests during 2016 -2017 school year were unable to pass the TSIA in reading, writing, and mathematics on the first try. These students had to retake these tests in the hopes of being able to meet the passing standards.

The high school faculty needs to make changes in how they plan for and implement CCRS. Teachers need training and support in implementation of the Texas

CCRS in lessons. During professional development on the Texas CCRS, I will use instructional scaffolding to help teachers to build their background knowledge of the standards. The goal is to encourage teacher understanding and use with the end result leading to increased student outcomes.

Research Questions

This study will attempt to answer the following research questions:

1. Will professional development on the Texas College and Career Readiness Standards (CCRS) for English, mathematics, science, and social studies teachers result in increased teacher efficacy?
2. Will providing professional development on the Texas CCRS affect the implementation of these standards in classroom lessons of the English, math, science, and social studies teachers?
3. Will an increase in the implementation of the Texas CCRS by the teachers of English, math, science, and social studies at the high school also result in an increase in the college and career readiness of the students as seen in an increase in the overall average of scores on the ASVAB assessment?

Personal Context

I believe all children deserve a quality education that includes the development of college and career readiness skills to prepare every student for postsecondary success. This belief has affected my professional choices, including my decision to enter the field of education as well as my desire to further my education in order to be in a position to help improve the educational opportunities of students in my school district. I first

entered the field of education 25 years ago when I became a secondary English teacher, which allowed me to see first-hand the need for students to develop the skills to allow them to experience postsecondary success.

After teaching for 13 years, I completed my Master of Science degree in educational administration as well as a Master of Science in counseling psychology. I decided to further my education, so I could move to a position that would allow me to help shape the policies that affected the educational opportunities of students in my school district. My career as an educator has included working with economically disadvantaged students in rural settings that faced various challenges that often included being a first generation college student as well as having a limited support system.

Now, I am completing my doctoral degree in curriculum and instruction. Currently, I serve as the sole high school counselor in my school district, which has allowed me the opportunity to assist students and their families as the students transition from high school to their postsecondary pursuits. As a high school counselor, I provide support services to students as they complete courses that prepare them for their future plans after their high school graduation as well as help students complete the necessary requirements for their postsecondary plans. In this position, I have witnessed the issues surrounding students who are lacking in the college and career readiness skills necessary for their success after high school graduation. Several students that I have assisted have been unable to be admitted to the college of their choice. Others have struggled to meet the TSIA requirements, which resulted in their having to enroll in remedial courses. As a result of my varied experiences in education, I have decided to conduct action research

concerning the improvement of the development of college and career readiness standards for high school students in a rural school setting. In order to accomplish this goal, I decided to focus my research on increasing implementation of the Texas CCRS in the classroom lessons of teachers.

Researcher's Roles and Personal Histories

My current role is one as a high school counselor in a small, rural school district. This position has allowed me to build strong relationships with both the students and their families but also with the staff at the school district. In addition to my school counselor position, I also operate a counseling business, which allows me to the opportunity to work with clients outside of the school setting. In both of these roles, I strive to help students and families to reach their goals, whether these are academic, professional, or personal.

I have been employed as a school counselor for the past eight years, which includes four years at the elementary campus and four years at the high school campus. Through my assignments at both campuses, I have been given the opportunity of working with the same students in each position at both the elementary and secondary levels. The students I provided support services to in the upper elementary grades are now progressing to the high school campus. As a result, I have extensive knowledge of the academic background of the students. Also, this has allowed me to not only have an existing relationship with many of the students, but it also gives me knowledge of the background of their families as well. As a result, this has helped make me a more effective counselor.

Journey to the Problem

In 2007, The Texas Higher Education Coordinating Board (THECB) and TEA established Vertical Teams (VTs) to develop the Texas CCRS in order to clearly outline what students need to know to be able to be successful in college entry-level courses. The Texas CCRS standards cover academic subjects, including English/language arts, mathematics, science, social studies, and cross-disciplinary as well. The Texas Higher Education Coordinating Board (2009) explained that “the CCRS distinguish themselves from high school standards by emphasizing content knowledge as a means to an end: the content stimulates students to engage in deeper levels of thinking” (p. 7). By encouraging educators to implement the Texas CCRS in their classroom lessons in core academic courses, the development of the college and career readiness of students in Texas will be accomplished. While the THECB and TEA both encouraged all secondary public schools to implement the Texas CCRS into the lesson planning along with the required high school standards, not all high schools have accomplished the goal of having all educators of core academic courses to have consistent inclusion of the Texas CCRS in their classroom lessons. As a result, students in many Texas high schools have not adequately prepared the college and career readiness of their students.

As the high school counselor and campus testing coordinator, I became concerned since students were experiencing difficulties with meeting the national passing rate for the ACT and SAT assessments. These assessments are predictors of the college and career readiness of students and of postsecondary success. As a result, I wanted to determine a possible solution to this issue in order to help students develop the necessary

college and career readiness skills to be successful in today's postsecondary institutions and workforce.

Significant Stakeholders

There are four major stakeholder groups in this research study. The first group includes the administrators at the high school, which includes the principal and assistant principal. The second group involves the teachers of general education courses in English, mathematics, science, and social studies. The third group is comprised of the Advanced Placement (AP), honors, and dual credit (DC) teachers. The fourth group consists of all students who are preparing for either postsecondary education or entrance to the workforce. Each of the first three groups have differing viewpoints concerning preparing students to be college and career ready. While the administrators have expectations that all teachers should prepare students to be college and career ready, various teachers may not have the same requirements for their courses, which impacts the level of development of college and career readiness skills of the students in their classes.

Teachers of general education courses in English, mathematics, science, and social studies are required to follow the district curriculum, which is aligned to the Texas state standards and prepares students to be able to pass the state accountability assessments. However, the teachers are not necessarily focused on ensuring that the students are mastering the Texas CCRS that outline what students need to master in order to be successful in postsecondary institutions in Texas.

The AP teachers are required to follow the College Board curriculum as well being provided professional development training one week during each summer. Both the curriculum and training help these teachers to prepare students to be college and career ready. The honors teachers are encouraged by the administration to increase the rigor of their curriculum of their courses as compared to the general education courses. The district outlines various requirements of the various subject area for the honors courses, including increased projects and summer work requirements as well. The honors teachers still must prepare their students for the state accountability assessments. However, the increased rigor of the curriculum of the honors classes helps the development of college readiness of the students in these courses. The DC teachers at our high school are professors at Northeast Texas Community College (NTCC). As professors of college courses, these instructors utilize a syllabus that has been approved by the community college. The professors are not provided professional development by the district, nor are they required to prepare the students for state testing.

Students need to be adequately prepared for the ACT and SAT assessment exams, which are predictors of college preparedness. Too often, high school teachers focus upon ensuring that students are prepared to pass state accountability exams. After this, the focus of teachers shifts to preparing students for passing advanced placement and dual credit courses. Unfortunately, students who are not enrolled in either advanced placement or dual credit courses may not receive an increased rigor in the classroom instruction of their classes. In order for this to happen, teachers must increase the rigor of all courses to ensure that all students are college and career ready.

Differing curriculum requirements for these courses create variations in the development of the college and career readiness of students. The teachers in the AP, honors, and DC classes are able to successfully incorporate college and career preparation since the curriculum of their courses is at an increased rigor than the general education courses. In contrast, the general education teachers are more focused upon preparing the students for the state accountability tests. This directly limits the college preparation of the students in the general education courses since the teachers are required to ensure that students are able to perform satisfactorily on the required district and state assessments.

Important Terms

Definitions of Terminology

For the purpose of this study, the following definitions and acronyms will be used:

1. Advanced Placement (AP): Advanced Placement (AP) is a program in the United States and Canada created by the College Board which offers college-level curricula and examinations to high school students.
2. Texas College and Career Readiness Standards (CCRS): The Texas CCRS outline the content knowledge and cognitive skills necessary for success in entry-level credit-bearing courses in English, math, science, and social science, and cross curricular (Gewertz, 2009).
3. College Readiness: Foley, Mishook, and Lee (2013) describe being college ready as when a student can successfully complete a credit-bearing course in a postsecondary setting.

4. Scholastic Aptitude Test (SAT): The SAT is an examination of a student's academic skills in reading, writing, and mathematics, which is used for admission to US colleges.
5. ACT: ACT is a college readiness assessment, which is a standardized test for high school achievement and college admissions in the United States produced by ACT.
6. Dual Credit: Dual credit is the term given to courses in which high school students have the opportunity to earn both high school and college credits simultaneously.
7. Professional Development: Professional development for educators includes specialized training to assist administrators, teachers, and other educators to improve their professional knowledge, competence, and skills.
8. Texas Success Initiative Assessments (TSIA): The TSIA is an assessment that is used to determine if a student possesses the knowledge and skills necessary to be successful in college-level courses in math and English.
9. Texas Essential Knowledge and Skills (TEKS) - The TEKS outline a set of core skills that should be mastered by Texas students in their courses in the public school setting.
10. Self-Efficacy - Bandura (1986) defines the concept of self-efficacy “as people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (p. 391).
11. Armed Services Vocational Aptitude Battery (ASVAB) - The ASVAB is a multitude-aptitude battery that measures developed abilities and helps predict future academic and occupational success in the military (Patelis, 2016).

Closing Thoughts on Chapter 1

In summary, my educational background as a secondary educator and a high school counselor has influenced my desire to conduct this research study. Through my work to assist students in their postsecondary plans, I have come to realize that it is vital that educators ensure that high school graduates are adequately prepared to enter either postsecondary education or the workforce with the necessary college and career readiness skills to be successful. Current research reveals teachers can improve the level of college and career readiness of students by maintaining high rigor in their classroom instruction, which should include the implementation of the TEKS along with the Texas CCRS in their lessons. By including these standards in their lessons, educators can help assure that students are adequately prepared for postsecondary success.

This study will aim to determine if providing professional development for academic core teachers will help improve implementation of the Texas CCRS in their instruction, leading to an increase of the college and career readiness of the high school students in their classrooms.

CHAPTER II

REVIEW OF SUPPORTING SCHOLARSHIP

Introduction

The focus of this literature review is to present relevant information concerning the importance of PD on implementing the Texas College and Career Readiness Standards in the curriculum of high school teachers, the impact upon the self-efficacy of the teachers as well as the development of college and career readiness of high school students. This research study focuses upon the theoretical construct of self-efficacy, the improvement of college and career readiness as it relates to high school students, the importance of incorporating the Texas College and Career Readiness Standards (CCRS), and the need for providing professional development for teachers to improve the college and career readiness of high school students.

Relevant Historical Background

In recent years, our country has been determined to improve our educational system. President Barack Obama and Congress decided to accomplish this educational improvement through the reauthorization of the Elementary and Secondary Education Act (ESEA). Vasinda, Grote-Garcia, & Durham (2013) reported, “The reauthorization of ESEA, informed by lessons learned from No Child Left Behind (NCLB), has led to a nation united in one common goal - preparing students to be successful in postsecondary education or a career once they complete high school” (pp. 77-78).

Many states decided to follow the Common Core State Standards (CCSS), which were standards created to ensure students are prepared with the knowledge and skills necessary to be successful in their college pursuits and careers. However, Texas made the decision to not join with the many other states that had decided to adopt the use of the Common Core State Standards (CCSS). “As of December 2013 forty-five states, the District of Columbia, four territories, and the Department of Defense Educational Activity have adopted the CCSS” (Vasinda et al., 2013, p. 78). Instead, Texas, along with Minnesota, Nebraska, Virginia, and Alaska, chose to not adopt the CCSS. Texas decided to continue using the TEKS as well as making the choice to develop Texas CCRS to ensure the development of college and career readiness of Texan students (Vasinda et al., 2013).

The Texas CCRS were created after the passing of House Bill 1, which is often referred to as the “Advancement of College Readiness in Curriculum” (Texas Higher Education Coordinating Board {THECB} & Texas Education Agency {TEA}, 2009). THECB and TEA decided to develop Vertical Teams for each of the content areas to develop college and career readiness standards. The Texas CCRS were designed to provide a world-class education to every student and to prepare all students for either postsecondary education or a career (THECB & TEA, 2009). The CCRS are developed around a framework that contains multiple levels of knowledge. THECB and TEA (2009) report that the CCRS are organized into four levels:

- key content (key ideas of a discipline)

- organizing components (organization of knowledge and subject areas of what students should be able to accomplish)
- performance expectations (knowledge and skills that are representative of each organizing component in addition to the various contexts of each manifesting organizing concept)
- examples of performance indicators (provides examples of how to assess and measure the performance expectations).

The four levels of the CCRS provide the framework for the standards throughout the four subject areas, including English/Language Arts, Mathematics, Science, Social Studies, and in the Cross-Disciplinary section. THECB and TEA (2009) stated, “These standards specify what students must know and be able to do to succeed in entry-level courses at postsecondary institutions in Texas” (p. iii).

Alignment with Action Research Traditions

Anderson, Herr, and Nihlen (2007) distinguished between several kinds of action research. I believe this research study aligns with the traditional collaborative action research the most since it will involve the district and campus administration and the high school teaching staff focusing on collaboratively striving to improve the implementation of the Texas CCRS in teachers’ classrooms. The desired result will include the improvement of the college and career readiness of all students at the high school. My research study also aligns with traditional collaborative action research since it emphasizes “issues of efficiency and improvement of practices” (Anderson et al., 2007, p. 25). The purpose of my research study is to assist the teaching staff to analyze

their classroom lessons to determine how to implement the CCRS along with the TEKS. This will result in an increase in the rigor of the content of the classroom lessons. As a result, students will improve their college and career readiness skills and will be better prepared for postsecondary success. In addition, my research study aligns with traditional collaborative action research since it will focus upon working with the teaching staff to use school-based problem solving approaches to successfully implement school change at the school district and engage in reflective practice. During my research study, the teaching staff will have the opportunity to learn how to incorporate the CCRS into their classroom lessons and will have time to share this experience with other teachers at the campus. As a result, the teachers can collaboratively share what works effectively as well as any issues that they encounter during this action research process. The involvement of my fellow educators in this process will include the “action research as a form of professional development and generation of knowledge” and “create conditions that nurture teacher inquiry and reflection” (Anderson et al., 2007, p. 30). While action research often emphasizes the growth of the group over the individual, it is still important to allow teachers the chance to improve professionally on an individual basis. In my research study, I plan to have the teaching staff not only experience growth as a collective group but also have the chance to use reflective practice to gain individual professional growth.

Theoretical or Conceptual Framework

Bandura’s self-efficacy theory will be used as the theoretical framework for this research study. The development of teacher efficacy has a profound effect upon the

overall achievement of students. Bandura (1993), a pioneer in developing the self-efficacy theory, wrote, “Teacher’s beliefs in their personal efficacy to motivate and promote learning affect the types of learning environments they create and the level of academic progress their students achieve” (p. 117). Bandura also suggested that an individual's perceived self-efficacy contributes significantly to their academic development.

In addition, efficacy of students affects their academic performance. “Students’ beliefs in their ability to regulate their own learning and to master academic activities determine their aspirations, level of motivation, and academic accomplishments” (Bandura, 1993, p. 117). The researcher adds, “Students’ beliefs in their capabilities to master academic subjects predict their subsequent academic attainments” (pp. 133-134).

Collective school self-efficacy also can have a strong impact upon student achievement. To improve the academic performance of the school campus as a whole, the school faculty must work collaboratively to achieve this goal. Bandura (1993) reports, “School staff members who collectively judge themselves capable of promoting academic success imbue their schools with a positive atmosphere for development” (p. 141). Furthermore, school faculty members’ belief in their collective school self-efficacy concerning promoting “high levels of academic progress contributes significantly to their schools’ level of academic achievement” (Bandura, 1993, p. 143).

This theory is related to the issue of the “cumulative impact of teachers’ instructional self-efficacy on students’ academic achievement” evidenced by the documentation provided by Ashton and Webb (1986). In this study, teachers’ beliefs of

their self efficacy predicted students' mathematical and language achievement during the school year. Self-efficacy theory is relevant to the issue of increasing college readiness in high school students since self-efficacy beliefs have an important effect upon the academic achievement of students (Kahn & Nauta, 2001) as well as can be a predictor of college student success (Robbins et al., 2004).

Most Significant Research and Practice Studies

High schools in the United States want to prepare their students to be college and career ready after graduation. However, many times we may be unsure what “college and career readiness” mean. ACT (2007) defined college readiness as “the level of preparation a student needs to enroll and succeed--without remediation--in a credit-bearing general education course at 2-year or 4-year institution, trade school, or technical school” (p. 5). Coley (2007b) clarified college readiness in a similar way but narrowed his definition to a “postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program” (p. 5). While Foley, Mishook, and Lee (2013) described being college ready as a student who can successfully complete a credit-bearing course in a postsecondary setting. High schools must define and understand the concept of college readiness to prepare their students adequately.

According to Soulé and Warrick (2015), college and career readiness helps students “to become effective citizens, workers, and leaders; to learn what they need to join 21st century communities and workplaces; and to thrive in learning environments aligned with the real world” (p. 178). Many schools grapple with what is the most effective way to help to better prepare the students for the future, whether it involves

attending college, trade school, or going straight to work after high school graduation. Currently, schools in the United States are based upon meeting the needs of an “industrial economy operating on an agrarian society” (Soulé & Warrick, 2015, p. 178). However, our society has changed due to technological advances as well as the increasing global society. Our educational system is not adequately preparing all students with the necessary 21st century knowledge and skills to help them to succeed in school, career, life, and citizenship (21st Century Knowledge and Skills, 2011). As a result, our schools need to adapt and alter curriculum and teaching methods to help all students be successful in this changed workforce environment.

Self-Efficacy of Students and Teachers

Teachers play an important role in building a college-going culture at high schools. Part of the building of a college-going culture includes being supportive of “self-efficacy of students in their college-going pursuits” (Martinez & Deil-Amen, 2015, p. 5). Sprinthall, Sprinthall, and Oja (1998) reported that teachers send messages to students concerning their academic abilities and trajectories, which has a direct effect upon the development of students’ self-efficacy”. Bandura (1986), a pioneer in developing the self-efficacy theory, defined the concept of self-efficacy “as people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (p. 391).

Teachers are not the only school staff that influence students’ self-efficacy. Principals, counselors, and teachers influence “students’ beliefs and how their self-perceptions and self-efficacy shape their transition to a university and their response to

first-year challenges” (Martinez & Deil-Amen, 2015, p. 5). The influence of school staff members on students and their self-efficacy is strong. Deil-Amen and Tevis (2010) explained that messages sent to high school students affect their self-efficacy, especially concerning the efforts of these students in their preparations for college and self-assessment of their college readiness.

One study that demonstrated this concept concerning the effect of staff members’ influence upon students’ self efficacy includes McDonough’s (1997) classic qualitative study. This study examined the differences between the strategies utilized by four high schools in promoting postsecondary attendance, providing information, and allocating resources. The researcher explained further that in each of these high schools, the staff communicated their values, beliefs, and impressions concerning academic success and postsecondary attendance had a profound effect upon students’ perceptions and their future college plans and attendance. These students continued to be affected by these messages throughout their first year in college.

Not only does the self-efficacy of students affect their academic success, the development of self-efficacy of teachers also has a profound effect upon the overall achievement of students. Hoy (2000) defined teacher efficacy as “teachers’ confidence in their ability to promote students’ learning”, which was first introduced by researchers at the Rand Corp. more than 30 years ago (p. 2). Henson (2001) discussed that this early work explored the powerful effects from a teacher’s belief in his or her ability to positively impact student learning is critical to the success or failure of a teacher’s behavior. Bandura (1993) wrote, “Teacher’s beliefs in their personal efficacy to motivate

and promote learning affect the types of learning environments they create and the level of academic progress their students achieve” (p. 117). Researchers have continued to explore teacher efficacy as it relates to the effect it has upon the teaching of educators and on student achievement. In an interview concerning her extensive research on teacher efficacy, Anita Woolfolk stated that “teachers who set high goals, who persist, who try another strategy when one approach is found wanting—in other words, teachers who have a high sense of efficacy and act on it—are more likely to have students who learn (Shaughnessy, 2004, pp. 156-157).

There are two types of beliefs concerning the construct of teaching efficacy. The first involves personal teaching efficacy, which includes the “teacher’s own feeling of confidence in regard to teaching abilities” (Protheroe, 2008, p. 43). The second called general teaching efficacy “appears to reflect a general belief about the power of teaching to reach difficult children” (Hoy, 2000, p. 7). These two constructs concerning teacher efficacy are independent of each other, which means “a teacher may have faith generally in the ability of teachers to reach difficult children, while lacking confidence in his or her personal teaching ability” (Protheroe, 2008, p. 43).

Bandura (1977) reported that teachers have performance accomplishments. These performance accomplishments, or experience, are an important factor in the development of a teacher’s self-efficacy. Hoy (2000) discussed that the student teaching experience as well as the first year of teaching have a profound effect upon the long-term development of teacher efficacy.

Hoy (2000) built upon the work of Bandura concerning teacher efficacy. Hoy described teacher efficacy as being affected by vicarious experiences, which could include observing another teacher while delivering an effective teaching practice. Hoy also explained that social persuasion affects teacher efficacy. This could include positive feedback concerning the teaching practices of the teacher, which includes constructive suggestions on ways to improve. Hoy also stressed that providing support for new teachers, including the encouragement of asking for assistance, can ensure that the novice teachers do not experience “a series of failures that in turn affect mastery experiences, the prime determinant of a sense of efficacy” (Protheroe, 2008, p. 43). Teacher efficacy is an important component of improving college and career readiness of students since teacher efficacy affects the effectiveness of the teacher’s instruction in the classroom.

College and Career Readiness

The concept of college readiness is a new idea for most high schools. In the past, high schools’ focus has been on assisting students to meet basic eligibility requirements, which are mainly course-and-grade-based. However, college readiness is related closely to workforce preparedness, and students who are prepared for college tend to possess the skills necessary to make them successful in the world of work and in life (Cline, Bissell, Hafner & Katz, 2007). Kirst and Bracco (2004) discussed the conceptual differences between college readiness versus college eligibility and the need for alignment between what high schools teach students and the expectations of universities of the skills and knowledge graduating seniors need as they enter postsecondary education. In the past,

high schools have primarily focused upon helping students meet college eligibility requirements as well as with the college admission tasks (Chaney, Burgdorf, and Atash, 1997). Conley (2010); Conley (2006); U.S. Department of Education (2009); Schiller and Muller (2003) reported that educational leaders recognize that many incoming college freshman do not enter ‘college ready’ in reading, writing, and mathematics skills, in spite of the fact that these students met the eligibility requirements, with this being a pressing issue for students from “working class and poor students of color” (Hafner et al., 2010, p. 16). Unfortunately, more attention is directed to postsecondary admission rather than on preparing students for success in a postsecondary institution (Venezia & Kirst, 2005). High school graduates who plan on entering the workforce still will require the same level of knowledge and skills, especially in reading and mathematics, as those persons planning for college (ACT, 2006; ACT, 2008; National Association of Manufacturers [NAM], 2005). These skills are necessary whether the students are entering the military, job training, the workplace, or college. Unfortunately, college instructors see a “mismatch between what students can do at the end of high school and what is expected of them at college” (Hafner et al., 2010, p. 19).

In 2006, TEA began including college readiness indicators on the Texas Academic Performance Reports (TAPR), which are yearly-published reports that include information on the performance of students in each school and district. Under the Texas Education CODE {TEC} 39.051 (b) (13), which mandated all Texas high schools and school districts to report data on the six indicators of college readiness. These college readiness indicators include the following: (a) Advanced course/dual enrollment

completion, (b) Recommended high school program/distinguished achievement program graduates, (c) Advanced Placement/International Baccalaureate (AP/IB) Results, (d) Texas Success Initiative (TSI) Higher Education Readiness Component, (e) SAT/ACT Results, and (f) College-ready graduates (TEA, 2010). These college-readiness indicators are useful for administrators and teachers “as they work to ensure that students are able to perform in entry-level credit-bearing courses at postsecondary institutions (i.e. vocational and trade schools, community colleges, and universities)” (Barnes & Slate, 2014, pp. 63-64).

College readiness skills are vital for all high school students. Soulé and Warrick, (2015) stated,

Whether a high school graduate plans to directly enter the workforce or attend a vocational school, community college, or university, he or she must be able to think critically and creatively solve problem, communicate effectively, collaborate, find and assess information quickly, and effectively use technology (p. 178).

Hanushek et al. (2008) stressed that schools need to not only increase the average number of years of schooling completed by students, but they also must boost the cognitive skills attained by the students during their time spent in schools in order to help the future labor force to be able to boost the economy. It is important in the 21st century that graduating seniors have the necessary skills to be competitive in the workforce or to be successful in college. ACT (2008); Bloom (2011); Carnevale, Smith, and Strohl (2010); and Conley (2009) stressed the importance of schools’ commitment

to ensuring students have the opportunities to build college and career readiness, which is recognized as a 21st century skill necessary to increase the academic preparation of students.

Texas College and Career Readiness Standards

One way to improve the college readiness skills of high school students is through building awareness and implementation in classroom lessons of the Texas CCRS. In 2007 the Texas Higher Education Coordinating Board (THECB) approved the Texas CCRS. In the standards, teams of K-12 educators and college instructors outlined the content knowledge and cognitive skills necessary for success in entry-level credit-bearing courses in English, math, science, and social science, and cross curricular (Gewertz, 2009).

The Texas CCRS standards include what students are expected to be able to demonstrate upon their entrance to college (Moore et al., 2010). Alford et al. (2014) reported, “These standards were designed to promote the preparation of increased numbers of high school graduates for postsecondary education access and success” (p. 103). While many high school teachers have some understanding of the CCRS standards, this is not enough for the improvement of the college readiness skills for students. The CCRS standards must be consistently implemented in lessons in classrooms. For successful implementation of the CCRS standards to be accomplished, principals and parents must also understand there is a need to increase the rigor and support for students. Principals need to ensure these conditions are provided to promote learning for all students (Alford et al., 2014). In order to successfully implement the

CCRS standards in a high school, the teachers must increase the rigor in high school coursework. In research conducted by Alford et al., (2014), one high school administrator advised that public educators should communicate to parents the reasons it is important for increasing the rigor and expectations in high school coursework as well as the benefits for the students in the future. He explained, “[The CCRS] will benefit parents because we will be able to communicate with them a road map that gives greater clarity to what the education continuum appears to be” (Alford et al., 2014, p. 110).

Remedial Courses

College readiness skills can also help prevent students being required to take remedial or developmental courses, which are not credit-bearing courses. This results in an increase of the cost of earning a college degree for students and their parents since students will have to take extra classes. Adelman (1999; 2004); Bettinger and Long (2004); Deil-Amen and Rosenbaum (2002); Merisotis and Phipps (2000); and Moore et al., (2010) reported that students who are required to take more than one remedial or developmental courses in college are more likely to not complete a degree program. Tresaugue (2008) explained that many Texas high school graduates are not considered “college ready” in English and mathematics and must take remedial courses that do not result in college credit. Many students who have completed upper-level high school mathematic or English courses may still be unable to pass the Texas Success Initiative Assessment (TSIA), an instrument used to determine if a student possesses the knowledge and skills necessary for college-level courses in math and English (Frost, Coomes, & Lindeblad, 2009).

A large proportion of the students who are enrolled in remedial college courses are from economically disadvantaged backgrounds, students who speak a language other than English, and students of color (Attewell et al., 2006). Many underrepresented and low socio-economic students who attend college often struggle during their first year since they lack the necessary college readiness requirements, which often results in a year or more of remedial courses” (Cline, Bissell, Hafner, & Katz, 2007). Adelman (1999, 2006) explained that the most effective intervention for overcoming the need for remedial education for students includes through students completing rigorous high school courses.

Importance of Higher-Level Courses

A research study conducted by Sung-Hyun Cha (2015) discovered that Black and Hispanic students, students from low-income families, and students with lower educational aspirations are less likely to take higher-level math courses as compared with other students. Students who attended rural schools were less likely than students who attended suburban schools of taking advanced math courses, including calculus and Advanced Placement Calculus (Gibbs, 2000). Many rural schools offer fewer advanced courses and college preparatory courses than urban schools for various reasons, including less perceived demand for the courses as well as fewer teachers who are qualified to teach these classes (Gibbs, 2000). However, rural schools as well as urban schools need to ensure all students have access to higher-level coursework. The completion of higher-level math courses has been associated with increased college readiness and graduation (Sung-Hyun Cha, 2015).

A qualitative research study completed by Reid and Moore (2008) focused upon the importance for first generation college students of the “interrelationship between family and school as a support network for high school students’ preparation for college” (p. 243). Most of the participants expressed that their most beneficial high school course as far as preparing them for college was their English classes, especially AP English classes. They believed that the English classes helped them prepare good writing skills, which was vital for the work required of them in college. In addition, the participants also felt that the encouragement that they received from the teachers was important for their future success in postsecondary education. The participants also stated they benefited from leadership programs, such as Upward Bound and I KNOW I CAN because these programs helped to prepare them to develop important skills for college. Most of the participants felt unprepared for their math and science courses in college. The students reported that their junior and senior math and science courses did not help them to develop the essential academic skills to be successful in college coursework.

Unfortunately, not all students are prepared to begin taking college-level courses after high school graduation. A barrier that prevents Hispanic students from enrolling in college and their persistence in completing a college degree includes being exposed to a “college for all” message that results in the students’ feeling deceived concerning their level of preparedness for college-level coursework as well as gatekeeping norms at high schools causing students to feel inadequate and doubtful of their ability to persist during their first-year at college (Martinez & Deil-Amen, 2015). Adelman (2006); Ewing (2006); Hargrove, Godin, and Dodd (2008); Long, Iatarola, and Conger (2009) reported

that these students need to be encouraged to take higher level courses, including mathematics, as well as providing resources and support since this has been highly associated with college readiness and graduation. Attewell, Lavin, Domina, and Levey (2006) discussed that more students from economically disadvantaged backgrounds, students who speak a language other than English, and students of color, are enrolled in remedial courses when entering college. However, students from upper economic backgrounds as well as White students are also enrolled in remedial courses.

Bloom (2011) advised that all high school courses should be taught with rigor to build college and career readiness standards. The researcher also stressed that recruitment and support for advanced classes must be provided to ensure that all students are included, particularly low socioeconomic students and all ethnic groups. Contreras (2005) and Darling-Hammond (2004) reported that research has demonstrated African American and Hispanic students are frequently tracked in less rigorous courses and have the least qualified teachers that can result in negative effects upon standardized test performance and college readiness. Students who are not in higher-level courses often do not have the same access to college preparation materials nor to the exposure to college policies and practices (Venezia & Kirst, 2005).

College and Career Readiness Requires All Stakeholders

It is evident that college and career readiness efforts require systemic involvement from all stakeholders in a school (Lee & Mishook, 2012). This includes the involvement of school personnel to improve the academic achievement of students (Stone-Johnson, 2015). The current policy in high schools focuses upon preparing

students for colleges and careers by improving the academic achievement of students. However, students must also “hone their academic skills but also navigate the college selection process, apply for jobs, ascertain future interests, and learn to persist” (Stone-Johnson, 2015, p. 28). Many of the skills necessary for postsecondary success are not included as part of the traditional academic curriculum and developing them is not viewed as the primary role for educators (Pittman, 2010). Instead, this task is often assigned to school counselors, who may struggle to fit this into their assigned duties due to other assigned professional duties.

Principals, counselors, and teachers must work together to build a systemic process to improve the college readiness of their high school students. Also, teachers can play a vital role in promoting college and career readiness in their classrooms by discussing possible careers in their subject area. In order to promote a college-going culture, all key stakeholders must be involved, including the administration, counselors, and teachers (Stone-Johnson, 2015). Principals play an important role in building support from the staff for improving college readiness. Stone-Johnson (2015) reported, “Such leadership does not ignore the need for academic achievement, or even college and career readiness, but rather begins with the assumption that schools cannot improve student achievement without developing a strong web of support within the building” (p. 41).

College-Going Culture

ACT (2009c) advised that in order to build a college-going culture, high schools should emphasize academics and career planning. Alford et al. (2014) added that school

faculty can also intervene by helping students connect their coursework to the world of work as well as their own interests, which will help to motivate students by helping them see the relevance of their academic work. The researchers also suggested faculty should talk to high school students about the qualities of college students who are successful. Alford et al. also explained that developing a mentor program that assigns an adult mentor for students could help students to establish realistic career and educational plans. Students from a lower socioeconomic, ethnically diverse background who demonstrate lower graduation and college readiness skills will require more intense intervention and mentoring to help them be successful (Barnes & Slate, 2014).

Corwin and Tierney (2007) analyzed the research of Alexander, Pallas, and Holupka (1987); Hossler, Schmit and Vesper (1999); Hugo (2004); McClafferty and McDonough (2002) and described academic momentum as one of the essential components “in increasing college access and a college-going culture” (p. 3). Classroom practices need to undergo change to help all high school students to be more successful in more rigorous coursework as well as encouraging a college-going culture until they reach high school graduation (Conley, 2007a, 2007c; Moore, Slate, Edmonson, Bustamante, and Onwuegbuzie, 2010).

Hedrick, Light, and Dick (2013) explored the effectiveness of a postsecondary educational bridge program called College Readiness for Rural Youth, which included a curriculum that covers topics of college attainability, admissions, financial aid, and college application processes. This bridge program was directed toward rural 4-H youth to build their academic success and college readiness. The College Readiness for Rural

Youth initiative, a postsecondary education bridge program, provided students the opportunity to learn about college admissions and attainability, financial aid and the college application process. This program offered this information to youth involved in the 4-H program that partnered with local schools. The participants included 3,023 students from 15 counties and 72 schools with participants ranging in age from 7th grade to seniors. This initiative integrated with the Real Money-Real World, which involved a financial literacy program provided through Ohio State University Extension 4-H professionals. The program was an effective approach to help students from diverse groups to develop college readiness skills and abilities that are essential for students to be successful when entering post-secondary education. Bridge programs, such as this one, help students build a strong foundation by helping students see college as an attainable goal.

Research demonstrates that involving the participation of both school and the community is effective at helping schools to build a college-going culture. Foley et al. (2013) stressed the importance of involving all stakeholders, including not only students and their families, but also educators, unions, business community, reform support organizations, and higher education partners, to build a college-going culture. Foley et al. added that this could be accomplished through developing a community vision and strategic plan with these stakeholders. This plan should combine college readiness policies and practices with initiatives within the school to develop the capacity of teachers, counselors, instructional coaches, and administrators. Building partnerships between the schools and the community help the schools with their college readiness

efforts since it allows the schools access to the outside resources, which includes the expertise and knowledge of the partners outside of the school setting (Foley et al. 2013).

Partnership Between High Schools and Postsecondary Institutions

Adelman (2006) stressed the importance of understanding that there is an important need to build communication and outreach between high schools and postsecondary educational institutions in order to ensure that students develop college and career readiness skills during their high school careers. Kirst and Venezia (2001) stated, “The lack of coordination between the public K-12 and postsecondary sectors impedes successful transitions between the systems and diminishes educational opportunities for many students” (p. 92). Collaboration between high schools and postsecondary education is necessary to help improve college readiness of high school students. “Academic momentum is evident when courses are taught at challenging levels and is often characterized by collaboration between high schools, community college, and universities” (Alford, et al., 2014, p. 101). Gewertz (2009) stressed the need for this type of collaboration between K-12 educators and higher education leaders through collaboration of regional vertical teams, which assist high schools to build partnerships with local community colleges and state universities.

Foley et al. (2013) suggested that programs that help students with the transition from high school to college are vital as well as building data-sharing agreements between K-12 and higher education institutions. This transition from high school to college can prove daunting for first-generation college students, who rely upon high school faculty and resources to prepare for college (Venezia & Kirst, 2005). The federal

government should help postsecondary institutions with the use of this data through the providing of various resources and supports, such as academic counseling, mentor programs, and the building of “college knowledge” (Foley et al., 2013, p. 14).

Sanchez and Alanis (2010) explained that P-16 councils have developed from the need to assist traditionally marginalized groups in both their endeavors in being accepted to postsecondary educational institutions as well as their success in the completion of a degree in higher education (as cited in Alford et al., 2014, p. 100). Chamberlain and Plucker, (2008) reported, “The P-16 initiatives were also proposed as a way to overcome the achievement gap, including with the increasing diverseness of the state of Texas including a rising Hispanic population” (p. 474). P-16 helps to bridge the transition for students between the workforce, college, and the K-12 system (Venezia & Kirst, 2005; Chamberlain & Plucker, 2008; Van de Water & Rainwater, 2001) in “closing achievement and opportunity gaps” (Bloom, 2011, p. 2) and on “aligning curriculum and standards at all levels of education” (Chamberlain & Plucker, 2008, p. 475).

Professional Development

Schools need to provide quality professional development, so high school faculty are prepared to improve classroom instruction through the implementation of the information gained in the trainings. Hafner, Joseph, and McCormick (2010) reported that California initiated a statewide initiative to reduce college remediation rates by implementing professional development and through an expository reading and writing curriculum called the Early Assessment Program (EAP) at California State University (CSU). EAP set goals that include increasing college readiness by using professional

development and building literacy skills. This initiative demonstrated benefits of using a systematic K-16 partnership that reduces college remediation rates as well as boosting high school literacy in an urban setting through the testing of 11th grade students for college readiness, professional development opportunities for high school teachers, and advanced curriculum options for high school juniors and seniors (Barnes & Slate, 2014; Hafner, Joseph, & McCormick, 2010).

Hafner and Joseph (2007) discovered in professional development programs conducted by the Program Evaluation and Research Collaborative at CSU that schools utilizing intensive professional development experienced the highest gains in their college-going proficiency rates. The researchers also found that this intervention resulted in changing the school culture and climate, including building of a college-going culture. As a result, the achievement gap of students from diverse backgrounds was reduced.

Another professional development partnership involved two universities, two community colleges, three school districts, and an education service group, which was created to improve math instruction at both high schools and at colleges. This partnership used a professional learning community (PLC) model as they used the College Readiness Standards (CRS; Transition Mathematics Project, 2006) with the focus being upon mathematics pedagogy and students' knowledge of the mathematics content in the CRS. The participants shared that when implementing change in schools, it's important to commit to little changes. The teachers in the study discovered the implementation of little changes lead to surprisingly large effects. These effects included

“influencing teachers’ beliefs about how mathematics teaching and learning could look in their classrooms” (Frost, Coomes, & Lindeblad, 2009, p. 232).

Jenkins and Agamba (2013) outlined research demonstrating the need for providing teachers with effective professional development on the Common Core State Standards (CCSS), which includes 21st century skills, leading to the development of college and career readiness skills. The researchers stressed the need for teachers to have instruction and support in order to successfully implement these standards in their classrooms. “Fundamentally, the CCSS identify what should be taught, not how the standards should be taught” (Jenkins & Agamba, 2013, p. 69). They explained further that effective professional development includes “deconstructing the CCSS” and helping teachers to determine the differences between the current state standards and the CCSS (p. 70). The researchers added that effective professional development must not only be well designed, but it must also help motivate teachers to change. This change includes knowledge gained by the teachers as well as changes in their attitudes and/or beliefs. Ultimately, the goal is to result in teachers changing their instructional practice. By changing of the instructional practice, teachers improve instruction, which leads to improvement of the college and career readiness skills of their students.

Moore et al. (2010) also stressed the importance of professional development to help increase the college readiness of students. The researchers explained, “Teachers need to receive professional development in instructional strategies that help them develop college-readiness skills in students” (p. 832). Moore et al. added that training should focus upon “teaching strategies that develop students’ critical and analytical

thinking and their ability to draw inferences and conclusions, conduct research, and effectively communicate orally and in writing” (p. 832). Darling-Hammond, Wilhoit, and Pittenger (2014) explained that schools must also build educator capacity, which helps teachers to increase the rigor of their classroom lessons by teaching for deeper learning with the support of their administrators at both the school and district level. The researchers add that this can be accomplished through “high-quality preparation, induction, and professional development” (p. 9). Darling-Hammond et al. (2014) also stressed that high-quality professional development can be accomplished through various methods, including extended institutes, collective inquiry, action research, and coaching, and by using various curriculum resources, such as instructional materials and videotapes.

Elmore (2007) conducted research that suggests that there are three ways to increase students’ academic performance, including increasing the knowledge and skills of the teachers, changing the curriculum, and altering the teacher student relationship as well as the relationship of the student to the content. When planning professional development, leaders must keep these components in mind to design training that leads to increased performance of students in academics and college readiness.

Calls for Future Studies

High schools need continued professional development to ensure that high school graduates are prepared for either entering college or a career after graduation. While budget constraints can affect the offering of professional development for teachers, this training is necessary to help educators to build the skills to prepare all of their students to

enter college, regardless of their socioeconomic or cultural background. Hafner, Joseph, and McCormick (2010) reported further research is necessary based upon the California model to track the “benefits of the curriculum and professional development into the college experiences of the high school students is also desired” (p. 28). The professional development of high schools needs to also include collaborations between high schools and postsecondary institutions concerning the implementation of the CCRS, which helps “those who have previously been marginalized and disenfranchised from access to college” (Alford et al., 2014, p. 115). Collaborations, such as the Partnership for 21st Century Skills (P21) program, have proved successful. The P21 program, using the Framework for 21st Century Learning, demonstrates that “schools and districts both in the United States and abroad provides one successful model of systemic change in curriculum and pedagogy, professional development, assessment, learning environments, and more lead to significant positive outcomes for students” (Soulé, H., & Warrick, T., 2015, p. 185). Professional development based upon the professional learning community model should include all stakeholders in the high school, including the principal, counselors, and teachers (Stone-Johnson, 2015) as well as ensuring that teachers are providing the time required to engage in these types of activities (Frost, Coomes, & Lindeblad, 2009; Darling-Hammond, Wilhoit, & Pittenger, 2014). Through effective professional development, high school staff can “make the conceptual shift from preparing students to be college-eligible to educating them to be college ready” (Cline, Bissell, Hafner, & Katz, 2007, p. 33).

Closing Thoughts on Chapter 2

Due to the importance of preparing high school students for postsecondary success, there have been many studies completed on developing college and career readiness. The purpose of this literature review was to not only review the studies on the ways to increase college and career readiness of high school students, but also to outline the research studies concerning the vital need to ensure the self-efficacy of teachers in order to improve the instruction in their classrooms. It is important that we continue to learn how to improve classroom instruction, so that the level of rigor will also increase in classroom lessons, which will result in improved college and career readiness of students. To increase the rigor of instruction, teachers need to include the Texas CCRS in instruction. Providing PD and support is vital as teachers implement these standards into their lessons. All stakeholders, including the principal, counselor, and teachers must collaboratively work to build a college going culture in order to ensure that students are college and career ready.

CHAPTER III
SOLUTION AND METHOD

Outline of Proposed Solution

With the help of the high school principal and the curriculum director, I proposed to help the district address a deficiency of implementation by teachers of the Texas CCRS and application of these standards in classroom lessons to increase all students' college and career readiness. Before beginning the study, I explained the purpose of the study as well as assured all involved that all survey questionnaires as well other gathered information would be anonymous, and the results of the survey questionnaires would be kept confidential.

In an attempt to address the problem, I administered a pre-survey questionnaire to the teachers about the CCRS to determine their level of knowledge as well as their teaching efficacy. The survey questionnaire also included a short demographic survey, which gathered information to determine each participant's gender, subject area of teaching, number of years in his or her present position, and the number of years at the present campus. The survey questionnaire I chose to use in this research study was based upon one that was written and utilized by Lee (2016) to measure the efficacy of implementing CCRS math standards into math courses for early childhood and elementary education teacher candidates. Then, PD was provided using the project titled Systemic Texas Educator Preparation Sites (STEPS) in order to meet the needs of the

teachers concerning training on the Texas CCRS. The STEPS project began in June 2010 and was completed in May 2013 by pre-service and in-service teachers and university and community college faculty (THECB, n.d.a.). The PD was accessed at the following website:

http://www.txfacultycollaboratives.org/images/tfc/thecb/steps/m15/STEPS_M15.pdf.

The PD consisted of six activities on the following topics: (a) defining college ready students, (b) CCRS structure and contents, (c) history of CCRS, (d) your data, students, and school, (e) aligning secondary and postsecondary, and (f) lessons built to CCRS rigor. I conducted the PD following a set protocol developed by the STEPS project. The STEPS project document included implementation directions for each activity in the supplemental material section that I used as I conducted the PD. During the PD, I also collected qualitative data through recording field notes in my researcher's journal concerning my opinions, thoughts, and feelings as well as observations of the teachers.

After the completion of the PD, I administered the post-survey questionnaire on CCRS to the teachers to determine the effectiveness of the PD with assisting teachers with gaining knowledge on how to effectively implement the CCRS in their lessons as well as their teaching efficacy. In addition, I asked all teachers involved with the study to submit a lesson with CCRS objectives. Next, I conducted a focus group from a purposeful sample from the participants, which included one representative from English, math, science, and social studies, to obtain information on what the teachers learned from the PD on CCRS. Last, I conducted observations of three teachers using a

checklist based upon one created by U.S. Department of Education (2016) to verify their implementation of a lesson with CCRS. After the completion of my research study, I shared results of testing the effectiveness of my solution with the staff members of the high school, the high school principal, the curriculum director, and the superintendent.

Justification of Proposed Solution

The Texas CCRS specify what students should know in order to be successful in postsecondary entry-level courses. Without the incorporation of Texas CCRS at the high school, students were not gaining the essential skills to enter colleges and universities prepared to successfully complete college level courses. As a result, the Texas CCRS needed to be implemented in mathematics, English, science, and social studies teachers' classrooms to ensure that all students developed college and career readiness and were prepared to enter and compete postsecondary educational programs. Many staff members at the high school were currently not consistently implementing the Texas CCRS standards in their classroom lessons. Therefore, the rigor of the lessons in junior and senior level courses was not preparing students to be considered college ready. By incorporating the Texas CCRS standards in classroom lessons, teachers were better able to prepare students to be able to score at the state average or higher on the college and career ready rates of English language arts and mathematics as reported on the Texas Academic Performance Report from TEA as well as score at the state average or higher on the ACT and SAT exams.

Study Context

The purpose of this record of study was to increase the implementation of the Texas

CCRS in classroom lessons of the English, mathematics, science, and social studies teachers at the high school. This study attempted to address teachers' understanding about the Texas College and Career Readiness Standards (CCRS) and how to apply these standards in lessons in their classrooms. By increasing the use of the Texas CCRS in the classroom lessons of these teachers, the lessons provided a stronger academic foundation for the students and to improve their college and career readiness. As a result, students entered postgraduate institutions better prepared to be successful in their college level coursework.

Rationale for Mixed Methods

A mixed methods approach was chosen for this study since it involved collecting both quantitative and qualitative data. The explanatory sequential mixed method model was the best fit because this research study consisted of two distinct phases, which included gathering quantitative data followed by collecting qualitative data. Creswell and Plano-Clark (2018) explained this model involves “the collection and analysis of qualitative data in order to explain or expand on the first-phase quantitative results” (p. 65). See the research design in Figure 1 that was created using Creately drawing website. This design illustrates how the data will be collected during this study for the purposes of the study. The quantitative data was gathered from the following: pre-survey and post-survey questionnaires. The quantitative data from the pre-survey questionnaire was examined to determine the information that was needed to be included in the PD on the Texas CCRS. Following the PD on the Texas CCRS, quantitative data gathered from the post-survey questionnaire was analyzed.

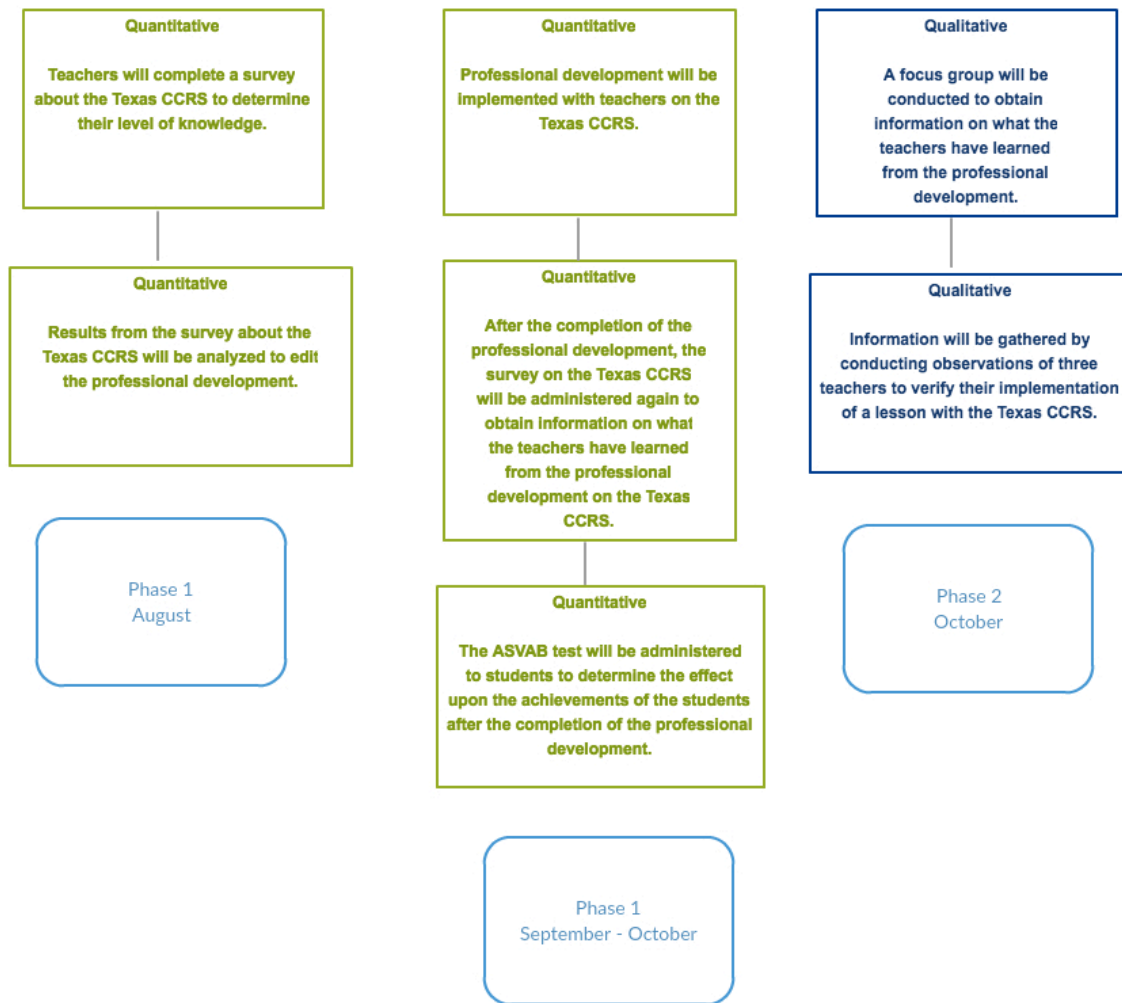


Figure 1. Two Phases Diagram of the Explanatory Sequential Mixed Method Research Study

After the analysis of the quantitative data, the qualitative data collection phase ensued. Creswell and Plano-Clark (2018) reported, “The subsequent qualitative phase of the study is designed so that it follows from the results of the quantitative phase” (pp. 66-67). In this study, the qualitative data was collected from observations of teachers as they completed professional development on the Texas CCRS, samples of lessons

created by teachers including the Texas CCRS, a focus group concerning the implementation of the Texas CCRS professional development, and observations of teachers implementing their lessons that include the Texas CCRS. The questions asked in the focus group provided more detailed information on the questionnaire answers and allowed participants the opportunity to expand on their responses. Creswell (2003) stated, “The researcher collects open-ended, emerging data with the primary intent of developing themes from the data” (p. 18). Qualitative data collected during the second phase was analyzed to identify common themes and categories.

Study Participants

The participants in this study consisted of 11 teachers at the high school. The purposive sample included all teachers from the English, science, and social studies departments at the high school as well as two of the three math teachers. This sample included three English teachers, two math teachers, three science teachers, and four social studies teachers. The participants were chosen due to the research study including the implementation of the Texas CCRS in all classrooms of English, mathematics, science, and social studies teachers. Also, the sample included all but one of the core subject teachers at the high school since the Texas CCRS were developed for use in each of the subject areas, and the desired outcome was to improve the college and career readiness of all of the high school students. One of the math teachers decided to not be a participant of the research study. The math teacher worked at both the high school as well as the junior high school. As a result of her shared teaching assignment, the teacher expressed it was difficult to be part of the professional development since she did not

have the same conference period as the other math teachers who only taught at the high school.

Proposed Research Paradigm

When conducting research, the researcher must carefully consider which worldview will work best for the particular research study (Creswell & Plano-Clark, 2018). All researchers must determine which philosophical assumptions are going to be employed during the process of gaining knowledge during the research study (Creswell & Plano-Clark, 2018). This process is important since the philosophical framework helps to serve as a guide to the researcher during the design and implementation of the research study. After careful consideration, I was able to decide that this study will incorporate a pragmatic worldview, which is often associated with the mixed methods research. It focuses upon “the consequences of research, on the primary importance of the question asked rather than the methods, and on the use of multiple methods of data collection to inform the problems under the study” and “is pluralistic and oriented toward ‘what works’ and practice” (Creswell & Plano-Clark, 2011, p. 41). In addition, Creswell and Plano-Clark (2018) explained the pragmatic worldview as practical since “researchers collect data by ‘what works’ to address research question” (p. 38). I chose the pragmatic worldview since it is problem oriented. This worldview works best for this research study since I wanted to explore the impact of professional development for teachers on Texas CCRS on the improvement of teaching practice and increased students’ college and career readiness.

The explanatory sequential mixed methods model was the best choice for the design of this research study since this study had two distinct phases, including a quantitative phase followed by a qualitative phase. Creswell and Plano-Clark (2018) explained, “The primary intent of this design is to use a qualitative strand to explain initial quantitative results” (p. 77). The qualitative phase of the research design helps to “explain the mechanisms through qualitative data that shed light on why the quantitative results occurred and how they might be explained” (Creswell, 2018, p. 77). The qualitative phase of the research study helped to explain the quantitative results in more depth by including “detailed exploration with a few cases or individuals” (Creswell, 2003, p. 16).

Creswell and Plano-Clark (2018) also reported that the explanatory sequential design is most useful when:

- the researcher and the research problem are more quantitatively oriented and thus it makes sense to start procedures with a quantitative phase,
- the researcher knows the important variables and has access to quantitative instruments for measuring the constructs of primary interest,
- the researcher has the ability to return to participants for a second round of qualitative data collection,
- the researcher has the time to conduct the research in two phases, and

- the researcher has limited resources (perhaps the researcher is the sole investigator) and needs a design in which only one type of data is being collected and analyzed at a time (pp. 77-78).

Quantitative Methods for Data Collection

This mixed methods research study used several data collection methods, including collecting both quantitative and qualitative data. Quantitative approaches were utilized in my mixed methods research study when I collected data from the pre- and post-survey questionnaires as well as when I collected demographic information, which included the participants' teaching subject area, gender, number of years as a teacher, and number of years at the present school of the content area teachers as part of the questionnaires.

My data collection tool for the quantitative phase of the research study included pre- and post-survey questionnaires created using Google Forms. The survey questionnaires used specific Likert-style questions. The questionnaires were distributed to the participants via their employee email (See Appendix 2). The data from the pre-survey questionnaire was used to determine the teachers' prior level of understanding of college and career readiness and the Texas CCRS before the PD was initiated. The pre- and post-survey questionnaires consisted of a total of 45 questions. Eleven of the questions on both surveys focused on the skills of the teachers. Nine questions inquired into the dispositions of the participants. On the third section of both surveys, the thirteen questions determined the knowledge of college and career readiness of the teachers. The

last section of both surveys included twelve questions, which covered the general knowledge of the Texas CCRS of the participants.

After participants completed PD on the Texas CCRS, the teachers then completed the post-survey questionnaire. The pre- and post-survey questionnaires were analyzed to determine the gain in knowledge of the participants concerning developing higher-order thinking skills, college and career readiness, and the Texas CCRS.

In addition to the data collection from the pre- and post-survey questionnaires, I also collected data from the students' performance on the ASVAB test results for 2017-2018 and 2018-2019 school years. The ASVAB test is administered each October to juniors and seniors at the high school. The test results of the seniors for the past two test administrations were collected and compared to analyze for possible increases in the test performance of students after the completion of the PD with the participants.

The quantitative data collected from the pre- and post-survey questionnaires, the demographic information from the participants, and the ASVAB test results would not have sufficiently answer the research questions of this study. I also wanted to determine the perceptions of the participants concerning their efficacy to implement the Texas CCRS into their classroom lessons. As a result, I decided to incorporate qualitative approaches to gather information on the views of the participants on their preparedness on implementation of the Texas CCRS after completing the PD on the Texas CCRS.

Qualitative Methods for Data Collection

Qualitative approaches were used in my data collection of my mixed methods research study when I observed and took field notes in my researcher's journal on the

behaviors and reactions of the participants (Creswell, 2003) as they completed the PD. During this process, a protocol was used to record my observations. Creswell (2004) describes this protocol as a page that is divided into two parts with a dividing line drawn down the middle of the page to separate the descriptive notes from the reflective notes. Demographic information, including the “time, place, date of the field setting where the observation takes place” (Creswell, 2003, p. 189), was also collected.

I also utilized a qualitative approach while conducting a focus group to follow up with a sample of the participants concerning their perceptions of their efficacy on implementing the Texas CCRS into their classroom lessons. A purposive subsample of teachers from the first phase was selected from each subject area to participate in the focus group portion of the study. The subsample included four teachers, which included a representative from each of the four subject areas. The subsample was chosen based upon the participants’ results on the pre- and post-survey questionnaires. The questions from the focus group were sent by school email to the participants a week in advance of the meeting of the group, so they had time to organize their thoughts. I used an interview protocol with predetermined open-ended questions during the focus group to elicit more responses from the participants (Creswell, 2003), which can be seen in Appendix 3. The questions were used to deepen my understanding concerning the effect of the PD on the efficacy of teachers as well as any ways that the training could be improved for future use. The participants were also allowed to offer further information that they wished at the end of the focus group interview. The interview protocol was used to record information collected during the focus group. During the interview, I took notes as well

as audiotaped the focus group interview to capture the participants' responses and intents. The recording was transcribed using a word processing program for use in analysis.

In addition, a subsample of three teachers from the original participants was chosen through a volunteer process for observation of implementation in a classroom lesson of the Texas CCRS. I employed the classroom observation model as I completed the observations of the participants using the checklist. This model focused on analyzing their implementation of the Texas CCRS in actual classroom lessons. I chose classroom observation since "direct observation of classrooms is the best methodology available for studying how teachers teach" (Estación, MacMahon, Quint, Melamud, & Stephens, 2004, p. 9). Teachers were provided a guide for designing a lesson that included implementation of the Texas CCRS (See in Appendix 4). Appendix 5 provides the checklist that was used for evaluation of the implementation of the Texas CCRS in classroom lessons.

The qualitative data from the focus group and the observations of the teachers' delivery of implementation of the Texas CCRS provided additional information to determine the level of knowledge gained during the research study as well as if the teachers were able to successfully implement the Texas CCRS into lessons in their classrooms. The focus group attempted to "elicit multiple meanings from the participants, to build a deeper understanding than the survey yields, and to possibly generate a theory or pattern of responses that explain the survey results" (Creswell & Plano Clark, 2018, p. 42).

Justification of Use of Instruments in Text

I chose to use pre- and post-survey questionnaires based upon the instrument developed by Lee (2016)* due to the content of the instrument as well as for its reliability and validity. The researcher contacted Lee by email and was granted permission to use the pre- and post-survey questionnaires in this research study. The researcher developed the survey questionnaire to measure the efficacy of implementing the Texas CCRS into the math methods course for senior teacher candidates who were majoring in early childhood and elementary education. Lee's research question investigated to what extent does the CCRS-integrated course impact elementary teacher candidates' perceptions of their knowledge, skills, and disposition for teaching children mathematics so they are ready for college and the workplace? Joohi conducted a pilot study in order to measure the reliability and validity of the survey questionnaire.

“According to the results of the pilot study, the instrument has an acceptable amount of reliability to measure teacher candidates' knowledge associated with college and career readiness” (Lee, 2016, p. 183). In the pilot study, Lee calculated Cronbach's alpha to determine the reliability of each item and category as well as the reliability of the instrument as a whole. The reliability for items associated with skills was .96, the reliability for questions concerning dispositions was .98, and the reliability for items measuring candidates' knowledge was .99, which were all considered as very high reliability. The researcher ensured the content validity of the instrument through the inclusion of the three categories: knowledge, skills, and disposition. These three categories were utilized since they are considered as important in professional

standards for teacher preparation, including Interstate New Teacher Assessment and Support Consortium [INTASC], National Council for Accreditation of Teacher Education [NCATE], National Council of Teachers of Mathematics [NCTM], Association for Education International [ACEI]), and National Association of Education for Young Children [NAEYC] (Lee, Childhood 2016). The questionnaires were designed with the following four attributes: academic behaviors, higher-order thinking skills, real-world applications, and academic language. The responses on the pre- and post-survey questionnaires of 161 college senior teacher candidates were analyzed to determine there were statistically significant differences between the pre- and post-survey questionnaires on all skills-associated items. While my study differed since it involved a mixed methods research approach and included English, math, science, and social studies teachers, I liked the format of the survey questionnaire. As a result, I chose to use the survey questionnaire as a resource to incorporate into my research study.

Since this research study focused upon implementation of the Texas CCRS into the classroom lessons of the teachers to improve the rigor of instruction, the inclusion of these categories in this instrument made it applicable to the quantitative data collection phase of this study. This instrument also included questions to assess the teachers' knowledge of the Texas CCRS, which was necessary for my research study since I planned to administer the pre- and post-survey questionnaires to determine the gain of teachers' knowledge of the Texas CCRS following the PD.

Quantitative Methods for Data Analysis

Quantitative approaches were used in my mixed methods research study when I collected data from the specific Likert-style questions on the pre- and post- survey questionnaires. The personal identification information of the core subject teachers who participated in the study, including the teaching subject area, gender, number of years as a teacher, and number of years at the present school, was used to provide quantitative information.

Quantitative analysis was conducted for the pre- and post-survey questionnaires through comparison of the results of the pre- and post-survey questionnaires. The data was analyzed using descriptive statistics. The analysis determined the level of knowledge gained by the teachers' after the completion of the professional development on the Texas CCRS. Descriptive statistics helped to identify trends as well as provide an understanding of measures of central tendency, variability, and spread. The measures of central tendency included mean, median, and mode. Also, standard deviation and range was measured to look for variability. Interquartile range (IQR) was used to measure for spread and provided information concerning the tendency of the data set to cluster around the mean. It also provided information on any possible outliers.

Qualitative Methods for Data Analysis

Researchers need to choose a specific type of qualitative research strategy as they conduct their data analysis (Creswell, 2003, p. 191). For this research study, grounded theory was used as the qualitative data analysis. Grounded theory, developed by Glaser and Strauss, “uses multiple stages of collecting, refining, and categorizing the data”

(Kolb, 2012, p. 83). In grounded theory, “the researcher attempts to derive a general, abstract theory of a process, action, or interaction grounded in the views of the participants” (Creswell, 2003, p. 14). Anderson, Herr, and Sigrid-Nihlen (2007) described this process as an “ongoing process of collecting data, analyzing and reflecting on data, and then going forward with additional collection of data” (p. 174). Grounded theory follows systemic steps, including “generating categories of information (open coding), selecting one of the categories and positioning it within a theoretical model (axial coding), and then explicating a story from the interconnection of these categories (selective coding)” (Creswell, 2003, p. 191). Grounded theory includes open coding of qualitative text with codes being connected to text fragments in the data (Miles, 1994). Grounded theory was an appropriate data analysis choice for this study since it employs a variety of data sources, including field logs, interview transcripts, and observation documents (Saldaña, p. 85).

I first read my journal field notes, focus group transcripts, and classroom observation checklists to gain an overview of the main ideas and organizational structures as well as any overlapping themes. Next, I read the field notes and focus group transcripts twice, and I made additional notes in the margins during this process. During the third time I read, I began the coding process. This process not only breaks down into discrete units, it also helps the researcher gain theoretical insights (Lincoln & Guba, 1985). I looked for patterns since “one of the coder's primary goals is to find these repetitive patterns of action and consistencies in human affairs as documented in the data” (Saldaña, 2009, p. 5).

Initial coding allows the “researcher to reflect deeply on the contents and nuances of your data and to begin taking ownership of them” (Saldaña, 2009, p. 81). Analysis was began with looking for critical themes that emerged out of the data in a process called open coding (Saldaña, 2009). The coding process “involves taking text data or pictures, segmenting sentences (or paragraphs) or images into categories, and labeling those categories with a term, often a term based in the actual language of the participant” (Creswell, 2003, p. 192).

The next stage of coding included reexamining the categories to determine how they were linked, which is referred to as axial coding (Saldaña, 2009). “Grouping similarly coded data reduces the number of Initial Codes you developed while sorting and re-labeling them into conceptual categories” (Saldaña, 2009, p. 160). The coding was used to generate a small number of themes that were developed into a theoretical model (Creswell, 2003). The description and themes can be presented in a process model when using the grounded theory (Creswell, 2003). I continued the coding process until I reached saturation. The goal during axial coding is to reach saturation, since this means ““when no new information seems to emerge during coding, that is, when no new properties, dimensions, conditions, actions/interactions, or consequences are seen in data” (Strauss & Corbin, 1998, p. 136).

During the analysis of the field notes, focus group transcripts, and classroom observation checklists, I utilized the constant comparative technique, which included finding similarities and differences between coded fragments. The data was compared, analyzed, and coded to determine any themes. I engaged in “constant comparison of data

with emerging categories and theoretical sampling of different groups to maximize the similarities and the differences of information” (Creswell, 2003, p. 14).

Timeline

My proposed timeline for completing my study is outlined below in Table 2.

Table 2. Timeline of ROS

Month/ Year	Contact/ Activity	Collect	Analyze/ Action	Product/ Audience
April 2018	Requested approval for the ROS proposal from committee			
April 2018	Requested district approval for implementation			
August 2018	Contacted teachers and requested their involvement	ISD Permission slips	Communicated with principal and curriculum director	Contacted teachers and requested their involvement

Table 2 Continued

Month/ Year	Contact/ Activity	Collect	Analyze/ Action	Product/ Audience
September 2018	Held first organizational meeting – explained research study and the purpose to the teachers who were involved			
September 2018	Teachers completed a pre-survey on the Texas CCRS (at first organizational meeting) – Then first analysis was completed.	Responses to questions on the pre-survey on the Texas CCRS	Responses to questions on the pre-survey on the Texas CCRS	The data was analyzed to determine the level of knowledge before the professional development is introduced.

Table 2 Continued

Month/ Year	Contact/ Activity	Collect	Analyze/ Action	Product/ Audience
September to October 2018	Professional development was conducted with all English, math, science, and social studies teachers on the Texas CCRS and the implementation of these in lessons in classrooms to increase college and career readiness of students.	Observations of teachers' behaviors was completed during the professional development.	The researcher will transcribe the data in a researcher's notebook to document the reactions' of teachers during the intervention. The coded data will be analyzed.	Professional development was conducted with all English, math, science, and social studies teachers on the Texas CCRS and the implementation of these in lessons in classrooms to increase college and career readiness of students.

Table 2 Continued

Month/ Year	Contact/ Activity	Collect	Analyze/ Action	Product/ Audience
September to October 2018	Post-survey on the Texas CCRS was conducted with the English, math, science, and social studies teachers.	Responses to questions on the Texas CCRS post-survey	Post-survey analysis was completed to compare the pre-survey and post-survey results	Comparison between the pre-survey and post-survey was completed to determine the level of knowledge gained from the professional development
October 2018	Focus group was conducted with purposively chosen subsample of teachers from the first sample	Responses to questions during Focus Group	Transcribed responses were coded for analysis.	Coded data from transcribed responses was analyzed for themes.

Table 2 Continued

Month/ Year	Contact/ Activity	Collect	Analyze/ Action	Product/ Audience
October to November 2018	Three observations were completed with a volunteer subsample of teachers from the first sample	Notes from the observations were transcribed.	Analysis of the transcribed observation notes was completed.	Themes were identified from the transcribed data gathered from the observations.
October to November 2018	ASVAB was administered to determine possible gain in college and career readiness of students	ASVAB test results	Analysis of the ASVAB test results from 2017 and 2018	Analysis was completed of the two years of testing data to determine the possible effect of the Texas CCRS PD
November to December 2018	Write drafts of ROS chapters, share with chair.	Complete all analyses; synthesize information	Draft copies and Final Draft/share with Chair	Write drafts of ROS chapters, share with chair

Table 2 Continued

Month/ Year	Contact/ Activity	Collect	Analyze/ Action	Product/ Audience
January 2019	Shared final copy of ROS with Chair (allow 2 weeks) and make corrections			Shared final copy of ROS with Chair (allow 2 weeks) and make corrections
January 2019	Shared ROS with Committee			Shared ROS with Committee
February 2019	Defended by deadline Receive thesis clerk approval			
May 2019	Graduation			
May 2019	Shared final copy with stakeholders			Summary of Findings; Copy of Completed Study

Reliability and Validity Concerns

For my ROS, it was important that I considered the importance of maintaining validity in my research study and that each type of validity had been addressed. Anderson, Herr, & Sigrid Nihlen (2007) explained, “Democratic validity or trustworthiness refers to the extent to which research is done in collaboration with all parties who have a stake in the problem under investigation” (p. 41). I ensured that the various stakeholders involved in my study had been consulted concerning their points of views concerning the Texas College and Career Readiness Standards (CCRS) and the current level of implementation of these standards in the classrooms. The participants of the research study included 11 members of the high school faculty members, including the English, mathematics, science, and social studies teachers. Each of the participants was consulted during department level meetings, which were held each week. Each participant had the opportunity to share his or her perceptions concerning the Texas CCRS and implementation in the classrooms as well as how this affected the college and career readiness of the students at the high school. As a result, the collaboration of the stakeholders helped to maintain the democratic validity during the process of the research study.

As I conducted my research study, I needed to ensure that outcome validity was maintained as well. In order to accomplish this, I administered a pre-survey questionnaire to determine the level of knowledge of the faculty members concerning the Texas CCRS. Then, the staff members attended professional development designed to meet the needs of the participants based upon the pretest results. After the completion

of the Texas CCRS professional development, the participants took a post-survey questionnaire to determine the gain of knowledge as a result of the professional development. The pre-survey and post-survey questionnaires that were utilized were the same instrument, which helped me to determine the progress and treatment efficacy. If there is an increase in the level of knowledge of the faculty members concerning the Texas CCRS, then the staff members will be able to successfully implement these standards into their classroom lessons. As a result, increased use of the Texas CCRS in lessons will hopefully cause an increase in the college and career readiness of the students at the high school.

I also ensured that process validity was maintained during the action research study. As the researcher, I was willing to grow and change during the research process (Anderson et al., 2007). This was not an easy task since I was not only a stakeholder of the research site, but I was the researcher as well. During the action research cycle, I needed to be willing to be fully engaged in the research process to ensure the research methodology was carried out as the research plan outlined. This ensured that the research process was not flawed. Anderson et al. (2007) stated, “A lot is required of the practitioner action researcher in that the process asks that the researcher also serve as a site for change and evolution” (p. 150). The researcher must fully carry out the action research processes to “develop a depth of understanding and change” in the research site (p. 150).

It was also important to maintain the dialogic validity while conducting my research study. During this process, it was important to share my results with the

stakeholders involved in my research study. This allowed me the opportunity to ensure that my conclusions made sense to the others in this particular setting (Anderson et al, 2007). It was important to do this throughout the action research process. Also, this provides the benefits of a critical friend, who “acts as a devil’s advocate who pushes back on the conclusions” (Anderson et al, 2007, p. 151). By sharing my results throughout the research process, it allowed me to be transparent with my thinking and processes. I also was able to determine if my conclusions made sense to others as well as to consider alternative explanations.

I also needed to ensure that catalytic validity was part of my research study as well. To do so, I needed to undergo several cycles of action research, which resulted in more data being produced and an increase in understanding as well. This process resulted in transformative learning, which meant to reach a deeper learning of the problem being studied. During the action research process, I ensured that this was occurring. For example, after the implementation of the Texas CCRS professional development, I administered the post-survey. This allowed me to determine if the teachers gained knowledge of the Texas CCRS. The teachers were able to use this gained knowledge to implement the standards in their classroom lessons. During this process, the teachers and I needed to refocus the understanding concerning the problem in the local context. This allowed understanding to increase and evolve during the research process. As a result, the teachers will hopefully continue to include the Texas CCRS in their lessons and the college and career readiness of all students will increase.

Closing Thoughts on Chapter 3

In closing, my research study was focused upon the goal of preparing the high school students to be college and career ready. I have determined that providing professional development for core subject teachers on implementation of the Texas CCRS will help the students to be better prepared to enter either postsecondary institutions or the workforce. By consistently implementing the Texas CCRS in classroom lessons, the teachers will increase the rigor of their instruction. As a result, the students at the high school will complete their education with increased college and career readiness, which will allow them to be successful in their postsecondary pursuits.

CHAPTER IV
ANALYSIS AND RESULTS/FINDINGS

Introduction to the Analysis

The purpose of this study was to examine if providing professional development for academic core teachers helped to improve instructional implementation of the Texas CCRS, leading to an increase of the college and career readiness of the high school students in teachers' classrooms. The study included providing PD on the Texas CCRS to encourage the use of these standards in teachers' lessons to determine if this resulted in increased teacher efficacy as well as an increase in the implementation of the Texas CCRS. It also attempted to uncover if implementing the Texas CCRS in classroom lessons resulted in increased scores measuring the college and career readiness of students. The research questions were answered from responses to pre- and post-survey questions, focus group interview responses, classroom observations, and ASVAB test results for the past two school years.

Research Findings

The research findings will be grouped by the research questions.

My research questions consisted of the following:

1. Will professional development on the Texas College and Career Readiness Standards (CCRS) for English, mathematics, science, and social studies teachers result in increased scores on the measures of teacher efficacy?

2. Will providing professional development on the Texas CCRS affect the implementation of these standards in classroom lessons of the English, math, science, and social studies teachers?
3. Will an increase in the implementation of the Texas CCRS by the teachers of English, math, science, and social studies at the high school also result in an increase in the college and career readiness of the students as seen in an increase in the overall average of scores on the ASVAB assessment?

Presentation of Data

Teacher Surveys

In order to answer the first research question, I asked teachers to complete the pre-survey questionnaire before beginning the PD on the Texas CCRS. The survey questionnaire was comprised of four sections, including Section 1: Skills; Section 2: Dispositions; Section 3: Knowledge of College and Career Readiness; and Section 4: General Knowledge of the Texas CCRS. The purpose of the Skills section of the survey dealt with teacher perception concerning knowledge of his or her teaching content area. The Skills section included items 1 through 11. The section of Dispositions, which included items 12 to 20, had Likert items that related to the professional disposition needed to help all students learn. The items in the Knowledge of College and Career Readiness area, which included items 21 to 33, dealt with determining the professional knowledge of teachers concerning college and career readiness of their students. The final section, General Knowledge of the Texas CCRS, had items 34 through 45 that

related to the skills of teachers to incorporate the Texas CCRS into lessons being taught in their classrooms.

The teachers ranked their opinions based on a scale of one to six with one being “Strongly Disagree” and six being “Strongly Agree”. Six demonstrates that a teacher is in complete agreement with the question being asked. As a result, it was possible to determine the teachers’ overall favorability in each section. If a teacher were to rank each question as a six, the total ranked points would equal 270. Table 3 reflects the sums for each teacher by section for the first administration of the survey. Table 4 reflects the sums of the second administration, which was completed after the conclusion of the PD.

When examining the sums from the first administration, Teacher D had the greatest sum overall and in every category. Teacher D’s sums were 254 of the total possible sum of 270 of 45 questions answered as 6, “Strongly Agree”, indicating the teacher was 94% of the way to being “Strongly Agree” in every category. Teacher G’s responses yielded the least sum of 93. Teacher G’s percentage was 34% of the way to being “Strongly Agree in every category, which demonstrated the teacher answered more questions with the Likert scale of “Strongly Disagree” than other participants.

Table 3. Teacher Sums First Administration

Teacher	Section 1 (66 maximum)	Section 2 (54 maximum)	Section 3 (78 maximum)	Section 4 (72 maximum)	Total Sum (270 maximum)	Perce- tage
A	63	46	59	35	203	75

Table 3 Continued

Teacher	Section 1 (66 maximum)	Section 2 (54 maximum)	Section 3 (78 maximum)	Section 4 (72 maximum)	Total Sum (270 maximum)	Perce- tage
B	55	51	55	47	208	77
C	39	30	45	46	160	59
D	66	52	75	61	254	94
E	60	52	75	59	246	91
F	50	47	44	32	173	64
G	21	11	28	33	93	34
H	53	43	52	47	195	72
I	49	40	50	41	180	67
J	29	16	35	50	130	48
K	60	49	57	48	214	79

The sums in the second administration of the teacher survey revealed that Teacher H had the greatest sum overall with a sum of 251. Teacher H was 93% of the way to answering the questions as “Strongly Agree” in every category. This demonstrated that Teacher H answered more questions with the Likert response as “Strongly Agree”. Teacher E’s responses showed the least change in the pre- and post-survey questionnaires with a sum of 246 in the first administration and a sum of 249 in the second administration. Teacher K’s sum on the second administration yielded the least sum in responses overall with an 89 out of a possible 270.

Six of the teachers' sums increased in the second administration than in the first administration. This demonstrated that many of their responses were answered either as "Strongly Agree" or closer to that response on the Likert scale of choices of the post-survey. Teacher H's responses showed the highest score of 251 and the greatest increase as the overall sum increased by 56 points. Teacher E increased the least with an increase of three points. However, five of the teachers' sums decreased from the first administration, which demonstrated that these teachers responded more often as "Strongly Disagree" on the second survey. Teacher K experienced the greatest decrease by 125 points on the 270 maximum scale. Teachers D's and G's scores remained close to the same score on the second administration with a slight decrease from 254 to 245 and 93 to 91 respectively.

Table 4. Teacher Sums Second Administration

Teacher	Section 1 (66 maximum)	Section 2 (54 maximum)	Section 3 (78 maximum)	Section 4 (72 maximum)	Total Sum (270 maximum)	Percentage
A	63	50	74	60	247	91
B	62	50	70	59	241	89
C	43	36	51	39	169	63
D	62	53	73	57	245	91
E	65	47	75	62	249	92
F	46	45	53	42	186	69
G	21	15	26	29	91	34
H	66	51	78	56	251	93

Table 4 Continued

Teacher	Section 1 (66 maximum)	Section 2 (54 maximum)	Section 3 (78 maximum)	Section 4 (72 maximum)	Total Sum (270 maximum)	Percentage
I	23	18	32	36	109	40
J	29	15	28	40	112	41
K	22	13	27	27	89	33

Tables 5 and 6 show the measures of central tendency from the pre-survey and post-survey questionnaires that were calculated, including mean, median, mode, standard deviation, range, and IQR.

When analyzing Table 5, questions 6, 7, 8, and 11 from the Skills section reveal a normal distribution with a median score of 4. However, questions 1, 2, 3, 4, 9, and 10, revealed a negative skew.

On the Dispositions section, on question 16, the median was 3, which showed that more participants answered this question towards the middle of the choices on the Likert scale. While questions 18, 19, and 20 displayed a negative skew.

When examining the Knowledge of College and Career Readiness section, questions 27 and 28 had a median score of 3 indicating that more participants responded to this question in the middle section of the choices on the Likert scale. More questions in this section showed a negative skew than the other sections, including questions 21, 22, 23, 24, 25, 26, 30, 32, and 33. However, questions 28, 29, 31 denoted a positive skew.

The General Knowledge of the Texas CCRS section showed questions 35, 40, 42, 44, and 45 with a positive skew. This section also demonstrated the following questions with a negative skew: 36, 37, 38, 39, 41, and 43. Question 34 revealed a normal distribution since the median was 4 as well as the mean.

Table 5. Survey Results of Measures of Central Tendency from Pre-Survey

Questionnaires

Skills	Mean	Median	Mode	SD	Range	IQR
Q1	4.72	5	6	1.48	4	3
Q2	4.45	5	6	1.36	4	3
Q3	4.45	5	5	1.12	4	1
Q4	4.54	5	6	1.69	5	2
Q5	4.54	5	4, 5, and 6	1.29	4	2
Q6	4.45	4	4	1.43	4	3
Q7	4.45	4	4	1.29	4	2
Q8	4.27	4	4	1.61	5	2
Q9	4.54	5	6	1.63	4	3
Q10	4.63	5	6	1.43	4	3
Q11	4.45	4	4	1.29	4	3
Dispositions						
Q12	4.81	6	6	1.94	5	1
Q13	4.72	6	6	2.05	5	3
Q14	4.90	6	6	1.97	5	1
Q15	4.72	6	6	2.00	5	4
Q16	3.09	3	3	1.13	4	2
Q17	4.00	4	4	1.67	5	3
Q18	4.54	5	6	1.63	5	3
Q19	4.45	5	6	1.80	5	3
Q20	4.45	5	6	1.75	4	4

Knowledge
of College
and Career

Table 5 Continued

Readiness

Skills	Mean	Median	Mode	SD	Range	IQR
Q21	4.36	5	5	1.43	4	2
Q22	4.54	5	6	1.57	4	3
Q23	4.54	5	5	1.36	4	3
Q24	4.54	5	5	1.36	4	3
Q25	4.54	5	4, 5, and 6	1.29	4	2
Q26	4.09	5	5 and 6	1.81	5	4
Q27	3.00	3	3	1.73	5	2
Q28	3.54	3	3	1.63	5	3
Q29	4.18	4	4	1.25	4	2
Q30	2.63	3	1 and 3	1.43	4	3
Q31	4.27	4	4 and 5	1.27	4	2
Q32	3.90	4	3	1.04	3	2
Q33	4.09	5	5	1.37	4	2

General
Knowledge
of the Texas
CCRS

Q34	4.00	4	4	1.04	3	1
Q35	3.45	3	3	0.82	3	1
Q36	3.72	4	4	1.10	3	2
Q37	3.90	4	4	1.18	4	2
Q38	3.72	4	4	0.64	2	1
Q39	3.63	4	4	1.36	5	1
Q40	3.45	3	3	0.82	3	1
Q41	3.72	4	4	1.10	3	2
Q42	4.36	4	4	1.02	3	1
Q43	3.81	4	4	0.87	3	1
Q44	4.18	4	4	1.25	4	2
Q45	3.36	3	3	1.43	4	2

When comparing and analyzing Tables 5 and 6, the Skills section demonstrated three questions with a negative skew: questions 7, 10, and 11, which was less than on Table 5 in this section. This section also revealed three questions with a normal

distribution, including 2, 3, and 6. More questions showed a positive skew on Table 6 than on Table 5, which involved questions 1, 4, 5, 8, and 9.

On the Dispositions section, both Tables 5 and 6 revealed a ceiling effect on questions 12, 13, 14, and 15, since on both the pre- and post-survey questionnaires, the median scores were 6. Both tables revealed seven questions with a negative skew. Question 16 demonstrated a positive skew on both the pre- and post survey questionnaires. Question 18 indicated a normal distribution on the post-survey questionnaire.

The Knowledge of College and Career Readiness section showed less negative skew on the post-survey questionnaire than on the pre-survey questionnaire with 6 and 10 respectively. Table 6 revealed more responses with a positive skew, which included questions 22, 29, 30, 32, and 33.

The responses on the General Knowledge of the Texas CCRS of Table 6 exhibited seven responses with a positive skew, involving questions 34, 36, 37, 38, 40, 41, and 44. This section only demonstrated three questions with a negative skew, questions 35, 39 and 43, which was significantly less than on Table 5 with six questions with a negative skew. On both the pre- and post-survey questionnaires, questions 39 and 43 revealed a negative skew.

Table 6. Survey Results of Measures of Central Tendency from Post-Survey

Questionnaires						
Skills	Mean	Median	Mode	SD	Range	IQR
Q1	4.27	4.00	6	1.79	4	4
Q2	4.00	4.00	6	1.78	5	4
Q3	4.00	4.00	5	1.61	5	2
Q4	4.09	4.00	6	2.02	5	4
Q5	4.18	4.00	6	1.72	4	4
Q6	4.00	4.00	2 and 6	1.67	4	4
Q7	4.36	5.00	5 and 6	1.50	4	3
Q8	4.09	4.00	6	1.86	5	4
Q9	4.18	4.00	6	1.88	4	4
Q10	4.27	5.00	6	1.90	4	4
Q11	4.18	5.00	6	1.99	5	4

Table 6 Continued

Skills	Mean	Median	Mode	SD	Range	IQR
Dispositions						
Q12	4.09	6.00	6	2.34	5	5
Q13	4.09	6.00	6	2.34	5	5
Q14	4.00	6.00	6	2.44	5	5
Q15	4.09	6.00	6	2.34	5	5
Q16	3.63	3.00	3	1.02	3	1
Q17	3.90	5.00	5	1.86	5	3
Q18	4.00	4.00	6	1.94	5	4
Q19	3.90	4.00	6	1.92	5	4
Q20	4.00	5.00	6	2.28	5	5
Knowledge of College and Career Readiness						
Q21	4.18	5.00	2, 5, and 6	1.66	4	4
Q22	4.27	4.00	6	1.79	4	4
Q23	4.36	5.00	6	1.80	4	4
Q24	4.36	5.00	6	1.62	4	3
Q25	4.36	5.00	6	1.62	4	3
Q26	3.90	4.00	6	2.02	5	4
Q27	4.18	5.00	2, 5, and 6	1.66	4	4
Q28	4.00	4.00	2	1.73	4	4
Q29	3.72	3.00	2	1.67	4	3
Q30	3.81	3.00	3 and 5	1.40	4	2
Q31	4.00	4.00	6	1.78	5	4
Q32	4.09	4.00	6	1.86	5	4
Q33	4.09	4.00	2 and 6	1.81	4	4
General Knowledge of the Texas CCRS						
Q34	3.81	3.00	2, 3, and 5	1.60	4	3
Q35	4.36	5.00	5	1.43	4	2
Q36	3.81	3.00	3	1.47	4	2
Q37	3.72	3.00	3	1.34	4	2
Q38	3.45	3.00	3	0.82	3	1
Q39	3.81	4.00	3 and 5	1.32	4	2

Table 6 Continued

Skills	Mean	Median	Mode	SD	Range	IQR
Q40	3.36	3.00	3 and 4	0.92	3	1
Q41	4.00	3.00	3	1.61	4	3
Q42	4.00	4.00	3 and 6	1.54	4	3
Q43	3.63	4.00	4	1.02	3	1
Q44	4.09	4.00	3 and 4	1.30	4	2
Q45	4.00	4.00	3 and 5	1.26	4	2

All of the skills-associated items demonstrated a decrease on the post-survey questionnaire (see Table 7). Several items showed the highest score differences of -0.45, including items 1 (I am able to link my subject area to real world situations to prepare students for life outside of school), 2 (I am able to help students make connections between different subject area content), 3 (I am able to help students make connections between my subject area content and other subject areas), 4 (I am able to use my subject area language and terminology meaningfully and consistently with my students to communicate concepts in a problem), and 6 (I am able to give examples of my subject area use in a variety of careers and professions and can effectively expose my students to these uses). Item 7 (I am able to engage students in applying methods of inquiry used in the discipline of my subject area) showed the least score difference of -0.09 out of all the skills-associated items.

On the dispositions section, item 16 (I believe that teachers should be held ultimately accountable for the academic success or failure of the children in their classes) was the only item that revealed a higher score on the post-survey questionnaire than on the pre-survey questionnaire with a difference of 0.54. All other dispositions-

associated items showed a negative difference between the post- and pre-survey questionnaires. Item 14 (I believe it is important to teach my students reasoning and problem-solving skills so they may be successful in college and their careers) demonstrated the greatest negative difference of -0.90. Question 17 (I believe that the teachers in a school share responsibility for the achievement of all students) showed the least negative difference of -0.10.

Items 27 (I know how to make my subject area learning meaningful by making a connection between students' learning and students' prior experiences, current life, future career, and college) and 30 (I know how to teach my subject area to students who have Limited English Proficiency) demonstrated the greatest difference of 1.18 out of knowledge of college and career readiness-associated items. Item 33 (I know how to set up high expectations for all children in my subject area) showed no difference. Several items demonstrated a negative difference between the post- and pre-survey questionnaires, including items 21 (I have the knowledge and skills necessary to enable all of my students to succeed in my subject area), 22 (I know how to prepare my students in my subject area to be ready for college and their future careers), 23 (I know how to teach my students fundamental skills in my subject area and content to help them be ready for college and their future careers), 24 (I know how to teach my students reasoning skills so they can be ready for college and their future careers), 25 (I know how to promote my students' problem solving skills so they can be ready for their future), 26 (I know the vertical alignment of my subject area content and skills to be taught in each grade level), 29 (I know how to integrate my subject area with other subjects), and 31 (I

know how to teach my subject area to diverse learners). This section demonstrated the highest number of items that showed a positive difference, which included items 27 (I know how to make my subject area learning meaningful by making a connection between students' learning and students' prior experiences, current life, future career and college), 28 (I know how to teach students to apply concepts in my subject area to "real world" problems), 30 (I know how to teach my subject area to students who have Limited English Proficiency), and 32 (I know how to teach all students core skills in my subject area).

Item 35 (I understand fully what college and career readiness means at my school) on the general knowledge of the Texas CCRS-associated items revealed the highest difference of 0.91. This section also involved several items that showed a negative difference, including 34 (I have a thorough knowledge of the Texas CCRS for my subject area), 37 (I fully understand the organization of the Texas CCRS), 38 (I strongly believe there is a college and career readiness culture at our school), 40 (Do students in my campus or district have the opportunity to engage and apply the Texas CCRS at a level of depth that will lead to mastery by the end of twelfth grade), 42 (I am currently implementing TEKS and the Texas CCRS in my lesson plans for my classes), 43 (My subject area department gives students the opportunity to engage and apply my subject area CCRS at a level of depth that will lead to mastery by the end of twelfth grade), and 44 (I have the needed background/training to provide my students with quality lessons that incorporate the Texas CCRS).

Table 7. Survey Results of Differences Between Pre- and Post-Survey Questionnaires by

Sections

Skills	Pre M(SD)	Post M(SD)	M Diff (Post- Pre)
Q1	4.72(1.48)	4.27(1.79)	-0.45
Q2	4.45(1.36)	4.00(1.78)	-0.45
Q3	4.45(1.12)	4.00(1.61)	-0.45
Q4	4.54(1.69)	4.09(2.02)	-0.45
Q5	4.54(1.29)	4.18(1.72)	-0.36
Q6	4.45(1.43)	4.00(1.67)	-0.45
Q7	4.45(1.29)	4.36(1.50)	-0.09
Q8	4.27(1.61)	4.09(1.86)	-0.18
Q9	4.54(1.63)	4.18(1.88)	-0.36
Q10	4.63(1.43)	4.27(1.90)	-0.36
Q11	4.45(1.29)	4.18(1.99)	-0.27
Dispositions			
Q12	4.81(1.94)	4.09(2.34)	-0.72
Q13	4.72(2.05)	4.09(2.34)	-0.63
Q14	4.90(1.97)	4.00(2.44)	-0.90
Q15	4.72(2.00)	4.09(2.34)	-0.63
Q16	3.09(1.13)	3.63(1.02)	0.54
Q17	4.00(1.67)	3.90(1.86)	-0.10
Q18	4.54(1.63)	4.00(1.94)	-0.54
Q19	4.45(1.80)	3.90(1.92)	-0.55
Q20	4.45(1.75)	4.00(2.28)	-0.45

Table 7 Continued

Skills	Mean	Median	Mode	SD	Range	IQR
Knowledge of College and Career Readiness						
Q21	4.36(1.43)		4.18(1.66)		-0.18	
Q22	4.54(1.57)		4.27(1.79)		-0.27	
Q23	4.54(1.36)		4.36(1.80)		-0.18	
Q24	4.54(1.36)		4.36(1.62)		-0.18	
Q25	4.54(1.29)		4.36(1.62)		-0.18	
Q26	4.09(1.81)		3.90(2.02)		-0.19	
Q27	3.00(1.73)		4.18(1.66)		1.18	
Q28	3.54(1.63)		4.00(1.73)		0.46	
Q29	4.18(1.25)		3.72(1.67)		-0.46	
Q30	2.63(1.43)		3.81(1.40)		1.18	
Q31	4.27(1.27)		4.00(1.78)		-0.27	
Q32	3.90(1.04)		4.09(1.86)		0.19	
Q33	4.09(1.37)		4.09(1.81)		0.00	
General Knowledge of the Texas CCRS						
Q34	4.00(1.04)		3.81(1.60)		-0.19	
Q35	3.45((0.82)		4.36(1.43)		0.91	
Q36	3.72(1.10)		3.81(1.47)		0.09	

Table 7 Continued

Skills	Mean	Median	Mode	SD	Range	IQR
Q37	3.90(1.18)		3.72(1.34)		-0.18	
Q38	3.72((0.64)		3.45(0.82)		-0.27	
Q39	3.63(1.36)		3.81(1.32)		0.18	
Q40	3.45(0.82)		3.36((0.92)		-0.09	
Q41	3.72(1.10)		4.00(1.61)		0.28	
Q42	4.36(1.02)		4.00(1.54)		-0.36	
Q43	3.81(0.87)		3.63(1.02)		-0.18	
Q44	4.18(1.25)		4.09(1.30)		-0.09	
Q45	3.36(1.43)		4.00(1.26)		0.64	

Note. M = Mean, SD = Standard Deviation, Diff = Difference

On Tables 8 and 9, I combined data from the pre- and post-survey questionnaires into two nominal categories of Agree and Disagree. I compiled responses of 4, 5, and 6 into the category of Agree and responses of 1, 2, and 3 into the category of Disagree.

When analyzing Tables 8 and 9, six participants total sums increased, four decreased and one stayed the same. Participant D's responses remained the same with a sum of 45 on both the pre- and post-survey questionnaires. Participant E decreased only slightly from 44 to 42 while Participant G increased only one point from 1 to 2.

Table 8. Teacher Sums Combined By Agree (4, 5, 6) and Disagree (1, 2, 3) First Administration

Teacher	Section 1 (11 maximum)	Section 2 (9 maximum)	Section 3 (13 maximum)	Section 4 (12 maximum)	Total Sum (45 maximum)	Percentage
A	11	8	10	3	32	71
B	11	9	10	10	40	88
C	6	4	7	9	26	57
D	11	9	13	12	45	100
E	11	9	13	11	44	97
F	11	8	5	4	28	62
G	0	0	0	1	1	2
H	11	7	10	10	38	84
I	11	8	11	5	35	77
J	1	0	0	8	9	20
K	11	8	9	11	39	86

Table 9. Teacher Sums Combined By Agree (4, 5, 6) and Disagree (1, 2, 3) Second Administration

Teacher	Section 1 (11 maximum)	Section 2 (9 maximum)	Section 3 (13 maximum)	Section 4 (12 maximum)	Total Sum (45 maximum)	Percentage
A	11	8	13	11	43	96
B	11	8	13	11	43	96
C	9	8	11	4	32	71

Table 9 Continued

Teacher	Section 1 (11 maximum)	Section 2 (9 maximum)	Section 3 (13 maximum)	Section 4 (12 maximum)	Total Sum (45 maximum)	Percentage
D	11	9	13	12	45	100
E	11	8	13	10	42	93
F	11	8	10	6	35	78
G	1	1	0	0	2	4
H	11	9	12	12	44	98
I	0	0	0	0	0	0
J	0	1	0	3	4	8
K	0	0	0	1	1	2

As part of the quantitative analysis of the pre- and post-survey questionnaires, a paired sample *t*-test was used. The data analysis utilized Microsoft Excel to complete mean (M), standard deviation (SD), and *t*-test analysis. Table 10 shows results of the paired *t*-test, which is .7744, which is greater than the p-value of .05. Table 11 shows results of the paired *t*-test for each section of the pre- and post-survey questionnaires. I am unable to reject my null hypothesis, which sought to demonstrate an increase in teacher efficacy as a result of introduction of the Texas CCRS PD. The *t* score of .2945 also indicates no significant difference is present due to the implementation of the PD.

Table 10. Pre- and Post-Survey Questionnaires t-Test Results

	N	M	SD	t	p
Pre-Survey	11	186.90	47.45		
Post-Survey	11	180.81	69.46		
				0.2945	0.7744

Note. M = Mean, SD = Standard Deviation

Table 11. Pre- and Post-Survey Questionnaires t-Test Results by Section

	Pre M(SD)	Post M(SD)	M Diff (Pre-Post)	t	p
Total	49.54(14.35)	45.63(18.94)	(3.91)	0.6136	.5914
Q1-Q11 (Skills)					
Total	39.72(14.49)	35.72(16.85)	(4.00)	0.6299	.5573
Q12-Q20 (Disposition)					
Total	52.27(14.56)	53.36(21.70)	(-1.09)	-0.1786	.8913
Q21-Q33 (Knowledge of College and Career Readiness)					

Table 11 Continued

	Pre M(SD)	Post M(SD)	M Diff (Pre-Post)	t	p
Total	45.36(9.60)	46.09(13.01)	(0.73)	-0.2506	.2769
Q34-Q45 (Knowledge of Texas CCRS)					

Note. M = Mean, SD = Standard Deviation

These data reflect the pre- and post-survey questionnaire mean scores of the participants utilizing the college and career readiness assessment created by Lee (2016). Utilizing a paired sample *t*-test, the results indicate no significant difference between the administrations of the college and career readiness assessment. Variation between results exists, but is not statistically significant. Based upon these results, the researcher can determine the Texas CCRS PD had no effect on the teaching efficacy levels of core-subject teachers at the school.

Focus Group Interview and PD Meetings

As depicted in Table 1 in Chapter 3, the second phase of the data collection involved collecting qualitative data, which included conducting a focus group interview with a subsample of four teachers from the larger sample of 11 participants. I used labels of A to K for the participants' names to maintain confidentiality. The subsample included a representative from each of the four core subject areas, including English,

math, science, and social studies. Also, I purposely chose the representatives after analyzing the quantitative data collected in the first portion of the research study. I wanted to ensure that I included participants in the focus group from three groups: participants who increased, decreased, or stayed around the same on the sums from the two surveys to gain further information concerning the reasons for these results. I chose Participant E since her sums remained close to the same in both of the surveys. Participant J was picked since her sum decreased the in the second survey. I also included Participant H since her sum increased the greatest in the second survey, and Participant K was included because her sum decreased the greatest in the second survey. By including participants with varying results, I hoped to gain a comprehensive overview of the reasons for the participants' results from the pre- and post-survey questionnaires.

The focus group interview took place in October of 2018, and was used to answer the first and second research questions, which included determining if providing PD on the Texas CCRS to the teachers would result in increased efficacy of the teachers and affect the implementation of these standards in classroom lessons. Participants of the focus group interview were provided the interview questions (see Appendix 3) a week in advance of the interview. The information gathered from the semi-structured focus group interview allowed me to gain more detailed information concerning the knowledge gained by the teachers from the PD on the Texas CCRS.

In addition to the focus group interview, I met with each core-subject department in September and October 2018 to conduct the PD activities. The department meetings

were also included in the coding process and involved the eleven participants. Both the focus group interview and the PD department meetings were audio recorded, transcribed, and analyzed for codes, categories, and overlapping themes using grounded theory (Saldaña, 2009).

The transcriptions of both the focus group interview and the PD department meetings were given to the participants to allow them the opportunity to make any corrections or clarifications. After this, the data was compared, analyzed, and coded.

Themes were identified after completion of open and axial coding (Saldaña, 2009). The process began with open coding, which involved reading the transcriptions several times. I looked for words or phrases that described the data. I looked and recorded tentative meanings and established properties for each code. Next, I conducted axial coding, including identifying connections among the open codes. After this, I completed selective coding to determine to core variable throughout all of the data. This included rereading through the transcriptions to code the data concerning the core variables that were identified (Gallicano, 2013).

The interview and the PD meeting data were coded into six categories. The six categories were determined through the use of qualitative techniques used for finding categories and themes. These included word repetition and use of key words of the participants as well as through pawing and cutting and sorting . I began this process with reading the text and pawing though the transcriptions (Ryan & Bernard, 2003).

I looked for words or phrases that were repeated. Ryan and Bernard (2003) reported that when the same concept is repeated in a text, it could be a theme. This

process helped me to identify the categories and themes. Then, I utilized informal method of cutting and sorting technique to continue looking for more possible themes, which included sorting the data into piles and organizing them by placing them in envelopes (Ryan & Bernard, 2003).

The six categories included the following:

1. Current level of implementation of the Texas CCRS
2. Knowledge gained from the Texas CCRS PD
3. Issues with the Texas CCRS PD
4. Support is needed for future PD for continued implementation of the Texas CCRS into classroom lessons
5. Further PD is needed to successfully implement the Texas CCRS
6. Classroom implementation is needed.in all levels of classes.

Two overarching themes emerged from the study, which included concerns and PD. Under the theme of concerns, I grouped current level of implementation of the Texas CCRS and classroom implementation is needed in all classes. Under the theme of PD, I grouped knowledge gained from the Texas CCRS PD, issues with the Texas CCRS PD, support is needed to continue implementation of the Texas CCRS, and further PD is needed to successfully implement the Texas CCRS.

During the PD meetings and the focus group interview, participants expressed their concerns with the process of implementing the Texas CCRS. While some teachers were comfortable with their current knowledge and implementation of the Texas CCRS in his or her particular subject area, others shared their uncertainty with how these

standards fit into their current focus upon planning instruction based upon the TEKS and welcomed the opportunity to gain clarification concerning these standards. This overarching theme included comments associated with current level of implementation of the Texas CCRS. The following excerpts were collected during a PD meeting with the science teachers and are associated with the concerns theme:

Teacher G: Is this saying they are going to be college and career ready in science?

Or is this going to support them going to be college and career ready as a whole? I don't know if they are fully prepared in science if that's going to make them college and career ready.

Teacher I: The Texas CCRS are kind of back burnered during trainings for science. It's always there in the conversations, but it's kind of like your left hand. It's there, but it's not really in the forefront.

Some teachers shared their apprehension with implementing the Texas CCRS since they believe there is such a strong emphasis upon the TEKS to drive lesson planning to ensure students are adequately prepared for state assessments. As a result, these participants voiced their concerns with incorporating the Texas CCRS into their classroom lessons since they were worried with effectively covering the TEKS in classroom instruction:

Teacher I: But the money, I'm sorry, but the money is on the test, and test is on the TEKS. You live by the comprehensive TEKS when you teach in a tested subject because you don't want to miss one question.

Teacher E: Our school doesn't focus upon them enough. Um, we are highly focused on STAAR and TEKS. I think that they are a very important part of a program we need to start looking at. It's not just are we getting them ready for a test right now, but are we getting them ready for college, which should be just as important of a job as getting them through a standardized test today is helping to make them successful when they get to college.

The perceptions of several teachers included there were situations that were not currently working concerning the implementation of the Texas CCRS. This involved the category of classroom implementation of the Texas CCRS is needed in all classes. The following excerpts were associated with classroom implementation of the standards is needed in all classes:

Teacher G: I don't see where regular chemistry or physics classes are going to cover all of the Texas CCRS like they would be covered in an AP or honors class. I think that as far as college and career goes, we focus more on AP kids because they are going to college, but we forget about students in regular physics classes since they are going to Northeast Texas Community College (NTCC).

These students miss all of that ACT vocabulary test prep work they are getting in their AP and PreAP classes.

Teacher E: A lot of times we are covering these in our AP classes because we are off the TEKS system. We have our own learning objectives. My AP is more aligned with college and career readiness.

Other concerns shared by participants included the idea that all students need to develop college and career readiness skills to prepare them for their postsecondary pursuits, including students in regular classes and the importance of building a college-going culture for all students:

Teacher K: I just hit upon the word college, which means to me to prepare them for college. In English, they definitely have to know how to research and do all of that kind of stuff and just be able to function in the college atmosphere rather than just being used to being coddled by their teachers.

Teacher H: In social studies, I try to get them ready as well. I try to teach them how to research, how to write a good essay, uh, and use that content. And as far as college readiness, I work with you too. We have all of those speakers and things. I have juniors and seniors. I want to be sure we expose them to a lot of opportunities that are out there.

Teacher G: In the past, we have had kids in regular classes take the ACT that brought our average down, but those kids had probably never been in anything to prepare them or to understand what it was even. Midlevel students need to be taking these tests. They would do fine in college. But I don't think it gets pressed as much in regular education classes. Just because the students aren't in honors doesn't mean they're not going to college.

Teacher E: More students need to be encouraged to take the practice tests, like PreACT, PSAT, or PIAN. This helps students prepare for the timing and pace of the test, and it's good practice. It's only \$10. Go do it.

The participants agreed that for successful implementation of the Texas CCRS throughout the campus, more PD would be necessary. Teachers related their thoughts concerning PD including the Texas CCRS as well as possible future PD of the campus. This theme of PD was influenced by comments associated with knowledge gained from the Texas CCRS PD and strengths of the Texas CCRS PD. The following excerpts were associated with knowledge gained from the Texas CCRS PD as well as what teachers liked about the PD:

Teacher E: The professional development gave me the time to look at everything, to look at it together, reflect upon what I do in my class and what I need to do differently if I'm going to meet more of those goals.

Teacher J: I am always trying to think of ways to make lessons cross curricular. I am always researching how to tie it in, and it gives you, if nothing else, a starting point to of where to look.

Teacher H: I thought it was broken down into nice chunks. Also, I found it was pretty consistent.

Teacher E: For me, it was important. I was already pretty familiar with the Science CCRS, but I did read in the materials you provided what the overlapping standards are and what does ELA do, what does math do. And that gave me a better picture of the whole package. When you are getting kids ready for college you have to cover all of the material that overlaps. So if you are learning chemistry. You might be learning chemistry at college, but you need to have quality writing skills and quality ELA skills to communicate what you have found.

According to the participants, there were various components of the Texas CCRS that they learned about during the PD that they liked and found useful:

Teacher D: The CCRS are actually better than the TEKS because they are not as wordy. These are a lot simpler than the TEKS are because it is very short. The kids would be able to read it and understand if you put it on your board.

Teacher H: This language is more student-friendly.

Teacher F: What I like the most is it's clear and coherent.

Teacher H: By doing the CCRS, the TEKS are taken care of.

However, a few teachers discussed potential issues with the Texas CCRS PD. These concerns included the time requirement with one of the PD activities as well as wishing for more involvement by all participants. The following excerpts reflected the theme of concerns:

Teacher J: I thought Activity 5 was very involved. It had more requirements to complete than the other activities. It asked you to make a lesson plan. You make those kind of lesson plans that are detailed when you are in college. I thought I'm not going to make a lesson plan. Sorry. Because it's a lot.

Teacher E: I was hoping for more participation on the discussion posts in Google Classroom.

While the participants stated the PD was informative, for continued implementation of the Texas CCRS in all classroom instruction, the participants stressed the importance of support being provided through continued PD. The following comments were associated with support being needed for effective implementation of the standards in their classroom lessons:

Teacher E: One of the best things about going to professional development, whether it's for honors or Pre AP is the resources you get from all of the other teachers, the shared resources, you know. You don't have to reinvent the wheel, if someone else already has it on a CD

Teacher K: I think I would like something that sits down with you and goes through your subject area and let's take time to dive into these deeper. Maybe show some samples and stuff like that.

Teacher J: In a perfect world, money would be nice, too. I spend a lot of money of my own to do cross-curricular activities with my classes. When you have 120 students, it's a lot of money.

Teacher E: I think PD, but more like mini workshops where you can come in and see someone present a lesson and present in your field, whether it's science, math, social studies, or English. For a lot of teachers, yea, they like the idea of the standards, but they are faced with the obstacle of reinventing the wheel, but if they had the opportunity of here's how you implement this. Here's how this would look in history. PD maybe in their area. Why is this important? You hear teachers say I don't care about their college and career readiness. I'm just trying to get them to pass the 9th grade or pass the STAAR test. Maybe more education in the broad sense of why this is important because you don't know what path their going to from where they are currently at.

During discussions with the participants, they mentioned that the level of implementation and knowledge concerning the Texas CCRS varies in the staff. While many of the teaching staff have several years of teaching experience, the level of implementation varies across the subject areas affecting future PD needs. While teachers with less experience with implementing the Texas CCRS expressed the need for more training on lesson planning, which included examples of lesson plans, teachers with more practice embedding the standards in their classroom lessons mentioned other needs for future PD.

Teacher E: Honestly, the thing that is going to help me most is what most teachers would say is time to sit and plan. It's not so much that I need a workshop. I have the resources. I know where to find them. I just need the time to get it done and administrator support, but maybe administrators allocating the time for planning.

Classroom Observations

Classroom observations were completed with three volunteers from the participants to answer my first research question as well as the second research question concerning the effect of providing professional development on the Texas CCRS upon implementation in classroom lessons of the English, math, science, and social studies teachers. All of the participants in the study were provided a guide to use while developing a classroom lesson that incorporated the Texas CCRS (See in Appendix 4). All participants were asked to submit a lesson plan that incorporated the Texas CCRS as part of Activity 5 of the Texas CCRS PD. After the completion of the focus group interview, I asked for three volunteers to allow me the opportunity to conduct classroom

observations of implementation of the lesson plan. The three volunteers included a teacher from the following subject areas: two science and one mathematics. During these classroom observations, I utilized the classroom observation model as I completed observations of the participants by using the checklist (See in Appendix 5).

I ensured that I arrived early to allow me to view the entire classroom lesson. In addition, I sat in a location in the back of the room where I was able to view all activity occurring in the room while being sure I was not obstructing any learning activities planned for the classroom lesson. During each observation, I followed the guidelines recommended for conducting classroom observations, including being in the role of observer, rather than an evaluator, and focusing on gathering data concerning the goals and activities of the lesson (U.S. Dept. of Education, 2016).

During each of the classroom observations, I also used the following pointers recommended by the U.S. Department of Education (2016) as part of a quality lesson that implements the Texas CCRS:

- Were the lesson goals clear?
- Did the lesson sufficiently target the college and career readiness standards (the student knowledge and skills that are the focus of the lesson goals)?
- Did the activities support achieving the goals?
- Was the flow of the lesson coherent?
- What did student responses, presentations, or discussions indicate about what they were learning?

The three observations demonstrated that each of the participants had a strong grasp of the Texas CCRS that were being incorporated into the specific lesson I observed. The learning goals for the lesson were posted clearly on the board at the front of each classroom. Each teacher successfully included the Texas CCRS into the classroom lesson and used an activity to help support the learning goals for the lesson, which was outlined in the lesson plan provided by the teacher. During each observation, I verified the activity supported the learning goal for each lesson. Overall, the students appeared to be on task the majority of the time and the discussions revealed that students were learning. I was able to verify that effective implementation of the Texas CCRS was occurring in the three classrooms that I observed.

ASVAB Testing

My third research question investigated if an increase in the implementation of the Texas CCRS by the core subject teachers would result in an increase in the college and career readiness of the students demonstrated by an increase in the overall average of scores on the Armed Services Vocational Aptitude Battery (ASVAB) assessment. In Tables 12 and 13, I compiled ASVAB testing for 2017 and 2018 for analysis. The ASVAB consists of eight subtests, including general science, arithmetic reasoning, word knowledge, paragraph comprehension, mathematics knowledge, electronics information, auto and shop information, and mechanical comprehension. The ASVAB test produces three composite scores: verbal ability, math ability, and science and technical ability; it also provides scores from the eight subtests.

The scores on the individual tests are reported as standard scores with a national sample of 6,000 youth aged 18 to 23. Out of the population, around half scores at or above a Standard Score of 50 and about 16% of the population scores at or above a Standard Score of 60 (“Official Website of the ASVAB”, n.d.).

Analysis of the 2017 and 2018 testing revealed that students scored lower in 2018 in each category of the ASVAB testing. However, the scores were not dramatically lower in 2018 than the previous year. When comparing the scores of the ASVAB Composites, the standard score mean for verbal ability, math ability, and science and technical ability decreased 2.05, 2.17, and 1.64 respectively. The differences between the standard score means for the following ASVAB subtests: general science, arithmetic reasoning, word knowledge, paragraph comprehension, mathematics knowledge, electronics information, auto and shop information, and mechanical comprehension were 2.33, 2.0, 1.46, 3.0, 2.41, 0.99, 1.66, and 1.77 respectively.

The ASVAB Composites were of special interest to me since the areas of emphasis are related to the skills necessary for college and career readiness of students. While the scores did not increase in these areas, this was not surprising since increases in student achievement often takes longer than the span of one year. Since the ASVAB testing occurred in October 2017 and October 2018, an increase in the college and career readiness of students would not be likely since this can take a span of several years. The assessment scores of students will need monitoring in the future as the implementation of the Texas CCRS will continue for the campus.

Table 12. ASVAB Testing for 2017

ASVAB Composites	Standard Score Mean	Standard Deviation
Verbal Ability	48.83	08.37
Math Ability	47.13	07.07
Science and Technical Ability	48.96	08.19
ASVAB Subtests		
General Science	51.45	08.35
Arithmetic Reasoning	47.96	06.32
Word Knowledge	47.40	09.05
Paragraph Comprehension	51.64	07.52
Mathematics Knowledge	46.77	08.02
Electronics Information	47.45	09.01
Auto and Shop Information	47.00	08.34
Mechanical Comprehension	48.57	09.09

Table 13. ASVAB Testing for 2018

ASVAB Composites	Standard Score Mean	Standard Deviation
Verbal Ability	46.78	09.36
Math Ability	44.96	07.32
Science and Technical Ability	47.32	08.26
ASVAB Subtests		
General Science	49.12	10.49
Arithmetic Reasoning	45.96	07.37
Word Knowledge	45.94	09.18
Paragraph Comprehension	48.64	09.87
Mathematics Knowledge	44.36	07.60
Electronics Information	46.46	07.90
Auto and Shop Information	45.34	07.69
Mechanical Comprehension	46.80	08.45

Interaction Between the Research and the Context

The study of implementation of the Texas CCRS in a high school setting was a small, targeted research study; however, the findings of the study have relevance to other schools in Texas as the focus of accountability includes improving the college and career readiness of high school students. Like many other Texas high schools, the school continues to evaluate implementation of the Texas CCRS in the core-subject classes as well as monitoring and seeking to improve the college and career readiness of the high school students. This study sought to introduce Texas CCRS PD with the goal of increasing efficacy of the teachers and implementation of the standards by offering information and support for teachers. The PD was developed by the Texas Faculty Collaborative and included six activities to align secondary, postsecondary, and pre-service curricula and expectations to enhance CCRS implementation in school districts (THECB, n.d.). During this process, data were shared with the school district's administration and core-subject teachers concerning the past and current levels of college and career readiness of the high school students. Some of the teachers were not aware of the average ACT and SAT composite scores of the students were below the state level. In addition, it was surprising to several teachers that the students scored consistently below state average on the STAAR College and Career Readiness scores in English and mathematics. As a result, teachers realized it is important to improve the college and career readiness of all high school students. While it was evident from this study that more discussions and PD are needed on the Texas CCRS and its implementation, teachers understood the importance of including the standards in their

lesson planning and classroom lessons to help raise the rigor of instruction and improve college and career readiness as a whole.

This study did have some limitations, including the small participant size. The small participant size may have reduced the application to all schools in some aspects; however, the information shared by the teachers has relevance to other school settings since the instructional issues shared by the participants is common to many schools as they strive to improve the academic performance of students. Another limitation included the issue with having one of the mathematics teachers being unable to participate due to her having teaching duties at the high school as well as at the junior high school. As a result, her conference period was different than the high school mathematics teachers, which made it difficult for her to fully participate and resulted in her choosing to not be a participant. Another issue involved the labeling of the Likert pre- and post-survey questionnaires only included Highly Disagree and Highly Agree on the six-point scale. The survey was based upon the one used by Lee (2016) that used the same labeling on the survey questionnaires. The results would have included less noise in the data if each of the six points had included specific labeling to ensure there was no confusion as to the meaning of each of the possible answer choices. An additional challenge faced during the research study was resistance by some teachers to portions of the Texas CCRS PD. These teachers shared that they felt stressed due to additional administrative requirements during that time period. However, once teachers understood the purpose of the PD was to improve the college and career readiness of students and the importance of this issue for the students, the teachers were more open to the training

and information provided. Further research is needed to in the area of implementation of the Texas CCRS in the form of a longitudinal study to study the long-term effect upon students' college and career readiness. This would allow the inclusion of students' state assessment results over time.

Summary

Texas CCRS PD was designed to assist in the implementation of the standards in classrooms by providing background information and support to educators. This research study provided teachers with the opportunity to increase their teaching efficacy and build knowledge of the Texas CCRS and college and career readiness. While no significant difference was present in the quantitative data including the surveys and the ASVAB testing results, the qualitative data showed all stakeholders involved in the research study felt the PD activities had value and provided additional opportunities for the teachers to work collaboratively to build upon their current knowledge of college and career readiness and the Texas CCRS as demonstrated by the qualitative data that were collected.

CHAPTER V
DISCUSSION, IMPLICATIONS, AND CONCLUSIONS

Summary of Findings

The analysis of my two-phase explanatory sequential mixed method research study allowed me to examine if providing PD for academic core teachers helped improve implementation of the Texas CCRS in their instruction. During this process, I was able to study if participation in the PD on the Texas CCRS yielded an increase in teacher efficacy and implementation of the standards. In addition, I researched if an increase in the implementation of the Texas CCRS resulted in increased college and career readiness of high school students.

A mixed method model was chosen for this study because it involved collecting both quantitative and qualitative data. The explanatory sequential mixed method model was the best fit since this research study involved two distinct phases, which included first gathering quantitative data followed by collecting qualitative data. Creswell (2003) explained this model “may begin with a quantitative method in which theories or concepts are tested, to be followed by a qualitative method involving detailed exploration with a few cases or individuals” (p. 16). First, quantitative data was gathered from the pre- and post-survey questionnaires. The pre-survey questionnaire was administered to the participants at the beginning of the research study. After this, the PD on the Texas CCRS was introduced, which consisted of six activities. After the completion of the PD, the post-survey questionnaire was given to the teachers. Also, two

years of ASVAB assessment results of students were gathered to determine possible gains in college and career readiness.

After the collection of the quantitative data, the qualitative data collection phase proceeded. Creswell (2003) reported, “The study begins with a broad survey in order to generalize results to a population and then focuses, in a second phase, on detailed qualitative, open-ended interviews to collect detailed views from participants” (p. 21). The qualitative data were collected from the following: recorded department level meetings that captured the perceptions of teachers as they completed the PD on the Texas CCRS, samples of lessons created by teachers including the Texas CCRS, a focus group concerning the implementation of the Texas CCRS PD, and observations of teachers implementing their lessons that included the Texas CCRS. The researcher analyzed the pre- and post-survey questionnaires from the first phase of data collection to determine the choices of participants to be included in the subsample for the focus group interview. The participants involved in the subsample were purposefully chosen based upon their sum scores on the pre- and post-survey questionnaires. The members of the subsample were chosen to ensure it included a representative from three groups: participants who increased, decreased, or stayed around the same on the sums from the two surveys to gain further information concerning the perceptions of the teachers for these results. The teachers in the focus group were asked open-ended focus group questions that provided them the opportunity to provide more detailed explanations of the questionnaire answers. The qualitative data from the department level meetings and the focus group interview collected during the second phase were analyzed to identify

common themes and categories. After the completion of the focus group interview, the classroom lesson plans of the participants were submitted that contained the Texas CCRS, and classroom observations were completed with three volunteer participants.

After the completion of the data collection, the analysis process commenced. The quantitative data from the pre- and post-survey questionnaires were calculated for measures of central tendency. This data were analyzed to determine patterns. The qualitative data analysis included analysis of the transcripts of the recorded department level meetings and the focus group interview. The transcripts were first read several times before they were analyzed and coded for categories and themes. Several forms of data were analyzed for the study, which revealed patterns between the quantitative and qualitative data. The triangulation process helped to reveal two overarching themes concerning the implementation of the Texas CCRS, which included concerns and PD.

The quantitative data collected from the pre- and post-survey questionnaires demonstrating no statistical significance as a result of the Texas CCRS PD on the teaching efficacy levels of core-subject teachers at the school. However, the qualitative data collected through the focus group interviews and department meetings during the PD revealed that teachers recognized the need for continuing PD on the Texas CCRS and the value of implementation of the standards in their lesson planning and classroom lessons to help improve college and career readiness of all high school students.

This record of study used three research questions to determine if providing professional development for academic core teachers helped to increase teaching efficacy and improve instructional implementation of the Texas CCRS, leading to an

increase of the college and career readiness of the high school students in their classrooms. The research questions were answered from responses to pre- and post-survey questions, focus group interview responses, classroom observations, and ASVAB test results for the past two school years.

My research questions included the following:

1. Will professional development on the Texas College and Career Readiness Standards (CCRS) for English, mathematics, science, and social studies teachers result in increased teacher efficacy?
2. Will providing professional development on the Texas CCRS affect the implementation of these standards in classroom lessons of the English, math, science, and social studies teachers?
3. Will an increase in the implementation of the Texas CCRS by the teachers of English, math, science, and social studies at the high school also result in an increase in the college and career readiness of the students as seen in an increase in the overall average of scores on the ASVAB assessment?

Discussion of the Results in Relation to the Review of the Literature

Today's high schools not only face the challenge of assisting students in being accepted into postsecondary programs, but they also must prepare them to be successful in these programs (Conley, 2010). In order to accomplish these goals, educators need to help students to become college and career ready. Schools attempt to develop college and career readiness in students by trying to ensure that students develop specific knowledge and skills that are necessary for postsecondary success. While Texas requires

students to pass STAAR End of Course (EOC) assessments to demonstrate they have mastered content knowledge in English, Algebra 1, Biology, and U.S. History, there are additional knowledge and skills that are beneficial for students' success after high school graduation (Conley, 2010). As a result of this issue, Texas developed the Texas CCRS to help guide administrators and educators on what should be included in classroom instruction, so students are able to succeed in entry-level college courses (THECB & TEA, 2009; Moore et al., 2010; Alford et al., 2014).

Bandura's self-efficacy theory for teachers includes their beliefs about their ability to affect the learning of students. Self-efficacy theory is relevant to the issue of increasing college readiness in high school students since self-efficacy beliefs not only affect the academic achievement of students (Kahn & Nauta, 2001), but it can also be a predictor of college student success (Robbins et al., 2004). This research study focused upon improving the self-efficacy of teachers through providing educators the opportunity to engage in PD based upon the STEPS program that trains teachers on integration of the Texas CCRS in classroom lessons. The goal of the research was to increase the implementation of the Texas CCRS and teachers' self-efficacy, which would lead to an increase of college and career readiness of the high school students in the participants' classrooms. The research study not only offered educators training on the standards, but it also ensured time for teachers to work collaboratively on integration of the Texas CCRS in classroom instruction. Despite the quantitative results not demonstrating statistical significance concerning the effect of the Texas CCRS PD upon teacher efficacy, the literature does support the benefits of providing training and support

to educators (Frost, Coomes, & Lindeblad, 2009; Darling-Hammond, Wilhoit, & Pittenger, 2014).

This study provided teachers with the opportunity to increase their teaching efficacy and build knowledge of the Texas CCRS and college and career readiness through PD. Despite the quantitative results demonstrating no significant significance as a result of the PD, this study did yield insight into possible barriers and concerns when increasing the implementation of the Texas CCRS. Areas of concern included the process of implementing the Texas CCRS, implementation is needed in all classes, and administrator support is needed to continue implementation of the standards. The participants did express that the PD included valuable background knowledge and offered them the opportunity to work collaboratively on improving college and career readiness of students. However, the educators shared that further PD will be necessary, including training in each particular content area that provides examples of inclusion of the Texas CCRS in lesson plans as well as the opportunity to collaborate with other educators in each of the core subject areas.

The quantitative results of this study displayed no measurable effect upon the teaching efficacy levels of the participants at the school or upon the college and career readiness of the students as measured by the ASVAB assessment. However, the qualitative results did reveal benefits to the participants through their comments during the focus group interviews and department meetings during the PD. These results support the benefits of continuing the implementation of the Texas CCRS in subject area classrooms to help increase college and career readiness of students in the future. The

participants began the process of integrating the standards in classroom instruction, which will need to continue to ensure continued implementation of the standards.

Discussion of Personal Lessons Learned

While completing my research study, I learned several lessons. First, high school teachers understand the value of helping students to develop college and career readiness. However, some teachers are unclear as to the definition of college and career readiness at the campus as well as how to determine how prepared their students are concerning their development of these skills. More PD needs to be concentrated in this area to help provide the necessary background and development of skills to assist high school students as they transition to their postsecondary endeavors. The high school teachers are willing to help their students become prepared for life after high school. However, it appears that training on the development of college and career readiness skills in students often is not included in pre-service teacher education as well as continuing education for the current teachers as was expressed several times by the participants throughout this research study and was evident in the literature on this topic. With the current changes in the Texas accountability system for public high school including measuring the college and career readiness of the students, I believe more focus will be placed in this area, including through research being conducted as well as through district and campus administrative interest in this area.

An additional lesson I learned includes the reluctance of some teachers to be an active participant in a research study. During the PD, some teachers were more actively involved throughout the process. This reluctance may have been due to feeling

overwhelmed with an added requirement to their usual work duties as was expressed by one of the participants during the focus group interview. This reluctance to fully participate may have been addressed through administration support that emphasized the importance of being fully involved throughout the PD. When conducting future action research studies, I could include more extensive explanation in the introduction of the research study to the participants that explains in more detail the benefits of active participation for the campus as a whole and for individual educators.

Implications for Practice

After compiling and examining the various data gathered from this research study, it is apparent that the PD on the Texas CCRS helped to begin the process of implementation of the standards in subject area classrooms. However, in order to continue with this process, more PD will be needed that is targeted towards meeting the varying needs of the high school educators. Not only are there various needs based upon the different subject areas, but the teachers at the study context also demonstrate differing levels of experience and background knowledge with integrating the standards in classroom lessons and activities as well as exhibit varying levels of self-efficacy in teaching.

Administrator support will continue to be necessary to ensure that all educators are fully invested in this process. In addition to this, the support of the administration will be vital to ensure teachers have the needed professional collaboration time to plan quality classroom lessons and activities and to work collaboratively together in department meetings and campus meetings as a whole during the continuation of change.

Furthermore, the school should continue this process through providing additional, targeted PD to meet the varied needs of the educators. Administrators, counselors, and teachers also need to continue to build a college going culture that encourages both staff and students to understand the importance of increasing the college and career readiness to improve their ability to be successful in their postsecondary pursuits.

Implications for Context

This action research study had an important effect upon the teachers involved. Except for one of the participants who was enrolled in a doctoral program, this was the first exposure of the educators to the process of action research and the possible benefits for the study context. The research study not only offered the participants PD through the process of implementing the study, but it also provided the teachers exposure to the action research model and the positive effects that are possible for the study context.

This research study provided the participants the opportunity to be exposed to PD on the Texas CCRS. In addition to this, the study began the needed process of change to ensure that implementation of the Texas CCRS is occurring in all subject area classrooms. Before this study, some teachers were including the standards in their classroom lessons and activities. However, several other educators were not consistently embedding the standards in their lesson planning. Even though this study initiated the process of change, there is still the need for continued training for the participants to gain more knowledge on effective lesson planning that includes the Texas CCRS. Through the support of administration, teachers can continue to improve their teaching efficacy as well as their ability to including the standards to raise the rigor of their

instruction. The ultimate goal of this process is to improve the college readiness of all students at the study context.

Implications for Field of Study

This research study allowed me the opportunity to be part of initiating action research at the study context. Up to this point, the educators had not been introduced to research that involved helping to address a problem area experienced by the campus. During this study, the participants had the opportunity to learn about the action research process and the effects that are possible during it. These effects can include excitement for professionals that can lead to a feeling of professional renewal as well as an improvement of practice (Anderson et al., 2007).

This study demonstrates the benefits of conducting action research not only to the educators at the study context, it also provides an example of the process of beginning the change process in other contexts that have similar issues and characteristics as this study context. This action research study was not designed to be generalizable, but it does provide insight into possible challenges facing high schools as they strive to improve implementation of the Texas CCRS in classroom lessons to improve the college and career readiness of their students. These challenges include defining what college and career readiness means at the study context and ensuring that teachers are attending quality PD that includes information on creating quality lessons and activities to improve classroom instruction. By the revealing of the participants' perceptions during this process of change, it allows other study contexts to learn from

this study. This could allow these other study contexts to improve through the information included in this study.

While the quantitative results of this mixed methods research study indicated no significant effect on the teaching efficacy levels of core-subject teachers at the school, the participants shared the introduction of the Texas CCRS PD introduced during the qualitative portion had merit through its introduction of background information on the standards. In addition to this, the action research study provided the boost needed for the context study to continue the process of implementation of the Texas CCRS to strive to improve the college and career readiness of high school students.

Recommendations

After completion of this research study that included providing teachers the opportunity to increase their teaching efficacy and build knowledge of the Texas CCRS and college and career readiness through PD, the results indicate several areas of possible improvement of this Record of Study (ROS) and need for future research.

In order to improve this ROS, I recommend conducting a mixed methods research in various sizes of high schools throughout the state of Texas to explore the implementation of the Texas CCRS in differing school settings to compare and contrast results. By including larger schools in the research study, the researcher would have a larger sample size, which would help to strengthen the power of the study.

Another way this ROS could have been strengthened is to include defined terms for the Likert pre- and post-survey questionnaires. By including clearly outlined terms for the choices from 1 to 6 on the scale, it would have ensured that the participants were

sure of the meaning of each of these as they were completing these during the data collection process. As a result, this could have helped to ensure that the information presented to the participants was clearly outlined on the survey questionnaires, which would ensure that more accurate data were collected during this part of the study.

Future studies concerning college and career readiness could include a longitudinal study that examines students' performance on the TSIA after the continued implementation of the Texas CCRS that includes providing support through continued PD into needed areas of teachers. This type of study is needed since many students struggle to perform in the areas of reading, writing, and mathematics skills at a college level, which is assessed by the TSIA. Also, many high school teachers need continued PD that defines the meaning of college and career readiness at the study context and strategies to improve classroom instruction that results in improved college and career readiness of students.

Additional research should include a longitudinal study concerning college and career readiness that examines the effect upon students' performance on state assessments after providing PD on how to implement the Texas CCRS into each subject area through targeted assistance with lesson planning and planning learning activities that help to increase the level of rigor in classroom instruction. This could be measured through the student performance on the Texas Academic Performance Reports (TAPR), which includes information on the college and career readiness of students as measured in the College and Career Military Readiness (CCMR) section. Improvement in the area of college and career readiness measures will continue to be of interest to district and

campus level administrators and high school educators since high school campuses receive an accountability rating from the state of Texas for this.

Conclusions for Chapter 5

This record of study on the implementation of the Texas CCRS was intended to address a deficiency of implementation by teachers of the Texas CCRS and application of these standards in classroom lessons to increase high school students' college and career readiness. During the process of completing the research study, it became apparent that the high school educators recognized the importance of preparing our students for postsecondary endeavors. However, the teachers also realized that continued PD is necessary as well the support of the administrator through ensuring they are provided time to collaboratively plan and the opportunity to attend quality, targeted training in each teacher's areas of need.

The findings from this study provided information concerning barriers to implementation of the Texas CCRS as well as perceptions from the participants concerning their needs to continue with embedding these standards in all subject area classrooms in the classroom lessons. The information gathered during this research study can assist high school educators with this process since they can address possible issues as they continue with the inclusion of the Texas CCRS in lesson planning and classroom activities. This research study provided insight into the concerns of high school teachers during this process. As a result, other high schools can reduce the chance that these possible obstacles prevent successful implementation of the standards in subject area classrooms.

Throughout this action research process, the high school educators had the opportunity to grow as teachers through the offering of PD on the Texas CCRS and through the scheduled time to collaboratively work together as a whole. The participants expressed their desire to help improve the college and career readiness of all students at the high school campus. In addition, they recognized the current gaps in our implementation of the standards across the classrooms in the campus as a whole.

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APPENDIX A
INFORMED CONSENT

Project Title: Implementation of the Texas College and Career

Readiness Standards: Improving the College and Career

Readiness of High School Students

You are invited to take part in a research study being conducted by Ms. Kathy Stringfellow, a doctoral student attending Texas A&M University. The information in this form is provided to help you decide whether or not to take part. If you decide to take part in the study, you will be asked to sign this permission form. If you decide you do not want to participate, there will be no penalty to you, and you will not lose any benefits you normally would have.

Why Is This Study Being Done?

The purpose of this study is to better understand and address a deficiency in the college and career readiness of students at the high school by implementation of the Texas College and Career Readiness Standards (CCRS).

Why Am I Being Asked To Be in This Study?

You are being asked to be in this study because of your employment in this school district as a teacher of English, math, science, or social studies.

How Many People Will Be Asked To Be In This Study?

Thirteen participants will be invited to participate in this study locally.

What Are The Alternatives To Being In This Study?

None, the alternative to being in the study is not to participate.

What Will I Be Asked To Do In This Study?

You will be asked to complete a brief pre-survey and post-survey questionnaire about your implementation of the Texas CCRS as well as complete professional development concerning the Texas CCRS. You will also be asked to include the Texas CCRS in a lesson plan. You may also be chosen to be part of a focus group and observation of a classroom lesson at the end of the research.

Will Photos, Video, Or Audio Recordings Be Made Of Me During The Study?

The researcher will make an audio recording of the teacher during the study so that that data can be gathered about participants' perceptions of completing the professional development on the Texas CCRS only if you give your permission to do so. Indicate your decision below by initialing in the space provided.

_____ I give my permission for audio recordings to be made of me during my participation in this research study.

_____ I do not give my permission for photographs/audio/video recordings to be made of me during my participation in this research study.

Are There Any Risks To Me?

The things that you will be doing are no more or greater than risks that you would come across in everyday life. Your participation will be anonymous, and the surveys and information gathered from interviews will be kept confidential. Although the researchers have tried to avoid risks, you may feel some questions asked of you may be stressful or upsetting. You do not have to answer anything you do not want to.

Will There Be Any Costs To Me?

Aside from your time, there are no costs for taking part in the study.

Will I Be Paid To Be In This Study?

You will not be paid for being in this study.

Will Information From This Study Be Kept Private?

The records of this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only the Principal Investigator, Dr. Robin Rackley, and the Study Researcher, Kathy Stringfellow, will have access to the records.

Information about your questionnaire will be stored in a locked file cabinet; computer files protected with a password in a locked office space. This consent form will be filed securely in an official area.

Information about you will be kept confidential to the extent permitted or required by law. People who have access to your information include the principal investigator and research study personnel.

Information about you and related to this study will be kept confidential to the extent permitted or required by law.

Who May I Contact For More Information?

You may contact the Principal Investigator, Dr. Robin Rackley, or you may contact the Study Researcher, Ms. Kathy Stringfellow, M.Ed., to tell them about a concern or complaint about this research at rrackley@tamu.edu or string2@tamu.edu.

For questions about your rights as a research participant; or if you have questions, complaints, or concerns about the research, you may call the Texas A&M University Human Subjects Protection Program office at (979) 458-4067 or irb@tamu.edu.

What if I Change My Mind About Participating?

This research is voluntary and you have the choice whether or not to be in this research study. You may decide to not begin or to stop participating at any time. If you choose not to be in this study or stop being in the study, there will be no effect on your employment or teacher evaluation. By completing the questionnaire, you are giving permission for the investigator to use your information for research purposes.

STATEMENT OF CONSENT

I agree to be in this study and know that I am not giving up any legal rights by signing this form. The procedures, risks, and benefits have been explained to me, and my questions have been answered. I know that new information about this research study will be provided to me as it becomes available and that the researcher will tell me if I must be removed from the study. I can ask more questions if I want, and I can still receive services if I stop participating in this study. A copy of this entire consent form will be given to me.

Participant's Signature

Date

Printed Name

Date

APPENDIX B

TEXAS COLLEGE AND CAREER READINESS STANDARDS - EXAMPLE OF
ONLINE PRE- AND POST-SURVEY QUESTIONNAIRE

Using the following rating scales select the one that best represents your thoughts or perspectives with 1 representing Strongly Disagree and 6 representing Strongly Agree.

	Section 1 Skills	Strongly Disagree 1	2	3	4	5	Strongly Agree 6
1.	I am able to link my subject area to real world situations to prepare students for life outside of school.	1	2	3	4	5	6
2.	I am able to help students make connections between different subject area content (for example, in mathematics, between geometry and measurement or number/operations and statistics).	1	2	3	4	5	6
3.	I am able to help students make connections between my subject	1	2	3	4	5	6

	area content and other subject areas						
4.	I am able to use my subject area language and terminology meaningfully and consistently with my students to communicate concepts in a problem.	1	2	3	4	5	6
5.	I am able to connect students' prior knowledge and experiences to my subject area content.	1	2	3	4	5	6
6.	I am able to give examples of my subject area use in a variety of careers and professions and can effectively expose my students to these uses.	1	2	3	4	5	6
7.	I am able to engage students in applying methods of inquiry used in the discipline of my subject area.	1	2	3	4	5	6

8.	I am able to model, interpret, and summarize my subject area ideas by using multiple representations in a given context.	1	2	3	4	5	6
9.	I am able to use instructional strategies that promote student learning.	1	2	3	4	5	6
10.	I am able to recognize student misconceptions.	1	2	3	4	5	6
11.	I am able to help students build conceptual understanding in my subject area through classroom experiences.	1	2	3	4	5	6
	Section 2 Dispositions	Strongly Disagree 1	2	3	4	5	Strongly Agree 6
12.	I believe it is important to prepare my students in my subject area to be ready for college and their	1	2	3	4	5	6

	future careers.						
13.	I believe it is important to teach my students fundamental subject area skills and content to help them be ready for college and career.	1	2	3	4	5	6
14.	I believe it is important to teach my students reasoning and problem-solving skills so they may be successful in college and their careers.	1	2	3	4	5	6
15.	I view my job as an important profession for helping students be prepared for their career and college.	1	2	3	4	5	6
16.	I believe that teachers should be held ultimately accountable for the academic success or failure of the children in their classes.	1	2	3	4	5	6

17.	I believe that the teachers in a school share responsibility for the achievement of all students.	1	2	3	4	5	6
18.	I believe it is important to involve all students in my subject area learning so they can be ready for college and their future careers.	1	2	3	4	5	6
19.	I believe that what students are learning must be relevant to college and their future careers.	1	2	3	4	5	6
20.	I believe that elementary and middle school teachers must know the vertical alignment of their subject area content and skills in order to prepare their students to be ready for college and career.	1	2	3	4	5	6
	Section 3 Knowledge of College and Career Readiness	Strongly Disagree 1	2	3	4	5	Strongly Agree 6

21.	I have the knowledge and skills necessary to enable all of my students to succeed in my subject area.	1	2	3	4	5	6
22.	I know how to prepare my students in my subject area to be ready for college and their future careers.	1	2	3	4	5	6
23.	I know how to teach my students fundamental skills in my subject area and content to help them be ready for college and their future careers.	1	2	3	4	5	6
24.	I know how to teach my students reasoning skills so they can be ready for college and their future careers.	1	2	3	4	5	6
25.	I know how to promote my students' problem solving skills so they can be ready for their future.	1	2	3	4	5	6

26.	I know the vertical alignment of my subject area content and skills to be taught in each grade level.	1	2	3	4	5	6
27.	I know how to make my subject area learning meaningful by making a connection between students' learning and students' prior experiences, current life, future career, and college.	1	2	3	4	5	6
28.	I know how to teach students to apply concepts in my subject area to "real world" problems.	1	2	3	4	5	6
29.	I know how to integrate my subject area with other subjects.	1	2	3	4	5	6
30.	I know how to teach my subject area to students who have Limited English Proficiency.	1	2	3	4	5	6
31.	I know how to teach my subject area to diverse learners.	1	2	3	4	5	6

32.	I know how to teach all students core skills in my subject area.	1	2	3	4	5	6
33.	I know how to set up high expectations for all children in my subject area.	1	2	3	4	5	6
	Section 4 General Knowledge of the Texas CCRS	Strongly Disagree 1	2	3	4	5	Strongly Agree 6
34.	I have a thorough knowledge of the Texas CCRS for my subject area.	1	2	3	4	5	6
35.	I understand fully what college and career readiness means at my school.	1	2	3	4	5	6
36.	I am aware of which courses in my subject area have the Texas CCRS embedded in each of them.	1	2	3	4	5	6

37.	I fully understand the organization of the Texas CCRS.	1	2	3	4	5	6
38.	I strongly believe there is a college and career readiness culture at our school.	1	2	3	4	5	6
39.	I fully understand the framework of the Texas CCRS four levels of specificity that organize the Texas CCRS.	1	2	3	4	5	6
40.	Do students in my campus or district have the opportunity to engage and apply the Texas CCRS at a level of depth that will lead to mastery by the end of twelfth grade?	1	2	3	4	5	6
41.	I have a clear understanding of the Texas CCRS Performance Expectations in my subject area.	1	2	3	4	5	6

42.	I am currently implementing TEKS and the Texas CCRS in my lesson plans for my classes.	1	2	3	4	5	6
43.	My subject area department gives students the opportunity to engage and apply my subject area CCRS at a level of depth that will lead to mastery by the end of twelfth grade.	1	2	3	4	5	6
44.	I have the needed background/training to provide my students with quality lessons that incorporate the Texas CCRS	1	2	3	4	5	6
45.	I feel comfortable with my current knowledge of the Texas CCRS Cognitive Strategies and Key Learning Skills and Techniques.	1	2	3	4	5	6

Demographic Survey

Please respond to the following as they relate to you. All of your responses will remain confidential. The results will be reported in summarized form, with no individual identifiable from the findings. Provide a response for each item.

Your teaching subject area

- English
- Mathematics
- Science
- Social Studies

Gender

- Male
- Female

Number of years as a teacher (include current year)

- First year
- 1 - 3
- 4 - 10
- 11- 20
- >20

Number of years at present school (include current year)

- First year
- 1 - 3

- 4 - 10
- 11 - 20
- >20

APPENDIX C

FOCUS GROUP QUESTIONS

1. When you think about the Texas CCRS, what is the first thing that comes to mind?
2. What did you think about the PD on the Texas CCRS?
3. What did you find the most informative about the PD on the Texas CCRS? What made this section of the PD more informative than other sections?
4. What did you find the least effective concerning the PD on the Texas CCRS? What made this section of the PD less effective than other sections? What could be done to make this section more effective?
5. What are the biggest obstacles with implementing the Texas CCRS into your classroom lessons? What are factors that create these obstacles? What could be provided that could reduce or eliminate these obstacles?
6. What are types of support that would prove helpful as you begin or continue implementation of the Texas CCRS in your classroom lessons? Out of the types of support you mentioned would prove helpful to you, which one would you most like to have provided to you? What makes this support more valuable than the others you mentioned?
7. What types of training would you find useful in the future on the Texas CCRS? What areas do you feel you need more training on in order to effectively implement these standards in your classroom?

8. What are benefits to having staff to consistently implement the Texas CCRS into classroom lessons? What are ways that our campus can use data to determine if implementation of the Texas CCRS are proving beneficial to students? To staff?
9. Have we missed anything that you would like to add concerning the PD on the Texas CCRS?

APPENDIX D
GUIDE TO DEVELOP A LESSON PLAN FOR IMPLEMENTATION OF THE
TEXAS CCRS

Date and time the lesson will be taught:

Instructor:

Classroom:

1. Set up the lesson and establish the learning goals:

What are the learning goals for students in this lesson?

What must students know and be able to do to meet the goals?

How long should this lesson take to complete (e.g., number of class sessions or hours)?

What is the intended level of this lesson?

2. Identify the level-specific Texas CCRS standards that are the targets of the lesson:

What 3-4 Texas CCRS content standards are targeted in the lesson?

3. Identify the TEKS that are central to the goals of the lesson:

What specific TEKS are central to the goals of this lesson?

How can students' abilities to apply those practices be observed and assessed?

4. Address how the lesson contributes to coherence:

Have academic vocabulary words been identified from the text that demand attention and are related to the big ideas?

What foundational knowledge is necessary for successful learning in this lesson?

How do concepts acquired in this lesson support future learning?

5. Address rigor:

Which aspect(s) of rigor are required by the targeted standards?

Do the tasks and activities of the lesson address those aspects?

What thought-provoking problems or tasks is the whole class asked to solve?

On which problems or tasks will students work independently, or with a partner or small group?

6. Include essential content area vocabulary:

What explanations, representations, and examples are necessary to make the content of this lesson clear?

7. Identify discussion questions that allow students to share their thinking:

When will student sharing happen in this lesson?

What are the discussion questions and the expected responses to the discussion questions?

8. Develop checks for understanding

What strategies and opportunities will be used to check for student understanding throughout the lesson?

APPENDIX E

CHECKLIST FOR LESSON PLAN FOR IMPLEMENTATION OF THE TEXAS CCRS IN CLASSROOM LESSONS

LESSON DEVELOPMENT CHECKLIST

This checklist is designed to serve as a final quality check of the lesson developed for your Lesson Plan.

1. Learning Goals for Students:

_____ Student learning goals are identified.

_____ Prerequisite knowledge and skills are identified.

2. Level-Specific CCCR Content Standards:

_____ The lesson targets Texas CCRS standards.

3. TEKS:

_____ The TEKS are identified for the lesson.

_____ The TEKS are clearly addressed in the content of the lesson.

4. Coherence:

_____ Foundational knowledge is clearly identified.

_____ Connections are made as to how the content of this lesson supports and is connected to future learning.

5. Rigor:

_____ Problems and tasks reflect the lesson's targeted aspects of rigor.

_____ Tasks and activities address conceptual understanding.

Examples of words that may signal conceptual understanding are: “understand,” “interpret,” “recognize,” “describe,” and “explain.”

_____ Tasks and activities address procedural skill and fluency.

Examples of words that signal procedural skill and fluency are: “fluently,” “compute,” “convert,” and “rewrite.”

_____ Tasks and activities address application. Examples of phrases that signal applications are: “real world” and “word problems.”

_____ Directions are provided on when the problems should be solved independently, with partners or small groups, or as a whole class.

6. Content Area Vocabulary:

_____ Content area terms important to the concepts of the lesson are identified and defined.

_____ Examples, such as explanations, diagrams, graphs, and/or charts, are included to provide a clear understanding of the content area language, situation, or context.

7. Discussion Questions:

_____ High-level discussion questions are provided to encourage deep content area thinking.

_____ Expected sample student responses and suggestions for interpreting those responses are provided.

8. Checks for Understanding:

_____ Formative and self-assessments that are connected to the lesson’s goals are included.

_____ Summative lesson or unit assessments that are connected to the lesson's goals are included.

_____ Answer keys are provided for all assessments, along with rubrics or guidelines for interpreting student performance, when required.