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Effectiveness of the Career and College Promise Program in Increasing College Readiness at a Rural North Carolina Community College

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Effectiveness of the Career and College Promise Program in Increasing College
Readiness at a Rural North Carolina Community College

By
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This dissertation was submitted by Ashley P. Day under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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The only valid philosophy for North Carolina is the philosophy of total education; a belief in the incomparable worth of all human beings, whose claims upon the state are equal before the law and equal before the bar of public opinion; whose talents (however great or however limited or however different from the traditional) the state needs and must develop to the fullest possible degree. That is why the doors to the institutions of North Carolina's system of community colleges must never be closed to anyone of suitable age who can learn what they teach. We must take people where they are and carry them as far as they can go within the assigned functions of the system. – Dr. W. Dallas Herring

To my students, both young and old – May the community college always be there to aid you along your journey.

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Abstract

Effectiveness of the Career and College Promise Program in Increasing College Readiness at a Rural North Carolina Community College. Day, Ashley P., 2017: Dissertation, Gardner-Webb University, Career and College Promise/Dual Enrollment/College Readiness/Comprehensive Articulation Agreement

This study addressed the effectiveness of the North Carolina Career and College Promise (NCCCP) program using Conley's (2010) framework for college readiness in determining and promoting college readiness for students participating in the program at a rural North Carolina community college. An explanatory sequential mixed methods design was used in this study. Phase I involved quantitative data collection and analysis from existing statistical data in the form of NCCCP student final course grades (n=886), general education math common assessment scores (n=98), and CCP student (n=27) and instructor (n=9) responses to perception college readiness surveys. The quantitative data analysis was followed by Phase II of the study; an instructor focus group convened to explore themes emerging from the quantitative data.

Through analysis of data collected, the results showed that CCP students scored significantly higher than non-CCP students in final course grades and MAT 152 common assessment scores. There was no significant difference in MAT 143 common assessment scores between the two groups. This study found no significant differences in perception of college readiness between CCP and non-CCP student (n=13) groups; however, CCP instructors rated their students significantly lower in terms of college readiness than CCP students rated themselves. Common themes identified from the CCP instructor focus group included lack of depth in writing, deficiencies in reading comprehension, poor critical thinking skills, and lack of academic skills such as time management and communication.

Dual enrollment programs have been identified as one means of increasing student college readiness (Bailey & Karp, 2003) and thus creating seamless pathways from the secondary schools to postsecondary institutions. Based on this study's findings, the NCCCP program is effective at this rural western North Carolina community college in determining and promoting college readiness.

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Chapter 1: Introduction

Introduction

The benefits of obtaining some sort of college credential are well known. Individuals with a bachelor's degree earn over 50% more than those with just a high school diploma. Over the lifetime of that college graduate with a bachelor's degree, he/she will earn around $1 million more than an individual with no postsecondary credentials (Hershbein & Kearney, 2014). In addition, the U.S. Department of Education (n.d.a) estimated that two thirds of all jobs will require some sort of postsecondary credential by the year 2020, yet college costs continue to rise. President Obama (2009) commented on this issue in his 2009 State of the Union address, promising that "by 2020, America will once again have the highest proportion of college graduates in the world" (para. 66). If the U.S. is going to meet the rising challenges of the 21st century, steps must be taken to ensure increased college credits for students.

Getting students to college is only one of the challenges faced by students. According to the National Center for Educational Statistics (NCES), 66% of students attend a postsecondary institute the year following high school (Marken, Gray, Lewis, & Ralph, 2013), yet studies show that students are starting college unprepared for the academic rigors required of postsecondary education. The 2013 NCES report indicated that 23.3% of all first-year students at public postsecondary institutions reported taking remedial courses. That number was even higher with students of color (30.2% Black and 29% Hispanic; Marken et al., 2013). In addition, college retention rates remain low. First year retention rate averages for all higher education institutions combined are at 56%. In 2013, the graduation rate for students obtaining a bachelor's degree within 6 years was only 59% (Kena et al., 2015); therefore, steps need to be taken to address this

deficiency. One step is to increase college readiness in those students entering

postsecondary institutions.

In 2011, North Carolina took a step in this direction by establishing the Career

and College Promise (CCP) program, providing a structured pathway to take students

from high school to college or a career. This research study evaluates the effectiveness of

the CCP program at a North Carolina rural community college to determine if high

school students are indeed college ready.

Organization of this Chapter

This chapter includes the background information on the need to bridge the gap in

college readiness, the need for dual enrollment programs in general, and the need for

North Carolina CCP (NCCCP) specifically. The theoretical framework of this study will

be explained, and the problem and purpose of this study will be stated, demonstrating the

importance of dual enrollment programs and the benefits of this study to the educational

institutions and policymakers. The research questions will be presented, and the research

methods used to explore them will be explained. Key terms will be defined. Finally,

assumptions, delimitations, and limitations of this research project will be described.

Background

Current literature regarding dual enrollment. Since 1972, high school

students have participated in dual enrollment opportunities allowing them to take college

level courses for credit while in high school ("Our History," 2016). Benefits of dual

enrollment programs such as NCCCP include increased high school rigor, higher college

success and retention, increased curriculum choices, increased access to college, and

decreased cost for postsecondary education (Bailey & Karp, 2003; Domina & Ruzek,

2012; Hughes, Rodriguez, Edwards, & Belfield, 2012; Oakley, 2015). In addition,

several studies indicated that students who particpated in the dual enrollment programs have higher first semester GPAs and increased graduation rates than students who did not participate in dual enrollment programs (Hughes et al., 2012; Swanson, 2010; Young, Joyner, & Slate, 2013). A study of a midwestern community college by Mertes and Jankoviak (2016) found that college costs and lack of academic preparedness were among the top seven reasons students did not persist in college. Since studies on dual enrollment found that dual enrollment programs help with college costs (Smith & Garton, 2008) and exposure to skills necessary to succeed in college (Michaels, Hawthorne, Cuevas, & Mateev, 2011), dual enrollment programs may also serve as part of the solution in addressing the college retention problem.

Gaps in the research. Current research focuses on the success of the dual enrollment student during his or her entry into and first year in the postsecondary institution. Limited research exists on the success of dual enrollment students who participate in a college course while still enrolled in high school. Therefore, this study investigated the student perception of and performance in the dual enrollment environment while the student is actively engaged in the process.

In addition, while some research studies have focused on comprehensive studies completed at the state-wide level, including states such as California, Washington, and Texas (Cowan & Goldhaber, 2015; Giani, Alexander, & Reyes, 2014; Hughes et al., 2012; Nodine, 2011), very little comprehensive research exists on the NCCCP program. This lack of research is most likely due to the fact that the NCCCP program was only enacted in North Carolina in 2011. Therefore, the current research contains limited information regarding this program and its effectiveness for the students served. This research focused on college readiness of students who are currently enrolled in the

NCCCP program at a rural North Carolina community college.

Purpose of the Study

The purpose of this study was to evaluate the NCCCP program at a rural North Carolina community college. An explanatory sequential mixed design was used, collecting both quantitative and qualitative data. The quantitative data were gathered first and analyzed. This analysis was followed with qualitative data collection and analysis leading to interpretation of both data pieces (Creswell, 2014).

In this study, the independent variable is the NCCCP program. Specifically, the research measured the dependent variable, college readiness – as outlined in Conley's (2005, 2010, 2014) Framework of College Readiness – of those participants in the program at a rural North Carolina community college.

Significance of the Study

A study of the effectiveness of the NCCCP program is important for several reasons. First, the study provided data regarding the dual enrollment program at this rural North Carolina community college, expanding on prior research. Since the data are limited to this rural North Carolina community college site, educational policymakers, students, instructors, and admissions counselors could use these data to make decisions for the counties served by that institution. Second, the NCCCP program has yet to be rigorously examined. Therefore, a need exists for methodologically sound research that both examines program outcomes and investigates the contribution of this program in increasing college readiness in its participants.

Research Questions and Hypothesis

In order to evaluate the NCCCP program at a rural North Carolina community

college, the researcher focused on four research questions.

1. To what extent does the academic proficiency of NCCCP students differ from non-CCP students as measured by final grades at a rural North Carolina community college? (Quantitative)

    Null hypothesis: There is no significant difference between the academic proficiency of CCP and non-CCP students as measured by final grades at a rural North Carolina community college.

2. To what extent does the academic proficiency of NCCCP students differ from non-CCP students as measured by scores on common assessments at a rural North Carolina community college? (Quantitative)

    Null hypothesis: There is no significant difference in academic proficiency between CCP and non-CCP students as measured by common assessment scores at a rural North Carolina community college.

3. How do students perceive their college readiness after participating in the NCCCP program at a rural North Carolina community college? (Quantitative/Qualitative)

4. How do instructors perceive the college readiness of students who participated in the NCCCP program at a rural North Carolina community college? (Quantitative/Qualitative)

Theoretical Framework

Conley (2010, 2014) stated that there are four key dimensions to being college ready: key cognitive strategies (THINK), key content knowledge (KNOW), key academic behaviors (ACT), and key contextual skills and awareness (GO). This study employed Conley's Framework of College Readiness to evaluate the effectiveness of the NCCCP

program in promoting college readiness development in the program participants.

Conley's four keys will be explained in more detail in Chapter 2, and the use of this

framework in this study will be outlined in Chapter 3.

Nature of the Study

      Participants. Three groups of participants were included in this research study.

All three groups have participated in some capacity in the NCCCP program at this rural

North Carolina community college. The first group included participants in NCCCP

courses at the college during the 2014-2016 academic years. The next group of

participants included community college students who had previously participated in the

NCCCP program during high school by completing at least one CCP course. All

participating students were over the age of 18. The last group of participants included

instructors of NCCCP courses at this North Carolina community college.

      Overview of the research method. This study used a two-phased, explanatory

sequential mixed method research (QUAN => qual) in order to evaluate the NCCCP

program effectiveness in increasing college readiness in the program's participants. A

mixed methods research design was used because this type of research can provide a

more complete picture of the problem through triangulation of quantitative and

qualitative data (Caruth, 2013).

      Overview of the research methodology. Phase one involved the collection of

quantitative data. While many studies looked at the success of dual enrollment students

when entering into and in their first year of college (Hughes et al., 2012; Oakley, 2015;

Swanson, 2010), only a few looked at success in the NCCCP courses. Using preexisting

statistical data (quantitative), this research study assessed NCCCP student academic

proficiency in college courses as compared to non-CCP students. In addition, Likert-

scale surveys were used to gather perceptions from NCCCP students and instructors regarding the effectiveness of the NCCCP program at increasing college readiness in its participants. Once these data were collected and analyzed, the researcher moved to phase two of this study.

Phase two of this explanatory sequential mixed methods study involved a focus group of NCCCP instructors. The focus group questions were developed and guided by the analysis of the quantitative data gathered in phase one. The qualitative data were coded into themes and then triangulated with the quantitative findings to make inferences regarding the effectiveness of the NCCCP in promoting college readiness as described by Conley's (2010, 2014) Framework for College Readiness.

Definitions of Terms

CCP students. High school students who are participating in the NCCCP program. These students are taking college courses while in high school. If successful, these students can earn college credit that will transfer to North Carolina public, 2-year and 4-year institutions (North Carolina Community College System, 2016).

CCP program. North Carolina dual enrollment program that allows high school students to participate in college courses while in high school with the potential to earn college credits (North Carolina Community College System, 2016).

College readiness. The skill sets necessary for a student to be qualified to enroll and succeed in an introductory, credit-bearing, college-level course without remediation (Conley, 2010).

Comprehensive articulation agreement (CAA). A state-wide agreement between North Carolina community colleges and North Carolina public universities ensuring the transferability of courses from the community college system to the 4-year

institutions. The purpose of CAA is to provide a seamless transfer of students from the state community colleges to the state universities ("CAA," 2016).

Course number. Usually the three-digit code for the level of content in that prefix. For example, in the English department ENG 111 is a prerequisite for course number 112. Community college course numbers start with a 1 or 2 ("Common course catalog," 2008).

Course prefix. Usually a three-letter code for the content subject such as ENG for English courses or MAT for math courses ("Course prefix definitions," 2016).

Dual enrollment programs. Programs that allow students to earn both high school and college credits while enrolled in secondary institutions, also called concurrent enrollment in the literature (Bailey & Karp, 2003).

Duplicated headcount. The total course enrollment counts of students within one semester. Students may be enrolled in more than one course and would be counted in each course ("Frequently asked questions," n.d.).

Hybrid sections. Delivery method of courses that use a mix of face-to-face and online content delivery for course instruction ("Curriculum procedures reference manual," 2010).

Internet sections. Delivery method of courses in which 100% of instruction is delivered online using the learning management system and other online tools ("Curriculum procedures reference manual," 2010).

Non-CCP students. College students who traditionally are over the age of 18 and enrolled in postsecondary institutions. This definition was developed by the author for the purpose of this research project.

Proficiency. Successful completion of a course or assessment with a grade of a

"C" or above. This definition was developed by the author using the CAA transfer requirement of a course grade of "C" or above in order to be transferable ("CAA," 2016).

Remediation. Courses, usually in mathematics, reading, and writing, that are required for students who enter a postsecondary institution without the academic skills necessary to be successful. Most postsecondary institutions use placement tests to determine need for remediation (Conley, 2010).

Traditional sections. Delivery method of courses in which 100% of instruction is delivered face-to-face. Instructor may use online tools to supplement but not to deliver instruction ("Curriculum procedures reference manual," 2010).

Unduplicated headcount. The enrollment counts based on individual students within one semester. Students may be enrolled in more than one course and would only be counted in this number once ("Frequently asked questions," n.d.).

Web-based sections. Courses that use face-to-face as the primary mode of instruction but have a requirement that students use online resources to supplement instruction ("Curriculum procedures reference manual," 2010).

Assumptions, Scope, and Delimitations

Assumptions. An assumption for this study was that students and instructors would respond to the survey and focus group questions truthfully. Because participation was voluntary, the assumption was likely to be met. Another assumption was that the students and instructors surveyed valued college completion.

Scope. A rural community college in the western region of North Carolina was selected for this study. The voluntary participation of all students classified as NCCCP students as well as NCCCP course instructors was solicited for this research study.

Delimitations. This study was confined to students classified as NCCCP students

at the community college in the study. The study included those students coded as a NCCCP student in the college transfer pathway. Additionally, the study incorporated only one of the 58 community colleges participating in the CCP program in North Carolina. Due to the geographic region and the number of schools considered, the results are not as generalizable as desired.

Limitations

The use of only one community college in North Carolina restricted the scope of the data collection. Therefore, several threats to external validity apply, including the limited number of participants and the characteristics of these CCP students specific to this rural setting. To increase generalizability, the research findings incorporated a framework of relevant literature and include analytic generalizations regarding effective techniques in increasing college readiness.

Threat to internal validity in this study included selection. It was possible, due to the use of convenience selection, that participants could have "certain characteristics that predispose them to have certain outcomes" (Creswell, 2014, p. 175).

Summary

Participation in dual enrollment programs in North Carolina has increased greatly over the past 5 years. In 2015, 14% of all students taking a course at a North Carolina community college were dual enrollment students. At this community college specifically, dual enrollment students made up 36% of the total enrollment in the 2015 fall semester. Six percent of all CCP students were enrolled specifically in the NCCCP college transfer pathway (North Carolina Community College System, 2016). The trends in fall dual enrollment participation in the North Carolina Community College System for 2012-2015 are shown in Figure 1. This figure shows the enrollment in dual enrollment

programs for the past 5 years. The data are disaggregated by CCP-College Transfer,

CCP-Career and Technical, Cooperative Innovative HS, and other dual enrollment.
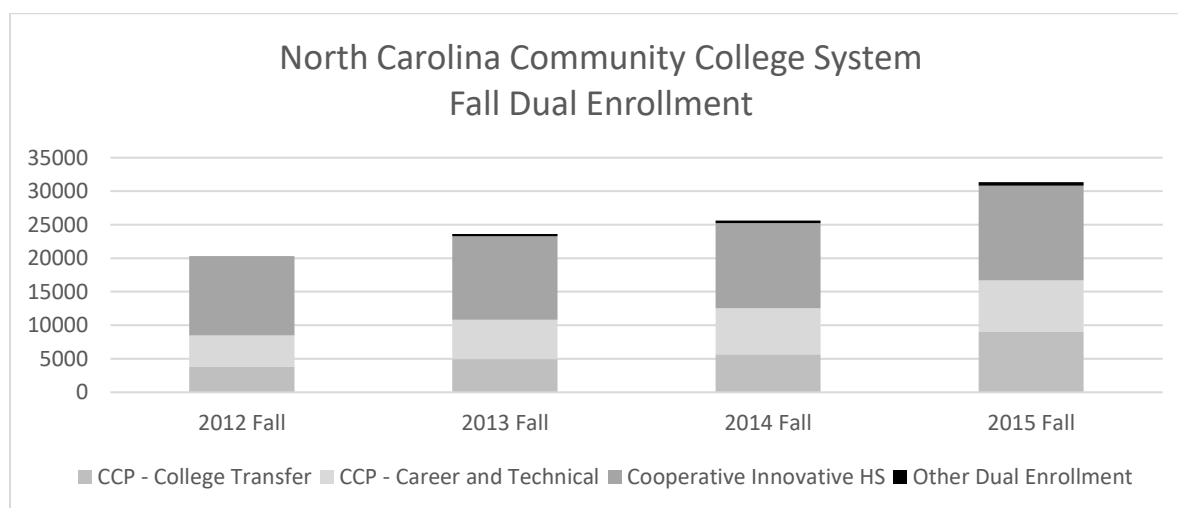
Figure 1. North Carolina Community College System Fall Dual Enrollment Numbers for 2012-2015.

As shown in Figure 1, there is a 54% increase (20,343 in 2012 to 31,370 in 2015)

in dual enrollment over the past 4 years for the state. The Cooperative Innovative high

school represents the largest portion of the dual enrollment population for the North

Carolina Community College System. In addition, there has been a large increase (3,845

students in Fall 2012 to 9,001 students in Fall 2015) in the number of students enrolled in

the NCCCP – College Transfer degree (B. Schneider, personal communication, January

13, 2017).

At this research site, the dual enrollment population has also increased. The total

enrollment and the high school enrollment for the past five fall semesters are shown in

Figure 2. Total enrollment for the rural community college along with high school (dual)

enrollment is shown.

DUAL ENROLLMENT AT THE RESEARCH SITE

■ Total Enrollment   ■ High School Enrollment

	2012	2013	2014	2015	2016
Total Enrollment	2510	2369	2042	2067	1920
High School Enrollment	593	744	751	771	720
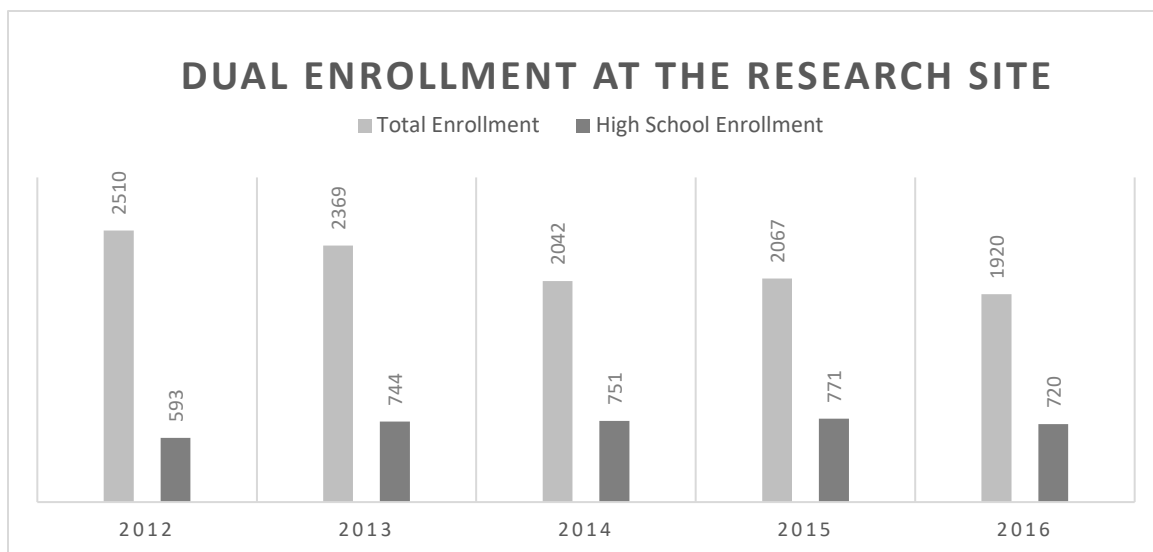
Figure 2. Enrollment for the Fall Semesters 2012-2016 at this Research Site.

As shown in Figure 2, the fall dual enrollment numbers, except for 2016, have increased over the past 5 years. While total population numbers for the community college have decreased since Fall 2012, the percentage of students who are dual enrollment students continues to increase, representing a 13% increase in the total population over the past 5 years. As general dual enrollment numbers, and specifically NCCCP numbers, continue to increase, it is important to monitor the process and determine the effectiveness of the dual enrollment program in increasing college readiness of the participants.

The subsequent chapters include a review of the literature, the methodology, the analysis and findings, and the conclusions. Chapter 2 contains a review of the literature relative to dual enrollment programs and college readiness. Chapter 3 includes a discussion on specific research methods. Chapter 4 presents the analysis of the data collected. Finally, Chapter 5 explains findings and implications of this study's results.

Chapter 2: Literature Review

Introduction

In his 2013 State of the Union address, President Obama challenged American educators to "redesign America's high schools so they better equip graduates for the demands of a high-tech economy" and prepare them for a lifetime of learning (Obama, 2013, para. 45). He prefaced that statement by saying,

Let's also make sure that a high school diploma puts our kids on a path to a good job. Right now, countries like Germany focus on graduating their high school students with the equivalent of a technical degree from one of our community colleges. So those German kids, they're ready for a job when they graduate high school. They've been trained for the jobs that are there. Now at schools like P-Tech in Brooklyn, a collaboration between New York Public Schools and City University of New York and IBM, students will graduate with a high school diploma and an associate's degree in computers or engineering. We need to give every American student opportunities like this. (Obama, 2013, para. 45)

Innovative high schools such as the one mentioned which provide seamless pathways from secondary to postsecondary institutions are now coined as Next Generation High Schools and are based on these seven principles:

Redesigning academic content and instructional practices to promote active and hands-on learning, aligned with postsecondary and career-readiness; Personalizing and tailoring academic content and learning to strengthen the connection to the educational needs and interests of individual students; Ensuring strong content knowledge and skills for teachers in all subjects, including STEM; Providing and personalizing academic and wrap-around support services for those

students who need them; Providing high-quality career and college exploration and counseling on options for students after high school graduation; Offering multiple opportunities to engage in postsecondary learning, including earning college credit while still in high school; and Redesigning the scope and sequence of learning time in more innovative and meaningful ways, incorporating innovations such as educational technologies, project-based learning, and competency-based progressions. (U.S. Department of Education, n.d.b, para. 3)

Strategies provided to facilitate the development of Next Generation High Schools include dual enrollment programs providing students access to earn college credits while still in high school.

Organization of this Chapter

This chapter includes information regarding dual enrollment programs from the current literature. Background information on credit-based transition programs, in general, and dual enrollment programs, specifically, are provided. The theoretical framework for this study is described. Research on cognitive development as it applies to dual enrollment is presented. The NCCCP program and participant requirements are discussed in detail. Finally, research on the benefits of and issues to dual enrollment programs are presented.

Credit-Based Transition Programs

One way to address President Obama's challenge is the creation of credit-based transition programs. Credit-based transition programs can vary based on content, location, instructors, or the point at which college credit is awarded. Research divides credit-based transition programs into three categories: singleton programs, comprehensive programs, and enhanced comprehensive programs (Bailey & Karp, 2003).

Singleton programs offer college-level content to high school students, allowing increased rigor for high school courses and providing students a jump start to their postsecondary education. Advanced placement (AP) courses are the most common types of singleton programs (Fowler & Luna, 2009). The AP program offers students a chance to experience the "rigors of college-level studies while they still have the support of the high school environment" (CollegeBoard, 2015a, p. 3). The high school student participates in the courses taught at the high school campus by a high school teacher. At the completion of the course, the student takes a standardized AP exam. In addition, any student may take the AP exam, regardless of the preparation in the respective courses (CollegeBoard, 2015b); therefore, students attending schools lacking AP courses or home schooled students still have opportunity to gain college credit. The AP scores (1-5) correlate with the grades earned by college students in parallel college courses. The scores then are used by the postsecondary institutions to award credits based on those scores. The AP program offers 37 AP courses (CollegeBoard, 2015a). In 2015, around 2.5 million students participated in the AP program taking nearly 4.5 million AP exams (CollegeBoard, 2015b).

Comprehensive programs encompass the bulk of the students' high school academic coursework and usually occur during their junior and senior years. These types of programs provide many benefits to students including increased rigor, preparedness for postsecondary coursework, and the ability to get a jump start on college credits ("Accelerating student success through credit-based transition programs: Homepage," 2008). One category of a comprehensive credit-based program is the International Baccalaureate (IB) program. The IB program was founded in 1968 as a nonprofit educational foundation to offer educational skills for students to function in a globalizing

world ("About the IB," 2016). Students who participate in the IB program take IB

exams. These exams are similar to AP exam scores, and the student can earn college

credit at postsecondary institutions based on their IB exam schedule.

Enhanced comprehensive programs target underrepresented students for college

by providing both academic and nonacademic support on the college campus. This

support system separates enhanced comprehensive programs from other credit-based

transition programs (Fowler & Luna, 2009; Haxton et al., 2016). The Early College High

School Initiative (ECHSI), a type of enhanced comprehensive program, partners with

postsecondary institutions providing participants with the opportunity to earn an

associate's degree or up to 2 years of college while in high school with no expense to the

student (Haxton et al., 2016). A study of 10 early college high schools showed that while

the high school graduation rate was not significantly different, the college enrollment rate

and graduation rate of students from the ECHSI program were significantly higher than

non-ECHSI participants (Turk-Bicakci, Garet, Knudson, & Hoshen, 2014).

While many different types of credit-based transition programs exist, this

literature review will focus on dual enrollment programs. Dual enrollment programs

allow high school students to take college-level courses for credit while in high school.

During the 2010-2011 academic year, 1,227,100 students were enrolled in dual credit

courses across the United States (Marken et al., 2013). While most of these programs

occur during the junior and senior years of high school, some freshmen and sophomore

students are earning college credits.

Dual Enrollment Programs

The first recorded dual credit program was Syracuse University Project Advance

("Our History," 2016). In 1972, six high school administrators from New York asked

Syracuse College to establish a college readiness program. The administrators were concerned because college-bound high school seniors tended to show a lack of initiative during their senior year; therefore, they suggested a transition program to maintain and/or establish the skills needed for college success. The initial purpose of the program was to train secondary teachers to teach college courses at the high school. During the 1972-1973 academic year, ENG 101 was offered on high school campuses. Project Advance just celebrated its 40-year anniversary. In 2015, it offered 38 different courses taught both on high school and college campuses ("Our History," 2016).

Since 1972, dual enrollment programs have expanded to every state in the United States. In 2010-2011, 87% of all 2-year and 4-year postsecondary institutions in the United States had high school students taking courses for college credit. That statistic jumps to 99% for public 2-year postsecondary institutions (Marken et al., 2013).

In order for students to be successful at postsecondary institutions, they must be college ready. The theoretical framework for this research study on dual enrollment programs is centered around David Conley's Framework for College Readiness. This framework is discussed in detail in the next section.

Theoretical Framework

Currently, the most common means of determining college readiness are college entrance exams such as the SAT or ACT, grade point averages, or high school courses taken, yet numerous studies have shown that college readiness is a combination of many skills and cannot be based solely on academic knowledge (Conley, 2007; Maruyama, 2012; Mishkind, 2014; Wilson, 2012). Conley (2007) defined college readiness as the level of preparation a student needs to be able to enroll and successfully complete a "credit-bearing general education course at a postsecondary institution that offers a

baccalaureate program" without remediation (p. 21). The definition of preparation varies from state to state. While only 21 states list content, skills, or dispositions students should be able to demonstrate to be college ready, Mishkind (2014) found that those skills fit into five "actionable categories" – academic knowledge, critical-thinking skills, social/emotional learning skills, perseverance, and citizenship (pp. 3-4). Other research studies included other skills in addition to academic knowledge as the basis of college preparedness, including critical thinking skills, motivation, exam preparation, and effective communication skills (Alkhausi et al., 2015; Verrell & McCabe, 2015).

Conley's framework of college readiness. Conley (2007, 2010, 2016) defined four key dimensions of his college and career readiness framework: key cognitive strategies, key content knowledge, key academic behaviors, and key contextual skills and awareness. These key dimensions along with skills needed for each dimension are defined in Table 1.

Table 1

Conley's Dimensions of College Readiness

Dimensions	Basic Skill	Definition	Skills Needed
Key Cognitive Strategies	Think	Patterns of thinking that lead the comprehension of knowledge	Problem formulation, research, interpretation, communication, and precision and accuracy
Key Content Knowledge	Know	Strong foundational knowledge of key academic subjects	Writing, research, English, math, science, social studies and the arts
Key Academic Behaviors	Act	Behaviors in which a student takes ownership of his/her learning	Ownership of learning such as goal setting, persistence, self-awareness and learning techniques such as time management, test taking skills, collaborative learning
Key Contextual Skills and Awareness	Go	Knowledge of the information necessary to understand how college works	Contextual, procedural, financial, cultural, personal

(Conley, 2010).

In the following paragraphs, each key dimension of Conley's framework will be described separately; however, these "four dimensions combine in practice and are not entirely separate constructs" (Conley, 2010, p. 32). Figure 3 represents the way the constructs fit together to create the entire framework.
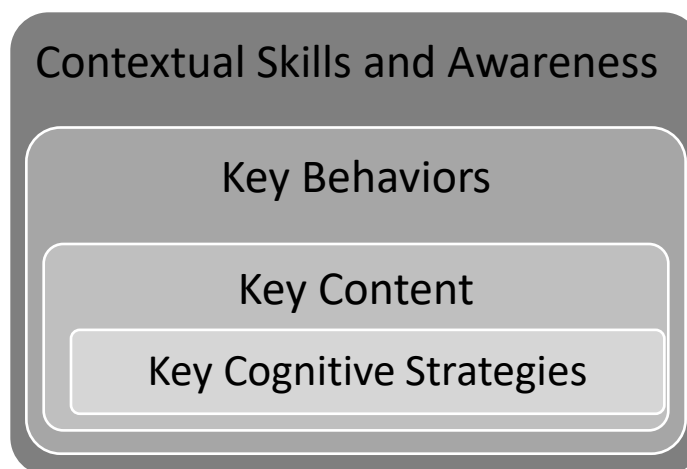
Figure 3. Conley's four dimensions of college and career readiness (adapted from Conley, 2010, p. 32).

Key cognitive strategies. Key cognitive strategies are defined as "patterns of intellectual behavior that lead to the development of cognitive strategies and capabilities necessary for college level work" (Conley, 2007, p. 13). These skills include "formulation, research, interpretation, communication, and precision and accuracy" (Conley, 2016, p. 25). Critical-thinking skills and problem-solving skills are also identified as part of the 21st Century Skills for Learning (Partnership for 21st Century Skills, 2009) and have been emphasized by President Obama in his Race to the Top program for education (U.S. Department of Education, 2016). Lombardi, Kowitt, and Staples (2014) found a correlation with critical-thinking skills and college readiness in students without disabilities but not in students with disabilities. While all four key dimensions of Conley's College Readiness Framework are important, the other three dimensions are grounded in key cognitive strategies ("Our work: The four keys," n.d.).

Key content knowledge. Conley (2016) defined key content knowledge as the skills necessary to comprehend challenging content and understand the overarching themes or ideas of a subject area. Two major academic skills identified as necessary for

college success, independent of subject area, are reading and writing (Conley, 2010); however, a study by Tinberg and Nadeau (2011) investigated whether high school students were prepared for college-level writing assignments. They found that the dual enrollment students lacked "confidence and experience" (p.40). Conley (2010) recognized the need for students to have a basic understanding of the core academic subjects including science, math, English, social studies, world languages, and the arts. In 2016, the percentage of ACT-tested high school graduates who were proficient in English was 61%; in reading, it was 44%; in math, it was 41%; and in science, it was 36% (ACT, 2016).

Key academic behaviors. A third component of Conley's framework for college readiness is learning skills and techniques. This component includes both attitudes and behaviors students must possess in order to be successful in the college environment. College success requires students to spend numerous hours outside of the classroom preparing in order to successfully achieve proficiency in the class. These skills include reading for comprehension, note-taking, time management, communicating with professors and with other students, and participating in study groups. In addition, students must be able to persist, set both short-term and long-term goals, self-motivate, and progress monitor ("Our work: The four keys," n.d.).

Key contextual skills and awareness. The last component addresses the student's understanding of the postsecondary experience, otherwise known as college knowledge. A study by Roderick et al. (2008) tracked 100 Chicago high school students. Only 41% of those students who aspired to attend a postsecondary institution took the steps necessary to attend college the fall after graduation (Roderick et al., 2008). This component includes the skills necessary to successfully apply to a college, including

curriculum, testing, and application requirements. In addition, this dimension also includes contextual skills and the ability to function in the college cultures, norms, and traditions (Conley, 2010). Successful transition to college requires students to gain a basic understanding of contextual, procedural, financial, personal, and cultural aspects of a postsecondary institution ("Our work: The four keys," n.d.; "The four keys in action," 2017).

Cognitive Developmental Theory

Chickering and Havighurst (1981) stated that human development is based on developmental tasks and varies in individuals based on many factors. Chickering and Havighurst noted that "developmental tasks may arise from physical maturation or change; from social roles, pressures, or opportunities; or from aspirations and values of a constantly emerging personality" (p. 26). During the ages of 16-23 years, humans enter the "leaving home phase" (Chickering & Havighurst, 1981, p. 18). Common developmental processes during this period include achieving emotional independence in which they develop sense of self and abandon family and peers, choosing and preparing for a career, preparing for marriage and family, and developing an ethical system (Chickering & Havighurst, 1981).

Piaget's theory. Cognitive development theory focuses on how people think, reason, and make meaning of their experiences (Evans, Forney, & Guido-DiBrito, 1998). Jean Piaget's theory of cognitive development defined four stages: sensorimotor stage (birth to age two); preoperational stage (ages two to seven); concrete operational stage (ages seven to 11); and formal operational stage (adolescence to adulthood; Papalia & Martorell, 2015). Based on Piaget's theory, both dual enrollment and traditional-aged students would be in the same cognitive developmental stage, formal operational stage.

Piaget defined individuals in the formal operational stage as able to think abstractly and deal with hypothetical situations (Papalia & Martorell, 2015).

     Expansions on Piaget. Dual enrollment students and traditional-aged college students would both fit into the adolescent category (ages 11-20). Papalia and Martorell (2015) descibed individuals in this stage as having developed the ability to think abstractly and use scientific reasoning. Papalia and Martorell also stated that the individual might possess "immature thinking," persisting in some attitudes and behaviors (Papalia & Martorell, 2015, p. 7). Developmental changes in cognitive processes include changes in "working memory capacity," increased speed of processing, increase in long-term memory storage, and development of decision-making skills (Papalia & Martorell, 2015, p. 342). At this stage, individuals are focusing on preparing for college and a career.

     Between 20 and 40 years of age, individuals enter into the emerging and young adult stage. During this developmental stage, the thought processing and moral judgment process become more complex. While in this stage, choices of educational and/or career directions are made and executed (Papalia & Martorell, 2015).

     Schaie's theory. Schaie's theory views cognitive development within the context of what motivates cognition throughout the life span. His seven states of cognitive development "shift from acquisition of information and skills (*what I need to know*) to practical integration of knowledge and skills (*how to use what I know*) to a search for meaning and purpose (*why I should know*)" (Papalia & Martorell, 2015, p. 401). High school-aged students are in the acquisitive stage where they acquire information or skills based on their own interests or needs. Toward the end of high school and throughout college, individuals move into the achieving stage, acquiring knowledge in order to

pursue goals such as preparation for a career (Papalia & Martorell, 2015; Schaie & Parr, 1981).

In addition, Schaie and Parr (1981) defined intelligence as the "inference of underlying traits, based on observations in many situations" (p. 119). While intelligence can change, it usually peaks during adolescence. Competence is defined as "situation-specific combination of intellectual traits, which with adequate motivation will permit adaptive behavior" (Schaie & Parr, 1981, p. 119). As an individual ages and is exposed to different situations, he or she gains competence but usually not intelligence.

Application of cognitive developmental theory to dual enrollment. While cognitive developmental theory often includes high school and college-aged students in the same developmental stages, research shows that experience, exposure to different situations, and time can alter the cognitive developmental process (Chickering & Havighurst, 1981; Perry, 1981); therefore, one might expect differences in the experiences of a 15-year-old (high school) and a 20-year-old (college) student, thus proving differences in cognitive development stage and ability. Yet, exposure to experiences such as dual enrollment programs could also accelerate the rate of cognitive development by increasing exposure and life experiences for the dual enrollment student.

NCCCP

While dual enrollment programs exist across the United States, the available programs vary from state to state. Each program has specific processes and procedures determined by the state in which the program is located. In North Carolina, the students who participate in dual enrollment programs are part of the NCCCP program. This program, along with some of its policies and procedures, is discussed in this section.

In 1998, the General Assembly of North Carolina passed the Huskins Bill in order

to provide funds for college courses taught on high school campuses (Huskins Bill Incentives Fund, 1997). In April 2007, Learn and Earn Online (LEO) was established to provide distance-learning opportunities for high school students to earn college credit (Public Schools of North Carolina, 2007). In 2011, North Carolina Governor Beverly Purdue announced the establishment of the CCP program. It incorporated both Huskins and LEO courses.

The goal of the NCCCP program is to provide a structured pathway for high school students in North Carolina to college or a career. The NCCCP program "provide[s] pathways that lead to a certificate, diploma, or degree as well as provide[s] entry level job skills" (North Carolina Community Colleges, 2016, pp. 14-3). NCCCP offers three pathways: College Transfer Pathways (CTP), Career and Technical Pathways (CTE), and Cooperative Innovative High School Programs (CIHSP).

CTP. CTP provides tuition-free, transferable college credit up to 30 hours. This pathway is only open to high school juniors and seniors who have a weighted GPA of 3.0 and have demonstrated college readiness in both math and English. Courses in this pathway can be applied toward completion of an Associate of Arts (Appendix A) or Associate of Sciences (Appendix B) degree (North Carolina Community College System, 2016).

CTE. CTE leads to a postsecondary certificate or diploma that aligns with the CTE high school clusters. Students in Grades 9-12 can participate in this pathway after meeting the eligibility requirements. The certificate or diploma earned in this pathway may be applied toward an Associate of Applied Sciences degree (North Carolina Community College System, 2016).

CIHSP. CIHSP are located on college campuses and allow participating students

to obtain an associate degree or 2 years of college credits in up to 5 years. The early

college high school model is an example of a CIHSP (North Carolina Community

College System, 2016).

Many studies cited the benefit of dual enrollment programs both for the

participating students and for society as a whole. Those benefits are discussed in the next

section.

Benefits of Dual Enrollment

Many states are currently working on developing seamless pathways from high

school to 2-year institutions (known as K-14 concept) and/or to 4-year institutions

(known as K-16 concept) with hopes to enhance student learning in the secondary

institutions, to increase access to postsecondary institutions, and to increase success rates

once entering into postsecondary institutions (Domina & Ruzek, 2012). Although the

idea of K-16 is popular, no state has had successful state-level implementation at this

point (Domina & Ruzek, 2012); however, dual enrollment programs can provide many of

these same benefits. The literature shows that students who participated in dual

enrollment programs experienced benefits both in their secondary and their

postsecondary educational careers. Benefits included increased high school rigor, greater

success and retention in both secondary and postsecondary institutions, increased

secondary curriculum choices, increased access to college, and decreased cost for

postsecondary education (Bailey & Karp, 2003).

Secondary education benefits. Long, Conger, and Iatarola (2012) found high

school rigor was an indicator of student success in college. Dual enrollment programs

increase the options for curriculum choices, particularly during the last 2 years of high

school. By offering college-level courses as part of the extended curriculum choices,

dual enrollment programs increase the high school rigor. In addition, current research has shown that students involved in the dual enrollment program showed an increase in high school graduation rates (Domina & Ruzek, 2012; Hughes et al., 2012).

Alignment between secondary and postsecondary institutions. Michaels et al. (2011) stated that "embedding college readiness indicators in the curriculum and assessment at the secondary level would allow for better alignment of high school exit and college entry standards" (p. 16). This alignment between high school and college curriculum may allow for a smoother transition for the student and lead to a decreased need for remediation upon that student's entry into college. In fact, college students who participated in dual credit courses had significantly higher first academic semester GPAs than non-dual students (Oakley, 2015; Young et al., 2013).

College persistence and completion. Oakley (2015) found that students who participated in dual enrollment programs were over two times more likely to complete associate degrees in 3 years as compared to non-dual enrollment community college students. Other research supported these findings. Both Hughes et al. (2012) and Swanson (2010) reported that students who participated in dual enrollment programs and entered into college right after high school were more likely to persist through the second year of college and were more likely to graduate with a degree than those students who did not participate.

Increased college access. Providing dual enrollment opportunities increases college access, especially for minority students. A study of the dual enrollment program in California found that approximately 60% of students in the dual enrollment program were minorities (Hispanic, Black, or Asian; Hughes et al., 2012). Research by An (2013) found that first generation dual enrollment students had a lower GPA than dual

enrollment students with parents earning a bachelor's degree or higher; however, he also found that the dual enrollment first generation students had a higher GPA than their first generation non-dual enrollment counterparts. In addition, those students had to take fewer remedial courses than the non-dual enrollment students did. Therefore, participation in the dual enrollment program contributed to increased minority student success. Many high school students may not consider college as an option. Exposure to and success in dual enrollment courses help to "demystify college" and increase the chances of those students attending a postsecondary institution (Bailey & Karp, 2003, p. 3).

Decreased college cost. As the cost of postsecondary education continues to rise, dual enrollment programs help to decrease the out-of-pocket cost for many families. The average yearly cost of tuition at a 4-year public institution in 2012 was $7,209 (Ginder & Sykes, 2013). Assuming that an average student takes 15 hours a semester (30 hours a year), each credit hour is approximately $240. In 2011-2012, the average dual enrollment student earned four college credits during his or her high school career (Marken et al, 2013). The result is an average savings of $960 per student.

While there are many documented benefits to the dual enrollment programs cited in the research, there are also some concerns regarding dual enrollment programs. Research addressing those concerns is described in the next section.

Issues with Dual Enrollment

Course rigor. While there are many reported benefits of dual enrollment programs, several issues need to be addressed with dual enrollment. Perhaps the most common concern regarding dual enrollment is questionable course rigor (Bailey & Karp, 2003). In the United States, the majority of all dual enrollment courses taught at the high

school are instructed by high school teachers (Thomas, Marken, Lewis, & Ralph, 2013; Zinth, 2015). It is important to note that this statistic is not true of the NCCCP program, where the majority of dual enrollment courses are taught by college instructors (Zinth, 2015). Thirty-seven of the 50 states have set policies regarding expectations for dual enrollment course content and instructor qualifications. These state policies can range from placing all of the responsibility for course and instructor quality with the postsecondary instititions to policies that "adhere to very specific quality control criteria" (Zinth, 2015, p. 2).

In North Carolina, any high school teacher who teaches CCP courses is hired as an adjunct instructor for the postsecondary insitution. Adjunct instructors are required to have the same qualifications as college instructors, including a master's degree with at least 18 hours of graduate credit in the area of instruction (North Carolina Community College System, 2016; Zinth, 2015). As adjunct instructors, the high school teachers use the same textbooks and syllabi as the courses offered at the college site (Cassidy, Keating, & Young, 2010).

Dual enrollment funding. Cost of dual enrollment courses can include tuition and other expenses such as textbooks, laboratory fees, transportation, and college entrance test fees (Cassidy et al., 2010). Funding is dependent on the state in which the dual enrollment program is located. In the United States, the majority of funding for tuition is left to local decision (a total of 13 states and the District of Columbia) or a variety of other programs (a total of 12 states). Only five states provide state funding for dual enrollment courses. In four states, funding is providing by both local/state government and the student's family. Nine states provide no funding for dual enrollment courses at all, leaving the entire cost of dual enrollment to the family of the student

(Zinth, 2015); however, tuition is not the only cost of dual enrollment courses. A survey

of dual enrollment students by Thomas et al. (2013) found that 45% of students reported

paying full or partial tuition, 46% reported they paid fees only, and 47% reported they

had to pay for books. In North Carolina, the courses are paid for by the state, but the

local educational agencies are required to pay for books and fees (North Carolina

Community College System, 2016).

Granting of college credits. Once a student successfully completes a dual

enrollment course, the transferability of the college credit is dependent on the state in

which the credit was obtained. Dual enrollment students in 25 of the 50 states and the

District of Columbia can earn both high school and postsecondary credit, and 11 states

leave crediting of college course credits to the school districts and/or postsecondary

institutions (Zinth, 2015). Through NCCCP, dual enrollment courses are transferable

through the CAA between the community colleges and public 4-year universities (North

Carolina Community College System, 2016; Zinth, 2015).

Contradictory research. While current research stated many benefits to dual

enrollment programs, some research provided contradictory evidence. Hughes et al.

(2012) showed that participaton in dual enrollment programs had no effect on college

GPAs. In addition, Giani et al. (2014) found that Native American, African-American,

and economically disadvantaged students were less likely to participate in the dual

enrollment program in the state of Texas. A discrepancy in participation in the dual

enrollment program may be a cause for concern in reporting benefits.

Lack of research. Karp and Jeong (2008) stated two major deficiencies:

inconclusive research regarding the effectiveness and the lack of data on dual enrollment

programs as a whole. With a lack of data, it is hard for stakeholders to make decisions

regarding the effectiveness of dual enrollment programs. Karp and Jeong suggested a comprehensive plan in gathering data regarding these programs, citing the following argument:

> First, states and LEAs are devoting significant resources to the spread of dual enrollment programs. It is important to know whether the expenditure of these resources leads to the intended outcomes. Second, stakeholders assume that dual enrollment can address shortcomings in the current educational system; if it does not, then new reforms should be identified and implemented. Third, well-designed evaluations can help improve programs so that they effectively meet their goals. (p. ii)

With this argument in mind, the next section will address the justification of this research study on the effectiveness of the NCCCP program. The research included many studies on dual credit programs and the effects of those programs on its students. While comprehensive studies have been completed on a state-wide level including states such as California, Florida, and Texas, the NCCCP program was not enacted in North Carolina until 2011. Therefore, little information exists for North Carolina regarding this program or the program results for the students served.

Summary

In this chapter, current research was presented on dual enrollment programs and the NCCCP program specifically. From 2002-2015, dual enrollment programs around the country have increased by 75% (Marken et al., 2013). Overall, the research pointed to evidence that dual enrollment programs are an effective strategy for helping students make a better transition to college and persist in learning while enrolled in that college.

While this chapter focused on the research involving dual enrollment that is

available in the current body of literature, the next three chapters will focus on this specific research study. It will investigate the effectiveness of the NCCCP program at one rural community college in North Carolina. Chapter 3 will introduce the proposed research methods including data collection tools and the proposed organization of the data in relation to the research questions.

Chapter 3: Methodology

Introduction

The purpose of this explanatory sequential mixed methods study was to evaluate the NCCCP program with regard to Conley's (2010) Framework for College Readiness. In higher education, many groups are concerned about the lack of college readiness in students enrolled in postsecondary education (Bailey & Karp, 2003). During the 2007-2008 academic year, 20% of all college students were required to participate in some sort of remedial course upon entering their postsecondary institute. That statistic jumped to 24% for community college students (Sparks & Malkus, 2013). While dual enrollment programs such as NCCCP are seen as one of the answers to this gap in readiness of college students, current research does not look in depth at the dilemma of whether or not dual enrollment students are college ready to participate in NCCCP courses. In addition, little information evaluating the NCCCP program, specifically, exists; therefore, this study employed research methods to gather information regarding both deficient areas.

The following sections of this chapter outline the research methods the researcher used to investigate the college readiness of NCCCP students at a rural North Carolina community college. The researcher's rationale for using an explanatory sequential mixed method research study is explained, including the role of the researcher, the research setting, and the study's participants. The methodology used to collect and analyze the data employed to answer the research questions will be described. Last, this chapter will address measures used to ensure the validity and reliability of this research study.

Setting

This research study was conducted at a rural North Carolina community college that provides the NCCCP college transfer program for high school students. In order to

participate in the NCCCP college transfer program, a student must be a junior or senior (eleventh or twelfth grade); have a 3.0 GPA; and be college ready in math, English, and reading based on acceptable scores on placement tests such as PLAN, PSAT, Asset, Compass, Accuplacer, NC DAP, SAT, Pre-ACT, or ACT (North Carolina Community College System, 2015).

Students participating in the NCCCP program at this college were currently from two surrounding counties and enrolled in one of four public high schools, two charter high schools, three private schools, or home school programs. NCCCP students in these two counties were served by a college liaison employed by the community college as well as a liaison employed by the high school who coordinated services such as enrollment, books, and academic support from the high school site.

College employees, including full-time faculty and adjunct faculty, delivered the NCCCP program. During the 2015-2016 academic year, 50% of NCCCP instructors at this college were full-time employees and 50% were adjunct faculty. Of the adjunct faculty, less than 10% were high school teachers who met the criteria to be eligible to teach postsecondary level courses. Based on duplicated headcount (described in Chapter 1), 756 students participated in this community college's NCCCP college transfer pathway program during the 2015-2016 academic year, taking a total of 46 CCP courses (Oxenreider, 2016).

Research Questions

This study evaluated the NCCCP program at a rural North Carolina community college in promoting college readiness for the program participants. These research questions were constructed to align with at least one of the key dimensions of Conley's (2010) Framework of College Readiness. This alignment will be explained in more detail

later in this chapter.

In order to evaluate NCCCP, the researcher investigated four research questions.

1. To what extent does the academic proficiency of NCCCP students differ from non-CCP students as measured by final grades at a rural North Carolina community college? (Quantitative)

   Null hypothesis: There is no significant difference between the academic proficiency of CCP and non-CCP students as measured by final grades at a rural North Carolina community college.

2. To what extent does the academic proficiency of NCCCP students differ from non-CCP students as measured by scores on common assessments at a rural North Carolina community college? (Quantitative)

   Null hypothesis: There is no significant difference in academic proficiency between CCP and non-CCP students as measured by common assessment scores at a rural North Carolina community college.

3. How do students perceive their college readiness after participating in the NCCCP program at a rural North Carolina community college? (Quantitative/Qualitative)

4. How do instructors perceive the college readiness of students who participated in the NCCCP program at a rural North Carolina community college? (Quantitative/Qualitative)

Research Design and Rational

The mixed methods research design was first used in the late 20th century by researchers in the social science field. This method allows the researcher access to both quantitative and qualitative data, providing a "more complete" understanding of the

research questions (Creswell, 2014, p. 218). Traditional quantitative research focuses on deduction, explanation, and standardized data collection and statistical analysis; while traditional qualitative research focuses on induction, discovery, and exploration (Johnson & Onwuegbuzie, 2004). Mixed-methods research allows for the combination of the strengths in both models, while minimizing the disadvantages of using just one individual model. Caruth (2013) concluded that mixed-methods research provides three benefits over solely using either quantitative or qualitative models. She stated that mixed-methods research "produce(s) richer insights" to the research question that can often be "missed by utilizing only one research design"; increases the amount of information, allowing for a "more robust conclusion"; and leads to a greater interest for more research studies in the future because "the researcher is not limited to one research design" (Caruth, 2013, p. 120).

This study used an explanatory sequential mixed methods research design to evaluate the NCCCP program. It used Conley's (2010) Framework for College Readiness in determining and promoting college readiness for the students participating in the program. Explanatory sequential mixed methods research involves two phases. In the first phase, the researcher collects quantitative data, analyzes that data, and then uses that analysis to plan for the second phase. Findings for the first phase will guide the development of the qualitative questions that will be asked of the participants during the second phase. Overall, this type of research design is preferable in order to "have the qualitative data help explain in more detail the quantitative results" (Creswell, 2014, p. 224). This two-phase data collection process of this research study used the analysis of quantitative survey data to determine the questions for the instructor focus group (qualitative data).

In this research study, the quantitative research methods carried more weight than qualitative methods (QUAN ==> Qual); in addition, the theoretical framework during the qualitative analysis of the NCCCP program was subject to interpretation by the researcher using Conley's (2010) College Readiness Framework.

In order to answer the research questions, the quantitative approach utilized two methods of data collection: a perception survey and an analysis of existing statistical data. The qualitative approach consisted of an instructor focus group and was used in conjunction with the analyzed survey results to answer the fourth research question. The data gathered and analyzed from the qualitative research identified emerging themes that were then categorized using the College Readiness Framework. Triangulation of the data from both the quantitative and qualitative research determined the effectiveness of the NCCCP program based on Conley's (2010) Framework of College Readiness.

Research Methodology

Since the student learning objectives and content covered for courses are directed by the course description in the North Carolina Community College System Combined Course Library, the CCP courses and the non-CCP courses should be constructed, delivered, and assessed in the same manner; however, in order to minimize variables affecting this study, the course prefix (i.e., BIO or ENG), number (i.e., 111 or 112), and instructor and delivery mode of instruction were kept the same in the research design when comparing CCP and non-CCP students. For the community college site in this research, there was no institutional grading scale/formula to determine final grades; thus, comparing CCP and non-CCP courses taught by the same instructor using the same instructional delivery mode minimized the effect of different grading scales/formulas that could exist between instructors.

Participant selection. Three separate groups of participants were used in this research study. The first group were college students ages 18-22 years. A survey was sent out electronically to all students meeting this age requirement. This survey measured student perceptions of their college readiness. Responses were then disaggregated into CCP and non-CCP students. All participants were informed that the survey was voluntary and confidential. The researcher did not include any identifying information on the survey so that confidentiality and anonymity was assured. This method also limited ethical concerns and protected participants.

The second group of participants included CCP students who participated in CCP courses during the academic years of 2014-2016. The researcher analyzed existing historical data from the CCP courses that were offered during that time. Final grades from CCP courses were analyzed. Non-CCP students taking courses with the same course prefix, number, instructor, delivery mode, and semester were used as a comparison group. No identifying factors were included with the data in order to ensure confidentiality and anonymity.

The third group of participants involved in this study were full-time faculty of the community college who taught CCP course sections during the 2015-2017 academic years. All faculty in this study taught up to 18 credit hours in their specialty fields and teach at least one CCP course during an academic year. The same survey sent to former CCP students was sent to these instructors in order to assess instructor perceptions of the college readiness of the CCP students, as a whole, in their courses. Only instructors who have taught CCP courses were allowed to participate in this survey. All participants were informed that the survey is voluntary and confidential.

In addition, a small subset of the qualified instructors or CCP liaisons were asked

to serve as part of the instructor focus group to look at discrepancies or similarities between the student and instructor perceptions of college readiness. An invitation was extended to all instructors who had taught CCP courses and members of the CCP liaison group. Instructors were sent an email invitation asking if they were willing to take part in a focus group exploring themes in college readiness that emerged from the quantitative data (Appendix C). The first eight instructors who responded were used for the focus group. The focus group was recorded and transcribed by the researcher; however, no names or identifying factors of participants were included in the transcription to maintain confidentiality and anonymity. In addition, the participants of the focus group signed an informed consent outlining participant rights before participating (Appendix D).

In the next section, the data collection and analysis procedures used to answer the research questions are outlined. In addition, procedures for research participant involvement are outlined.

Instrumentation and Analysis

The data collection instruments used in the research were selected based on the data needed to answer the research questions. This study employed four different types of data collection tools: preexisting statistical data, CCP student perception surveys, CCP instructor perception survey, and an instructor focus group.

Existing statistical analysis. Existing statistical data can be used to determine or describe a relationship between two variables (Butin, 2010). In order to answer Research Questions 1 and 2, the researcher analyzed several pieces of existing statistical data including final course grades and common assessment scores. This secondary data analysis was research question driven where the researcher has a research question and determines the data subset needed to answer the questions (Cheng & Phillips, 2014) .

Research Question 1. The alignment of Research Question 1 with the data collection methods and analysis procedure for Research Question 1 is outlined in Table 2.

Table 2

Alignment of Research Methods with Research Question 1

Research Question	Tools/Instruments	Data collected	Method of Analysis
RQ1. To what extent do CCP students differ from non-CCP students in terms of proficiency as measured by final grades at a rural North Carolina community college?	Preexisting data	Quantitative	Descriptive Statistics using SPSS software; hypothesis testing; t-test
a. Final Grades in ACA 122, ART 111, BIO 111, ENG 111, HIS 111, MAT 152, MUS 110, PSY 150, SOC 210	Preexisting data	Quantitative	Descriptive Statistics using SPSS software; hypothesis testing; t-test

As shown in Table 2, this research study used one type of data collection tool, the analysis of existing statistical data, to answer Research Question 1. The details of the use of this collection tool are discussed in detail in the following paragraphs.

Data collection. In order to answer Research Question 1, the proficiency rates were examined by final course grades in determined CCP courses and compared to the same factors in comparable non-CCP courses. The courses and the number of student final grades used in each course can be found in Table 3.

Table 3

Course Used for Final Grades Data Collection

Course	Semester	# of CCP students used	# of non-CCP students used
ACA 122	Fall 2014	9	9
	Spring 2015	15	15
ART 111	Spring 2014	17	17
	Fall 2014	16	16
	Spring 2015	15	15
	Fall 2015	14	14
	Spring 2016	15	15
	Fall 2016	23	23
BIO 111	Fall 2015	16	16
COM 231	Spring 2014	15	15
	Fall 2014	15	15
	Spring 2015	15	15
	Fall 2015	15	15
	Spring 2016	22	22
ENG 111	Fall 2016	17	17
HIS 111	Fall 2014	8	8
	Spring 2015	12	12
	Fall 2015	16	16
	Spring 2016	13	13
	Fall 2016	14	14
MAT 152	Spring 2016	12	12
MUS 110	Spring 2015	13	13
	Fall 2015	15	15
	Spring 2016	19	19
PHI 240	Spring 2015	15	15
PSY 150	Spring 2015	15	15
	Spring 2016	20	20
SOC 210	Spring 2015	17	17
	Fall 2015	15	15
	TOTAL	443	443

As shown in Table 3, students were selected from nine different courses (27 total) that were taught in the years 2014-2016 at this site. These courses were selected because the same instructor taught a CCP section and a non-CCP section of the courses using the same delivery method (internet) during the semester. The researcher collected this raw data using Datatel, the college data system. The Datatel reports were compiled by the departmental secretary, providing final letter grades for randomly selected students from each CCP and non-CCP courses with the same class prefix, number, and instructor. In order to protect confidentiality, no student identifiers were included in this data (Butin,

2010; Creswell, 2014; Fitzpatrick, Sanders, & Worthen, 2011).

Data analysis. Frequency statistical analysis using SPSS included measures of central tendency (mean, mode, and median) and measure of variances (range and standard deviation). Hypothesis testing was used to compare the two populations' proportions. A *t* test was used to provide comparison of the CCP and non-CCP student data by SPSS (Butin, 2010; Laerd Statistics, 2015).

Research Question 2. The alignment of Research Question 2 with the data collection methods and analysis procedure for Research Question 2 is outlined in Table 4.

Table 4

Alignment of Research Methods with Research Question 2

Research Question	Tools/Instruments	Data collected	Method of Analysis
RQ2. To what extent do CCP students differ from non-CCP students in terms of proficiency as measured by common assessment scores at a rural North Carolina community college?	Preexisting data	Quantitative	Descriptive Statistics using SPSS software; hypothesis testing; t-test
b. Common Assessments in MAT 143, MAT 152	Preexisting data	Quantitative	Descriptive Statistics using SPSS software; t-test

As shown in Table 4, this research study used one type of data collection tool, the analysis of existing statistical data, to answer this research question. The details of the use of this collection tool are discussed in detail in the following paragraphs.

Data collection. In order to answer Research Question 2, the proficiency rates were determined by common assessment scores of CCP students compared to non-CCP students.

In order to track general education competencies at this college, a common assessment has been created for General Education Core math courses, MAT 143:

Quantitative Literacy and MAT 152: Statistical Methods I. While these courses were

selected based on the common assessment, the two course designs are quite different.

MAT 143 is designed using group labs where students explore the content together

"through project- and activity-based assessment," while students in MAT 152 work

independently using "a project based approach" ("Common course catalog," 2008).

This common assessment was given to all sections of these courses; therefore, the

scores for the CCP course sections of MAT 143 and MAT 152 common assessments

were compared to common assessments of non-CCP courses of the same prefix and

number. The math department chair provided assessment score data for each common

assessment for general education mathematics courses. In order to protect

confidentiality, no student identifiers were included in these data (Butin, 2010; Creswell,

2014; Fitzpatrick et al., 2011).

Data analysis. Frequency statistical analysis using SPSS included measures of

central tendency (mean, mode, and median) and measure of variance (range and standard

deviation). A Z test was used to provide comparison of the CCP and non-CCP student

data by SPSS (Butin, 2010; Laerd Statistics, 2015). Butin (2010) stated that there is a

critical need for disaggregation of the data when analyzing exisiting statistical data;

therefore, this data was disaggregated into CCP versus non-CCP sections.

The alignment of Research Questions 3 and 4 with the data collection methods

and analysis procedure is outlined in Table 5.

Table 5

Alignment of Research Methods with Research Questions 3 and 4

Research Question	Tools/Instruments	Data collected	Method of Analysis
RQ3. How do students perceive their college readiness after participating in the CCP program at a rural North Carolina community college?	Perception Survey Quantitative	Quantitative	Descriptive Statistics using SPSS software; Independent T-test
a. Key Cognitive Strategies	Survey Items 1, 8, 9, 15, 18, 24, 26, 32, 36	Quantitative	Descriptive Statistics using SPSS software; Independent *t* test
b. Key Content Knowledge	Survey Items 2, 6, 10, 13, 17, 22, 25, 30, 33	Quantitative	Descriptive Statistics using SPSS software; Independent *t* test
c. Key Academic Behaviors	Survey Items 3, 5, 12, 14, 19, 23, 28, 31, 34	Quantitative	Descriptive Statistics using SPSS software; Independent *t* test
d. Key Contextual Skills and Awareness	Survey Items 4, 7, 11, 16, 20, 21, 27, 29, 35	Quantitative	Descriptive Statistics using SPSS software; Independent *t* test
	Survey Item 37	Qualitative	Descriptive analysis of themes. The themes will then be classified into Conley's (2010) four keys to college success.
RQ4. How do instructors at a rural North Carolina Community College perceive the college readiness of students who participated in the CCP program?	Perception Survey Quantitative	Quantitative	Descriptive Statistics using SPSS software; Independent *t* test
e. Key Cognitive Strategies	Survey Items 1, 8, 9, 15, 18, 24, 26, 32, 36	Quantitative	Descriptive Statistics using SPSS software; Independent *t* test
f. Key Content Knowledge	Survey Items 2, 6, 10, 13, 17, 22, 25, 30, 33	Quantitative	Descriptive Statistics using SPSS software; Independent *t* test
g. Key Academic Behaviors	Survey Items 3, 5, 12, 14, 19, 23, 28, 31, 34	Quantitative	Descriptive Statistics using SPSS software; Independent *t* test

(continued)

Research Question	Tools/Instruments	Data collected	Method of Analysis
h. Key Contextual Skills and Awareness	Survey Items 4, 7, 11, 16, 20, 21, 27, 29, 35	Quantitative	Descriptive Statistics using SPSS software; Independent *t* test
	Survey Item 37	Qualitative	Descriptive analysis of themes. The themes will then be classified into Conley's (2010) four keys to college success.
	Focus Group	Qualitative – Will be developed after analysis of survey data	Recording is transcribed and data will be coded for emerging themes. Descriptive analysis of themes. The themes will then be classified into Conley's (2010) four keys to college success.

As shown in Table 5, this research study used two data collection tools: perception survey and focus group in order to answer Research Questions 3 and 4; in addition, the perception survey results were used to develop the questions for the focus group. The details of the use of these collection tools are discussed in detail in the following paragraphs.

Perception surveys. A survey of research participants is a common tool in social science research because of its ease to create, collect, and analyze (Butin, 2010). In this study, an email containing a link to a perception survey consisting of 36 quantitative items and one qualitative item was sent to all college students ages 18-22 and to instructors teaching CCP courses for the community college (Appendices E and F). On the student perception survey, student answers to survey question 39 on the student college readiness survey allowed for disaggregation of CCP from non-CCP students. In accordance with best practice, invitees had the option to participate in or to opt out of the survey (Thayer-Hart, Dykema, Elver, Schaeffer, & Stevenson, 2010). Online surveys have many advantages including quick turnaround time, low cost, convenience of

administration, and simplicity of participant use (Sue & Ritter, 2007). The survey was constructed using SurveyMonkey; and no identifying information was recorded, ensuring confidentiality and anonymity.

Survey development. The student and instructor perception surveys (Appendices G and H) were developed using Conley's (2010) Key Dimensions of College Success and aligned applications of Conley's framework by the Educational Policy Improvement Center and the Center of Excellence for College and Career Readiness (Educational Policy Improvement Center, 2015; "The four keys in action," 2017). In an email conversation, Dr. Conley suggested using his checklist for college readiness (Conley, 2005) as the framework for the items in the student and instructor perception survey (Appendix I). Survey items 1, 2, 6, 8, 9, 10, 13, 14, 15, 17, 18, 19, 22, 24, 26, 32, and 36 were taken (with permission) from Conley's (2005) checklist for college readiness. Survey items 3, 4, 5, 7, 11, 12, 16, 20, 21, 23, 25, 27, 28, 29, 30, 31, 33, 34, and 35 were constructed by the researcher using Conley's Key Dimensions of College Success and input from professionals in academic advising, student services, financial aid, and faculty members at the college site. More details on the survey development and alignment can be found in the Survey Tool Alignment Matrix (Appendix J).

Within the surveys, each of Conley's Key Dimensions of College Success is addressed with five different statements. Conley's (2010) Four Keys for College Success are dispersed throughout the survey instead of grouped. This survey construct increases reliability because it allows repeat measurements of the same value (Thayer-Hart et al., 2010) while decreasing the response bias by decreasing "artificially consistent responses" (Peer & Gamleil, 2011, p. 2).

The survey responses are based on a four-point Likert scale based on the

following criteria: new knowledge, competency, developing, and mastery. This Likert scale allowed for analysis of student perceptions that could be converted to measurements on a metric scale (Uebersax, 2006).

The final open-ended item is "Other information I would like to share about CCP Program and college readiness is as follows." The purpose of the final open-ended item was to provide the respondent the opportunity to communicate to the researcher any pertinent information and further establish validity.

Data collection. Individual responses to the student and instructor perception surveys were collected using SurveyMonkey. This program was used to arrange survey responses for survey items 1-36 into table format. The comments for survey item 37 were compiled into a single list.

Data analysis. Items 1-36 of the perception survey are quantitative. Frequency statistical analysis using SPSS included measures of central tendency (mean, mode, and median) and measure of variance (range and standard deviation; Laerd Statistics, 2015; Urdan, 2010). Using SPSS, an independent *t* test was used to provide comparison of past CCP students to non-CCP perceptions and of past CCP students to CCP instructor perceptions (Laerd Statistics, 2015; Urdan, 2010).

The final survey item yielded qualitative data and was coded for themes relevant to Conley's (2010) Four Keys to College Readiness. Descriptive analysis using SPSS of the Four Keys was presented in table format.

Focus group. Focus groups can be used to gather information concerning participant perception on a topic (Creswell, 2014; Litosseliti, 2003). A focus group with instructors who teach sections of CCP courses and the CCP college liaison was conducted by the Distance Learning Coordinator of the rural North Carolina community

college, who was chosen based on her prior experience in facilitating focus groups. The researcher was considered a "moderate participant" where she was present and identified as the researcher but did not actively participate in the focus group, thus allowing the researcher to maintain objectivity (Owen, 2014, p. 3). The researcher took notes on the behaviors of the "participants' para-linguistic behaviors" such as gestures, laughs, and postures (Litosseliti, 2003, p. 69). These notes were used to aid in the analysis of the transcription of the taped discussion.

The purpose of the focus group was to address instructor perceptions of initial college readiness of students participating in CCP courses as well as the effectiveness of the CCP courses in increasing college readiness. The questions for the focus group were fully developed by the researcher based on the analysis of the survey results from the CCP students and faculty perception survey.

Data collection. The key to focus groups is developing effective open-ended questions that will gather the answers to the research questions (Butin, 2010, Creswell, 2014). Litosseliti (2003) suggested developing focus group questions that are neutral, clear, focused, and probing. A topic guide was developed and includes opening, introductory, key, transition, and ending questions (Appendix K). This format starts with questions that will develop trust and comfort between the participants and the facilitator before moving to key content questions (Greenbaum, 2000; Litosseliti, 2003). The topic guide, constructed with open ended questions, was used to guide the session, helping to ensure a smooth process for the participants and improve the data collection process. Focus group participants were provided the consent form prior to starting the session. The focus group session was recorded and then transcribed by the researcher.

Data analysis. The researcher read the transcript and looked for themes. Then

the transcript was read a second time and coded for themes (Creswell, 2014). Those

themes were categorized to Conley's (2010) Four Key Dimensions of College Readiness.

Descriptive analysis of the themes was provided regarding the four keys to college

readiness.

The last section of this chapter discusses the procedure and process that were

employed to assure the reliability and validity of this research including threats to validity

as well as a more detailed description of the researcher's role.

Reliability and Validity

In order to maintain credibility of the research, the researcher employed several

methods to check for validity and reliability of the results. In order to maintain validity

of the research project, the research employed three strategies. First, the researcher

triangulated the data sources by using the multiple data collection methods to justify the

development of the themes (Creswell, 2014). In addition, a final report of the focus

group including themes and major findings was sent to the participants of the focus group

for feedback. This process, known as member checking, determines if the participants

feel that the report is accurate (Creswell, 2014). Finally, peer debriefing was used to

"enhance the accuracy of the account" (Creswell, 2014, p. 202). When using qualitative

research methods, researchers could use an "impartial colleague [familiar with qualitative

research methods] in order to critically review the implementation and evolution of their

research methods," thus providing "feedback concerning the accuracy and completeness

of the researcher's data collection and data analysis procedures" (Spilliett, 2003, p. 36).

Peer debriefing adds validity by resulting in an interpretation of the research that involves

other perspectives beyond the researcher's assessments. The researcher chose a

colleague who is familiar with qualitative data collection to serve in this role.

In order to ensure the reliability of the results, the researcher checked the data collected for accuracy. Each researcher approaches his/her research from a different perspective. As a result, each researcher could come to a different yet equally valid conclusion (Creswell, 2014). In order to minimize this effect, another doctoral student familiar with the coding process crosschecked the coding of the data as well as the independent, developed themes. This process increases reliability of the results to ensure that the researcher remains objective, or reflexive, in analysis of the qualitative data.

Threats to Validity

There are some limitations to this explanatory sequential research that explored the effectiveness of the NCCCP program at this rural North Carolina community college. Threats to external validity including the limited number of participants and the demographic (sex, race, religion) and academic characteristics (preparedness, achievement level) of these CCP students are specific to this rural setting. While these threats could not be eliminated, research from current literature can be used to support the research findings.

The researcher focused on the selection of research participants to address threats to internal validity. Since convenience selection was used to gather participants for this research, it was possible that participants could have "certain characteristics that predispose them to have certain outcomes" (Creswell, 2014, p. 175). To minimize this threat, the researcher used CCP and non-CCP courses that were taught during the same academic year (convenience sampling) but randomly selected a subset from each course and then pooled those randomly selected participants into a larger pool of participant groups in order to minimize the effect of convenience sampling.

Role of the Researcher

In this study, the researcher served in the role of observer participant. The researcher was an employee of the community college where the researcher also taught a section of a general biology CCP course during the fall and spring semesters. As a CCP instructor, her course data were included in the existing statistical data used to answer Research Questions 1 and 2 addressing CCP student academic proficiency as compared to non-CCP students; however, the researcher acted as an observer researcher in the gathering of data through the perception survey as well as in the follow-up qualitative analysis provided by the instructor focus group.

As an employee of the college, the researcher was familiar with many of the college employees who are involved in the CCP courses. In addition, it was possible that the researcher had taught some of the current and past CCP students participating in this study. Therefore, throughout this study, the data collection was conducted using no identifying information of the participants to minimize researcher bias or the effect of those relationships. In addition, a non-college employee validated the data in order to reduce the researcher bias.

Summary

Chapter 3 provided the overall strategies regarding the methodology involved in conducting a study to evaluate the effectiveness of the NCCCP program at a rural community college with regard to college readiness. A detailed description of this explanatory sequential mixed method evaluative study including participants, methodology, and ethical consideration was discussed. Chapter 4 will include a comprehensive explanation of the results obtained from this research design including data results, data analysis, and justification. Chapter 5 will present findings, identify

implications, and propose recommendations as a result of the data analysis.

Chapter 4: Results

Introduction

The purpose of this two-phased, explanatory sequential mixed method research was to investigate the effectiveness of the CCP program at a rural western North Carolina community college in increasing the college readiness of its participants. In 2015, 31,370 high school students participated in the NCCCP program (B. Schneider, personal communication, January 13, 2017). With the drastic increase in students participating in the NCCCP program, it is important to investigate the effectiveness of that program; therefore, this study investigated the success in terms of proficiency and perception of college readiness of those students participating in the NCCCP program at this research site.

Research Questions

To evaluate the NCCCP program, the researcher investigated four research questions.

1. To what extent does the academic proficiency of NCCCP students differ from non-CCP students as measured by final grades at a rural North Carolina community college? (Quantitative)

    Null hypothesis: There is no significant difference between the academic proficiency of CCP and non-CCP students as measured by final grades at a rural North Carolina community college.

2. To what extent does the academic proficiency of NCCCP students differ from non-CCP students as measured by scores on common assessments at a rural North Carolina community college? (Quantitative)

    Null hypothesis: There is no significant difference in academic proficiency

between CCP and non-CCP students as measured by common assessment

scores at a rural North Carolina community college.

3. How do students perceive their college readiness after participating in the

NCCCP program at a rural North Carolina community college?

(Quantitative/Qualitative)

4. How do instructors perceive the college readiness of students who participated

in the NCCCP program at a rural North Carolina community college?

(Quantitative/Qualitative)

Organization of this Chapter

In this chapter, the findings from the data collection and analysis processes

outlined in Chapter 3 are described in detail. The following paragraphs are organized by

data types used to answer each research question. The collection processes are described,

and the findings of the analysis for that data type are explained.

Existing Statistical Data

Final course grades. To determine the extent of differences in proficiency of

CCP students compared to non-CCP students (Research Question 1), final course grades

were collected and analyzed.

Data collection. The final grades from CCP courses and non-CCP courses were

compiled from the college data system by the departmental secretary. Those grades were

presented in table format. Final grades from CCP courses (n=443) and non-CCP courses

(n=443) were randomly selected from each course based on the predetermined numbers

by the researcher (Table 3). An overview of the grade distribution of the two groups was

recorded in table format and is displayed in Table 6.

Table 6

Final Course Grades from Selected Courses

Student	N	Grades						Success*
		A	B	C	D	F	W	
CCP	443	239	80	39	20	37	28	81%
Non-CCP	443	172	107	58	16	47	43	77%

Note. *Success is defined as the percentage of students who scored an A, B, or C for the final course grade.

As shown in Table 6, the majority of the students in both CCP and non-CCP were successful in the courses selected.

Data analysis. The final grade data were analyzed using the statistical program SPSS. Each data set was entered into SPSS by importing the excel files into the SPSS databases. Descriptive statistics were analyzed for each data set using SPSS to determine the normality and homogeneity of variance for each data set. Then, the statistical test, independent samples *t* test, was run to determine if significance existed between the groups. In order to ensure validity, the data sets were reentered into SPSS and reanalyzed. This procedure for data analysis was repeated for each data set analyzed in this research study.

The final grades were coded for data analysis with regard to GPA points. The withdrawals (W) do not compute into the GPA; so while they were included in the success calculations, they were not included in the rest of the statistical analysis. The coding for final grades is shown in Table 7.

Table 7

Final Course Grades Coding

Dual Enrollment Status	Grade
1 = CCP	4 = A
2= non-CCP	3 = B
	2 = C
	1 = D
	0 = F
	No code = W

There were 443 CCP students and 443 non-CCP students. In order to determine if there was a significant difference in the success rate of CCP versus non-CCP students, a hypothesis testing to compare the two populations' proportions was completed. This statistical test showed that, although not at a statistically significant level, the CCP students did score higher ($z = 1.72$, $p = .09$) than non-CCP students with regard to success in their college courses.

An independent *t* test was run to determine if there were differences in final course grades between CCP and non-CCP students. The final number of student grades included in this analysis is different due to the number of withdrawals from the courses. The descriptive statistics for the final course grades can be found in Table 8.

Table 8

Descriptive Statistics for Final Course Grades

Students	N	M	SD	SEM
CCP	415	3.11	1.29	.06
Non-CCP	400	2.85	1.33	.07

The final course grade descriptive data distribution is shown as a box plot in Figure 4. This figure shows a box plot displaying the distribution of data based on the five-number summary (minimum, first quartile, median, third quartile, and maximum) of

the CCP and non-CCP student final course grades from selected courses. This box plot

also displays outliers in the data.
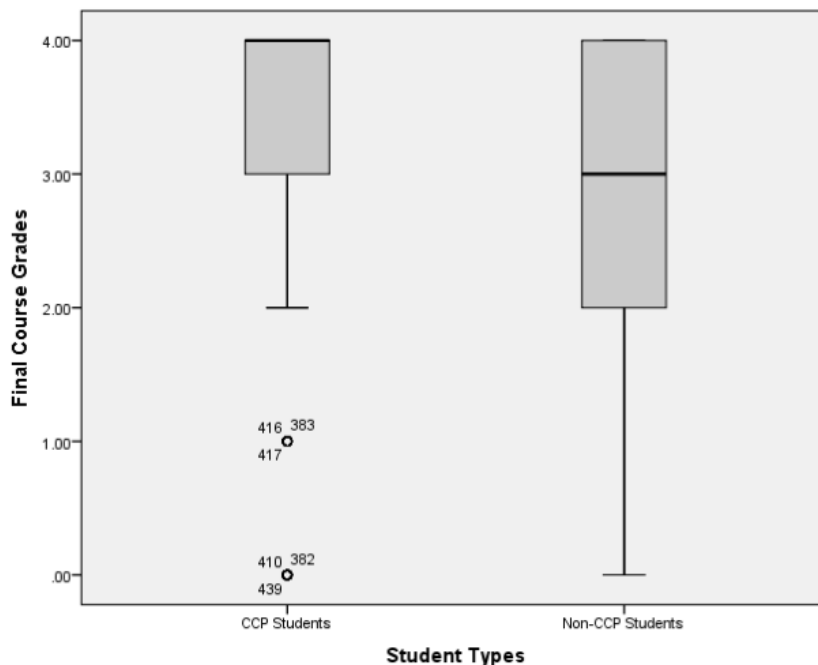
Figure 4. Final Course Grades.

An independent *t* test was run to determine if there were differences in final

course grades between CCP and non-CCP students. Those results are shown in Table 9.

Table 9

Final Course Grades Independent t Test

	Levene's Test for Equality of Variance		*t* test for Equality of Means				95% CI	
	F	p	t	df	p	MD	LL	UL
Equal Variance Not Assumed	.81	.37	2.90	813	.004	.27	.09	.45

Although there were outliers in the CCP data, as assessed by the box plot, the

researcher did not exclude any score in the final analysis. The researcher did review the

data to eliminate the possibility of data entry errors. Then, the researcher removed the outliers and statistically analyzed the data. No difference in statistical significance existed between the data set with outliers and the data set without outliers, so the researcher did not exclude any data points. Final course grades for each level of student were normally distributed as assessed by Normal Q-Q plot of distribution, and there was homogeneity of variance as assessed by Levene's test for equality of variances (p= .37). The final grades were higher for CCP students ($M = 3.11$, $SD = 1.29$) than for non-CCP students ($M = 2.85$, $SD = 1.33$), a statistically significant difference, M= .27, 95% CI [.09 to 0.45], t(816)= 2.90, p = 0.004, d=0.20 (Laerd Statistics, 2015). The null hypothesis was rejected, and an alternative hypothesis was accepted.

Common assessment scores. In order to assess the difference in proficiency between CCP students and non-CCP students (Research Question 2), common assessment scores from general education math courses (MAT 143: Quantitative Literacy and 152: Statistical Methods I) were compiled and analyzed. The common assessment scores were coded into SPSS as shown in Table 10.

Table 10

Common Assessment Scores Coding

Dual Enrollment Status	Grades	Courses
1 = CCP	Numeric 0-100	1 = MAT 143
2= non-CCP		2 = MAT 152

Data collection. The math department chair for the college compiled common assessment scores from general education math courses, MAT 143 (n=63) and MAT 152 (n=55), from 2015-2016 semesters. The data were presented to the researcher in Microsoft Excel format.

Data analysis. The data for each common assessment (MAT 143 and MAT 152)

were analyzed separately. The results are recorded in the next section.

   MAT 143 common assessment scores. The MAT 143 common assessment data

were analyzed using the statistical program SPSS. There were 30 CCP students and 33

non-CCP students. The descriptive statistics for the MAT 143 common assessment

scores can be found in Table 11.

Table 11

Descriptive Statistics for MAT 143 Common Assessment Scores

Students	N	M	SD	SEM
CCP	30	62.23	16.80	3.07
Non-CCP	33	64.75	15.84	2.76

   The analysis of the descriptive statistics of the MAT 143 common assessment

data was graphed and shown in Figure 5. This figure shows a box plot displaying the

distribution of data based on the five-number summary (minimum, first quartile, median,

third quartile, and maximum) of the CCP and non-CCP student MAT 143 common

assessment scores. This box plot also displays outliers in the data.
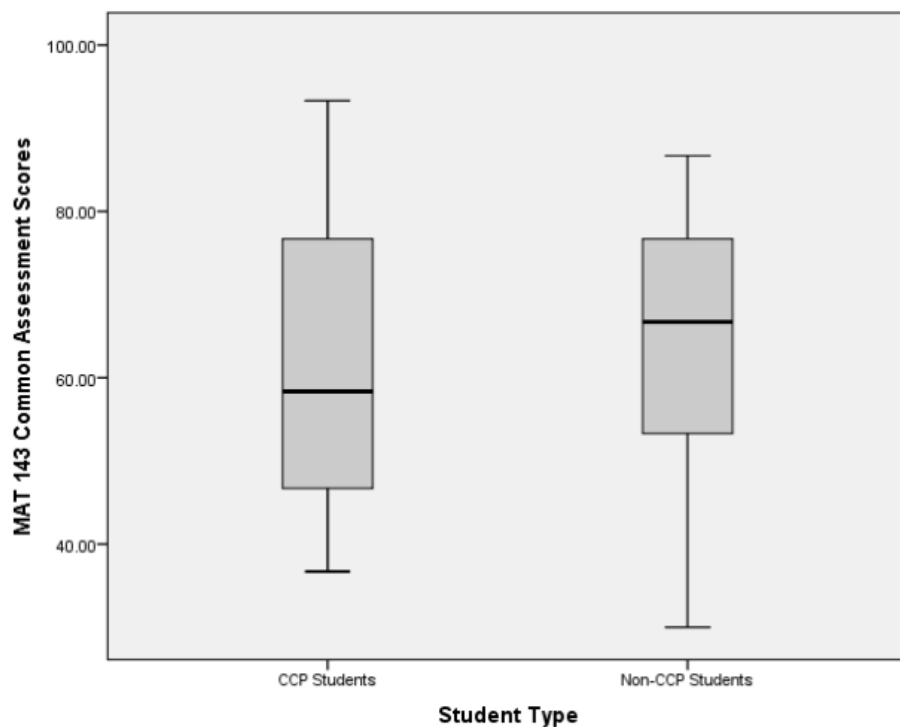
Figure 5. MAT 143 Common Assessment Scores.

An independent *t* test was run to determine if there was a difference in MAT 143 common assessment scores between CCP and non-CCP students. Those results are shown in Table 12.

Table 12

MAT 143 Common Assessment Scores Independent t Test

	Levene's Test for Equality of Variance		t-test for Equality of Means					
							95% CI	
	F	p	t	df	P	MD	LL	UL
Equal Variance Assumed	.40	.53	-.61	61	.54	-2.52	-10.74	5.70

There were no outliers in the data as assessed by inspection of a box plot. MAT 143 common assessment scores for each level of student were normally distributed as assessed by Shapiro-Wilk test (p>.05), and there was homogeneity of variance as

assessed by Levene's test for equality of variances (p= .53). The MAT 143 common

assessment scores were slightly lower for CCP students (M = 62.23, SD 16.80) than for

non-CCP students (M = 64.75, SD = 15.84), not a statistically significant difference, M=

-2.52, 95% CI [-10.74 to 5.70], t(61)= -.61, p = .54, d=0.15 (Laerd Statistics, 2015). The

null hypothesis was accepted.

MAT 152 common assessment scores. The MAT 152 common assessment data

were analyzed using the statistical program SPSS. There were 23 CCP students and 32

non-CCP students. The descriptive statistics for the MAT 152 common assessment

scores can be found in Table 13.

Table 13

Descriptive Statistics for MAT 152 Common Assessment Scores

Students	N	M	SD	SEM
CCP	23	63.48	21.95	4.58
Non-CCP	32	49.00	20.52	3.63

The analysis of the descriptive statistics of the MAT 152 common assessment

data was graphed and shown in Figure 6. This figure shows a box plot displaying the

distribution of data based on the five-number summary (minimum, first quartile, median,

third quartile, and maximum) of the CCP and non-CCP student MAT 152 common

assessment scores. This box plot also displays outliers in the data.
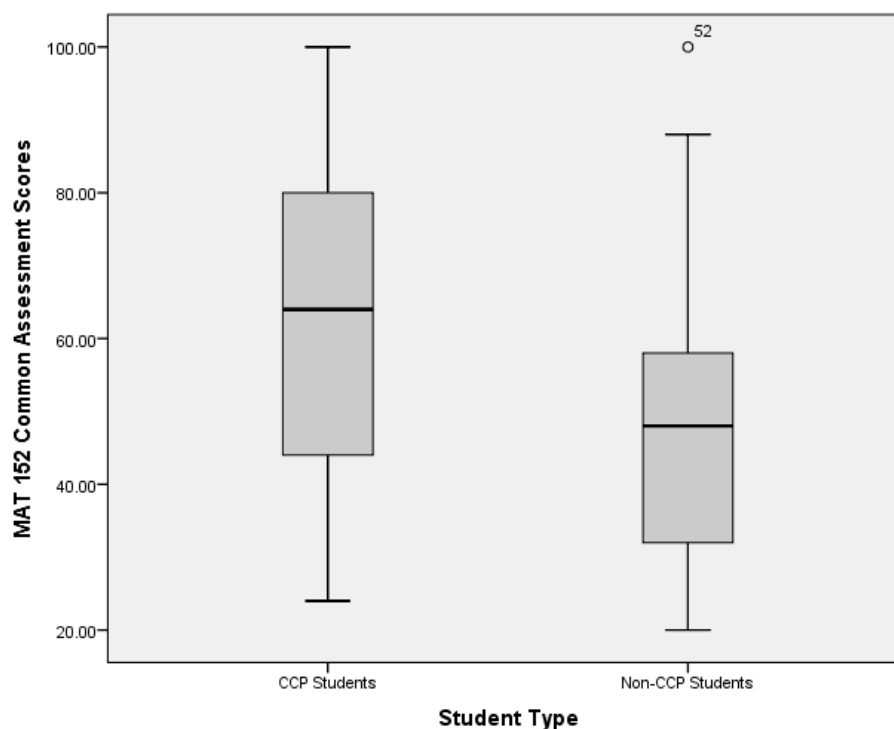
Figure 6. MAT 152 Common Assessment Scores.

An independent *t* test was run to determine if there were differences in MAT 152 common assessment scores between CCP and non-CCP students. Those results are shown in Table 14.

Table 14

MAT 152 Common Assessment Scores Independent t Test

	Levene's Test for Equality of Variance		t-test for Equality of Means				95% CI	
	F	p	t	df	p	MD	LL	UL
Equal Variance Assumed	.71	.40	2.51	53	.02	14.48	2.89	26.06

Although there was an outlier in the non-CCP data as assessed by the box plot, the researcher did not exclude any score in the final analysis. The researcher did review the data to eliminate the possibility of data entry error. Then, the researcher removed the

outlier and statistically analyzed the data. There was no difference in statistical significance between data sets with the outlier and without the outlier, so the researcher did not exclude any data points. MAT 152 common assessment scores for both groups were normally distributed as assessed by Shapiro-Wilk test (p>.05), and there was homogeneity of variance as assessed by Levene's test for equality of variances (p= .40). The MAT 152 common assessment scores were higher for CCP students (M = 63.48, SD = 21.95) than for non-CCP students (M = 49.00, SD = 20.52), a statistically significant difference, M= 14.48, 95% CI [2.89 to 26.06], t(53)= 2.51, p = .02, d=0.68 (Laerd Statistics, 2015). The null hypothesis was rejected and an alternative hypothesis was accepted.

Perception Surveys

Student college readiness survey. Students aged 18-22 from the community college site were asked to participate in a perception survey indicating their level of college readiness based on Conley's (2010) four keys of college readiness (Research Question 3).

Pilot test. Three college students were asked to field test the student survey. In order to ensure the validity of the survey tool, this research used respondent debriefings where each person completed the survey and then responded to the researcher with feedback (Thomas, 2004). The participants were asked to consider four areas regarding the survey – understandability of the stems, adequateness of the scale, assurance that each question only had one response, and assurance that there were no loaded questions (Rogers, n.d.). The students did not provide many recommendations. Table 15 shows the feedback and recommendations from the field test participants for the student college readiness survey.

Table 15

Feedback and Recommendations from Student Field Test

Reviewer	Feedback and Recommendations
#1	• Questions were clear.
#2	• I understood what the survey was asking.
#3	• The survey was a little long, but I liked the progress bar at the bottom.

As a result of the student pilot test, no changes were made to the student college readiness survey; however, there were changes made to this survey in response to the instructor college readiness survey. These changes will be discussed in a later section.

Data collection. An email containing the SurveyMonkey link for the student college readiness survey was sent to all students aged 18-22 at the college (n=914). Follow-up emails were sent after 7, 14, and 21 days, thanking those who had already participated in the survey and encouraging those who had not to participate in the survey. After 3 weeks, the survey link was closed and the responses (n=40) were organized using SurveyMonkey. Demographics for participants of the college readiness survey are shown in Table 16.

Table 16

Demographics of Student Perception College Readiness Survey

Student	N	Sex		First Time College Student
		Male	Female	
CCP	27	22%	78%	77%
Non-CCP	13	23%	77%	38%

As shown in Table 16, most of the participants in both the CCP and non-CCP group reported being female. The reporting CCP student respondents included more first-time college students (77%) than the non-CCP students (38%). The student college readiness survey results were coded as shown in Table 17.

Table 17

Student Survey Coding

Alignment to Conley's College Readiness			
Four Key	Questions	Participants	Responses
1 = Key Cognitive Strategies	1,8,9,15,18,24,26,32,36	1 = CCP 2 = NonCCP	4 = Mastery 3 = Competence
2 = Key Content Knowledge	2,6,10,13,17,22,25,30,33		2 = Developing 1 – New Knowledge
3 = Key Academic Behaviors	3,5,12,14,19,23,28,31,34		
4 = Key Contextual Skills	4,7,11,16,20,21,27,29,35		

For each participant, the data from total responses from the college readiness survey were averaged. In addition, the participant responses from the nine questions for each of the Keys of College Readiness were averaged. The participant averages were compiled using Microsoft Excel. The CCP student responses to the college readiness survey were compared to the non-CCP student responses.

Data analysis. Even though the number of participant responses (n=40) does not reach the 10% population respondent number suggested by Creswell (2014), obtained data were analyzed using the statistical program SPSS with the understanding that it may not accurately describe the student population (age 18-22) at the research site. The descriptive statistics for the student perception college readiness survey can be found in Table 18.

Table 18

Descriptive Statistics for Student Perception College Readiness Survey

Students	N	M	SD	SEM
CCP	27	3.27	.45	.09
Non-CCP	13	3.31	.58	.16

The analysis of the descriptive statistics of the student perception college readiness survey data was graphed and shown in Figure 7. This figure shows a box plot displaying the distribution of data based on the five-number summary (minimum, first quartile, median, third quartile, and maximum) of CCP and non-CCP student overall average responses to the perception college readiness survey. This box plot also displays outliers in the data.
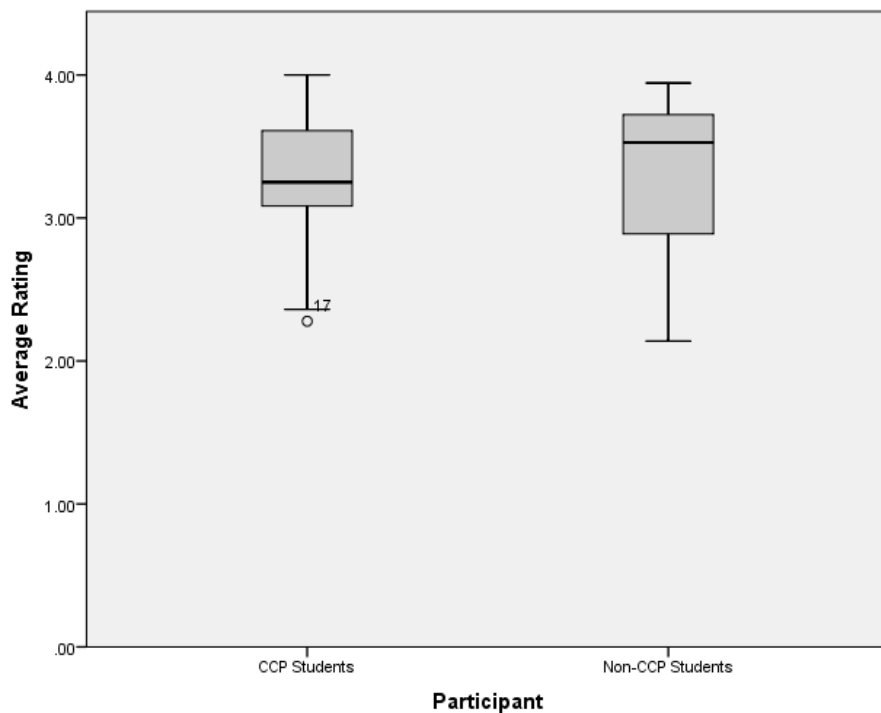
Figure 7. Student Perception College Readiness Survey.

An independent *t* test was run to determine if there were differences in the student perception college readiness survey questions ratings between CCP and non-CCP students. Those results are shown in Table 19.

Table 19

Student Perception College Readiness Survey Independent t Test

| | Levene's Test for Equality of Variance | | t-test for Equality of Means | | | | | |
	F	p	t	df	P	MD	95% CI LL	UL
Equal Variance Assumed	2.05	.16	-.28	38	.78	-.05	-.38	.29

Although there was an outlier in the CCP student data as assessed by the box plot, the researcher did not exclude any score in the final analysis. The researcher did review the data to eliminate the possibility of data entry error. Then, the researcher removed the outlier and statistically analyzed the data. There was no difference in statistical significance between the data set with the outlier and the data set without the outlier, so the researcher did not exclude any data points. Student perception survey ratings were normally distributed for both groups as assessed by Shapiro-Wilk test (p>.05), and there was homogeneity of variance as assessed by Levene's test for equality of variances (p= .16). The ratings for the student perception survey was slightly lower for CCP students (M = 3.27, SD = .44) than for non-CCP students (M = 3.31, SD = .58), not a statistically significant difference, M= -.05, 95% CI [-0.38 to 0.29], t(38)= -.28, p = .78 (Laerd Statistics, 2015).

Five of the 27 CCP students responded to the qualitative survey question. Question 37 asked the participants to respond to the following prompt: "Other information I would like to share about CCP Program and college readiness is as follows." Those responses are listed in Table 20.

Table 20

Responses to Qualitative Survey Question

Student	Response
1	I understand what type of requirements is needed to get to the career I'm planning to study for during my whole college studying.
2	Having grading scales that differ depending on the type of class a student is in negatively affects students at [this college]. Since high schools are now on a 10-point grading scale, so should the colleges; the majority of the classes are 10 point while the most challenging are 7 point.
3	I feel like students should be educated more about financial aid and how to understand their award letters.
4	I learn from my college professors at Isothermal Community College that they might be easy on me now, but when I get into a University the teacher will be a lot harder on you than they ever were.
5	I was not ready.

Two students reflected on key contextual skills, specifically knowledge about

financial aid and career planning. Two students commented about grading scales and

challenge categorized under key academic behaviors, while one student simply related

that she "was not ready" for the CCP course.

In order to analyze each of Conley's (2010) Key Dimensions of College

Readiness, an independent *t* test of the responses to each question set was run comparing

CCP students to non-CCP students. The results for each key are presented below.

Key cognitive strategies. The data from the student perception survey (questions

1, 8, 9, 15, 18, 24, 26, 32, and 36) were analyzed using the statistical program SPSS.

There were 27 CCP students and 13 non-CCP students. The descriptive statistics for the

key cognitive strategies questions from the student perception college readiness survey

can be found in Table 21.

Table 21

Descriptive Statistics for Key Cognitive Strategies Survey Questions

Students	N	M	SD	SEM
CCP	27	3.33	.47	.09
Non-CCP	13	3.40	.59	.16

The analysis of the descriptive statistics of the key cognitive strategy questions on the student perception college readiness survey data was graphed and shown in Figure 8. This figure shows a box plot displaying the distribution of data based on the five-number summary (minimum, first quartile, median, third quartile, and maximum) of CCP and non-CCP student key cognitive strategies questions on the student college readiness survey. This box plot also displays outliers in the data.
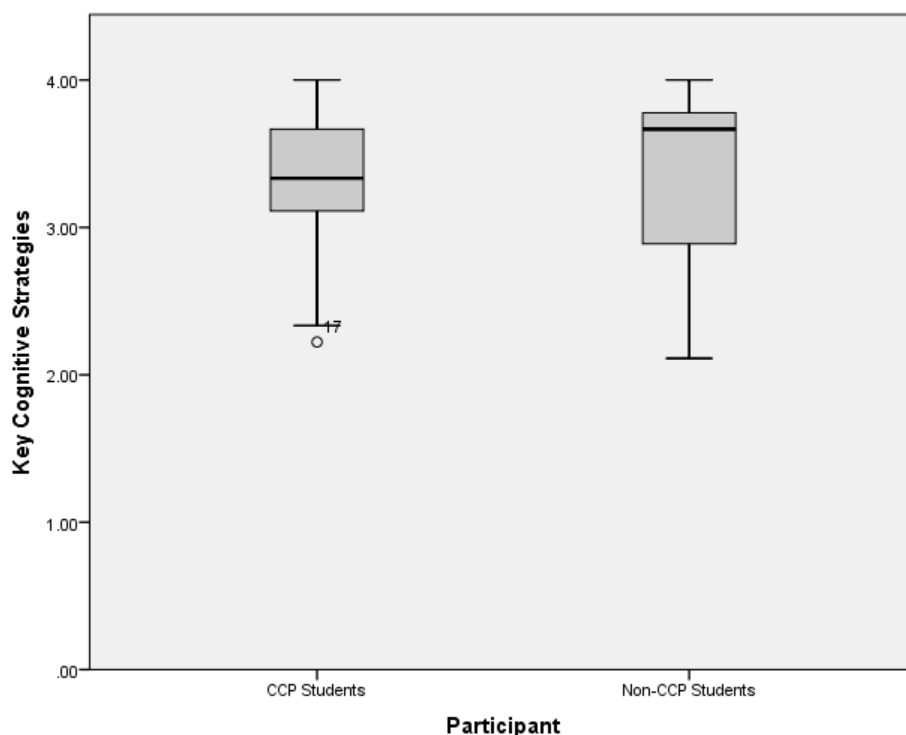
Figure 8. Key Cognitive Strategies Survey Questions – Students.

An independent *t* test was run to determine if there were differences in key cognitive strategies from the student perception survey between CCP and non-CCP students. Those results are shown in Table 22.

Table 22

Key Cognitive Strategies Survey Questions Independent t Test

| | Levene's Test for Equality of Variance | | t-test for Equality of Means | | | | 95% CI | |
	F	p	t	df	p	MD	LL	UL
Equal Variance Assumed	1.58	.22	-.40	38	.69	-.07	-.42	.28

Although there was an outlier in the CCP student data as assessed by the box plot, the researcher did not exclude any score in the final analysis. The researcher did review the data to eliminate the possibility of data entry error. Then, the researcher removed the outlier and statistically analyzed the data. There was no difference in statistical significance between the data set with the outlier and the data set without the outlier, so the researcher did not exclude any data points. Key cognitive strategies ratings from the student perception survey for CCP students were normally distributed but not for the non-CCP students as assessed by Shapiro-Wilk test (p>.05). Since the *t* test is fairly robust to deviations from normality, the researcher decided to proceed with the independent *t* test. There was homogeneity of variance as assessed by Levene's test for equality of variances (p = .22). The key cognitive strategy questions of the student perception survey were scored slightly lower for CCP students (M = 3.33, SD =.47) than for non-CCP students (M = 3.40, SD = .59), not a statistically significant difference, M= .07, 95% CI [-.42 to .28], t(38)= .04, p = .97 (Laerd Statistics, 2015).

Key content knowledge. The data from the student perception survey (questions 2, 6, 10, 13, 17, 22, 25, 30, and 33) were analyzed using the statistical program SPSS. There were 27 CCP students and 13 non-CCP students. The descriptive statistics for the key content knowledge questions from the student perception college readiness survey

can be found in Table 23.

Table 23

Descriptive Statistics for Key Content Knowledge Survey Questions

Students	N	M	SD	SEM
CCP	27	3.26	.48	.09
Non-CCP	13	3.25	.65	.18

The analysis of the descriptive statistics of the key content knowledge questions

data was graphed and shown in Figure 9. This figure shows a box plot displaying the

distribution of data based on the five-number summary (minimum, first quartile, median,

third quartile, and maximum) of CCP and non-CCP student key content knowledge

questions on the student college readiness survey. This box plot also displays outliers in

the data.

Figure 9. Key Content Knowledge Survey Questions – Students.

An independent *t* test was run to determine if there were differences in key content knowledge questions ratings between CCP instructors and CCP students. Those results are shown in Table 24.

Table 24

Key Content Knowledge Survey Questions Independent t-test

| | Levene's Test for Equality of Variance | | t-test for Equality of Means | | | | | |
| | | | | | | | 95% CI | |
	F	p	t	df	p	MD	LL	UL
Equal Variance Assumed	2.40	.13	.04	38	.97	.01	-.36	.38

There were no outliers in either group data as assessed by inspection of a box plot. Key content knowledge question ratings from the student perception survey for both groups were normally distributed as assessed by Shapiro-Wilk test (p>.05), and there was homogeneity of variance as assessed by Levene's test for equality of variances (p= .13). The key content knowledge questions of the student perception survey were scored lower for CCP students (M = 3.26, SD = .48) than for non-CCP students (M = 3.25, SD = 0.65), not a statistically significant difference, M= 0.01, 95% CI [-0.36 to 0.38], *t*(38)= .04, p = .97 (Laerd Statistics, 2015).

Key academic behaviors. The data from the student perception survey (questions 3, 5, 12, 14, 19, 23, 28, 31, and 34) were analyzed using the statistical program SPSS. There were 27 CCP students and 13 non-CCP students. The descriptive statistics for the key academic behaviors questions from the student perception college readiness survey can be found in Table 25.

Table 25

Descriptive Statistics for Key Academic Behaviors Survey Questions

Students	N	M	SD	SEM
CCP	27	3.17	.48	.09
Non-CCP	13	3.32	.52	.14

The analysis of the descriptive statistics of the key academic behaviors questions data was graphed and shown in Figure 10. This figure shows a box plot displaying the distribution of data based on the five-number summary (minimum, first quartile, median, third quartile, and maximum) of CCP and non-CCP student key academic behavior questions on the student college readiness survey. This box plot also displays outliers in the data.
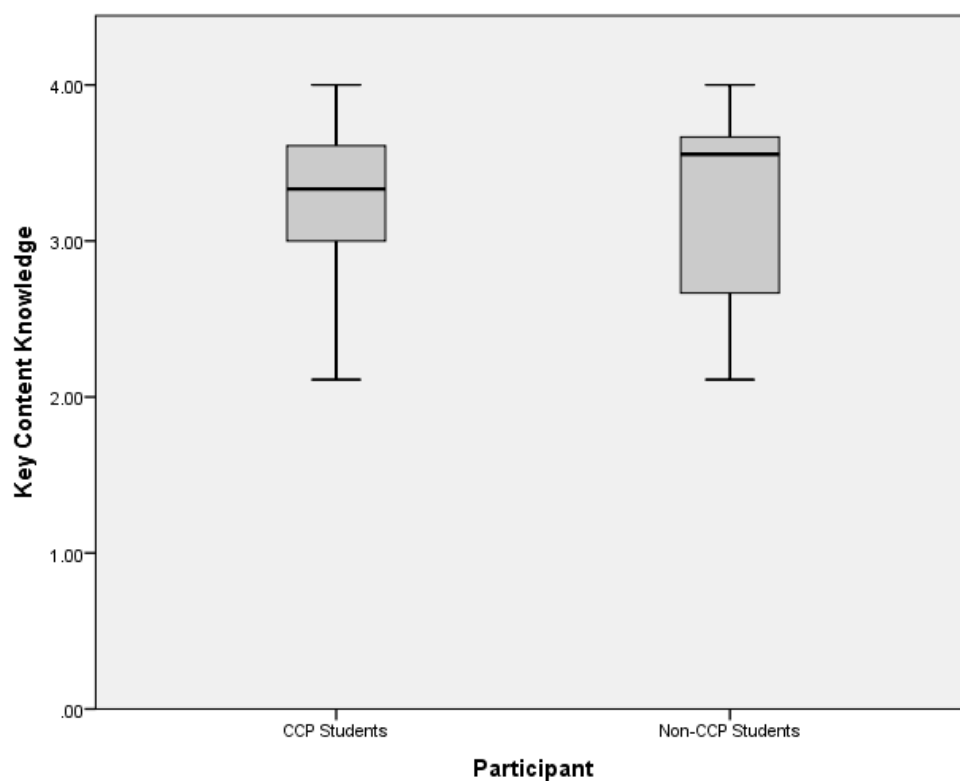

Figure 10. Key Academic Behaviors Survey Questions – Students.

An independent *t* test was run to determine if there were differences in key

academic behaviors questions ratings between CCP and non-CCP students. Those results
are shown in Table 26.

Table 26

Key Academic Behaviors Survey Questions Independent t Test

	Levene's Test for Equality of Variance		t-test for Equality of Means				95% CI	
	F	p	t	df	p	MD	LL	UL
Equal Variance Assumed	.05	.82	-.89	38	.38	-.15	-.48	.19

There were no outliers in the data as assessed by inspection of a box plot. Key
academic behavior question ratings from the student perception survey for both groups
were normally distributed as assessed by Shapiro-Wilk test (p>.05), and there was
homogeneity of variance as assessed by Levene's test for equality of variances (p= 0.82).
The key academic behavior questions of the student perception survey were slightly
lower for CCP students (M = 3.17, SD = 0.48) than for non-CCP students (M = 3.32, SD
= 0.52), not a statistically significant difference, M= -.15, 95% CI [-.48 to .19], t(38)= -
.89, p = .38 (Laerd Statistics, 2015).

Key contextual skills. The data from the student perception survey (questions 4,
7, 11, 16, 20, 21, 27, 29, and 35) were analyzed using the statistical program SPSS.
There were 27 CCP students and 13 non-CCP students. The descriptive statistics for the
key contextual skills questions from the student perception college readiness survey can
be found in Table 27.

Table 27

Descriptive Statistics for Key Contextual Skills Survey Questions

Students	N	M	SD	SEM
CCP	27	3.31	.51	.10
Non-CCP	13	3.29	.65	.18

The analysis of the descriptive statistics of the key contextual skills questions data was graphed and shown in Figure 11. This figure shows a box plot displaying the distribution of data based on the five-number summary (minimum, first quartile, median, third quartile, and maximum) of CCP and non-CCP student key contextual skills questions on the student college readiness survey. This box plot also displays outliers in the data.
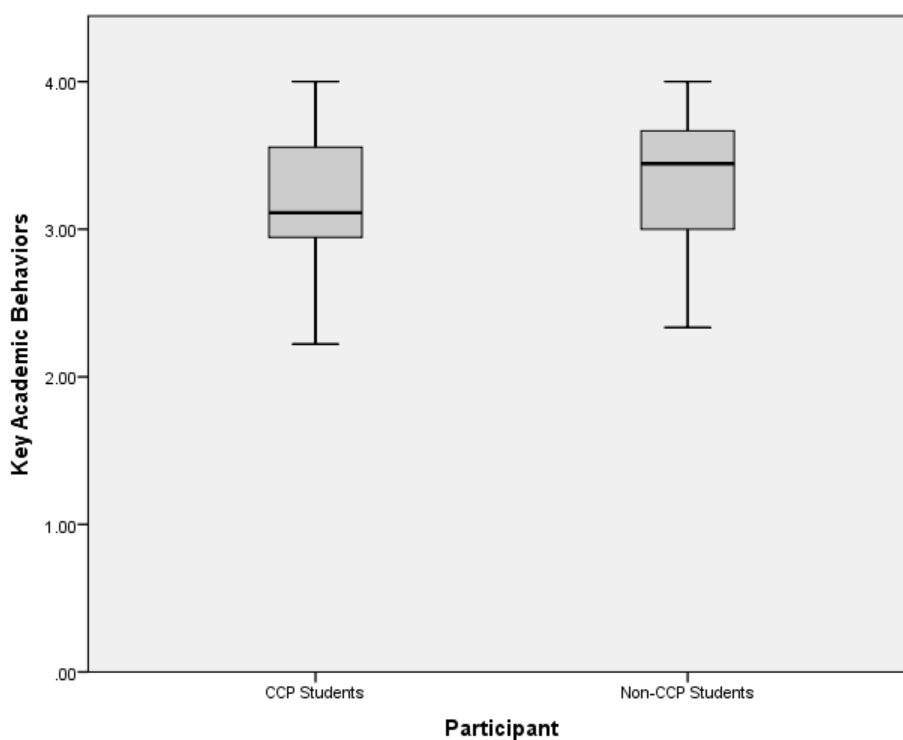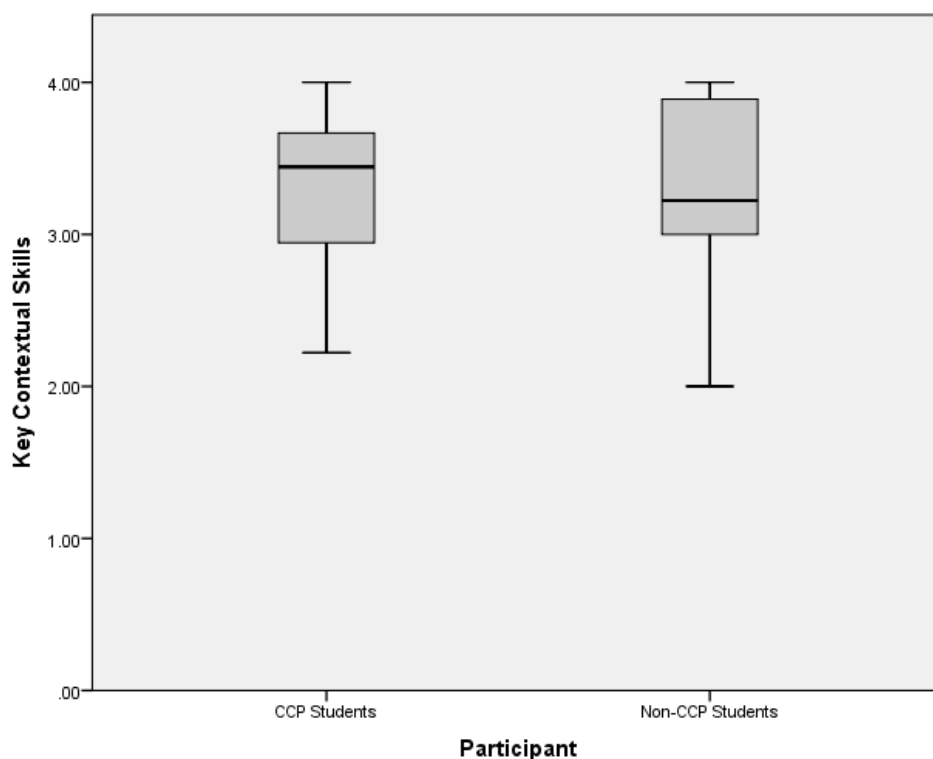

Figure 11. Key Contextual Skills Survey Questions – Students.

An independent *t* test was run to determine if there were differences in key

contextual skills questions ratings between CCP and non-CCP students. Those results are shown in Table 28.

Table 28

Key Contextual Skills Survey Questions Independent t Test

	Levene's Test for Equality of Variance		t-test for Equality of Means					
							95% CI	
	F	p	t	df	p	MD	LL	UL
Equal Variance Assumed	1.88	.18	.12	38	.91	.02	-.36	.40

There were no outliers in the data as assessed by inspection of a box plot. Key contextual skills question ratings from the student perception survey for both groups were normally distributed as assessed by Shapiro-Wilk test (p>.05), and there was homogeneity of variance as assessed by Levene's test for equality of variances (p= .18). The key contextual skills questions of the student perception survey was slightly higher for CCP students (M = 3.31, SD = .51) than for non-CCP students (M = 3.29, SD =.65), not a statistically significant difference, M= .02, 95% CI [-.36 to .40], t(38)= .12, p = .91 (Laerd Statistics, 2015).

Instructor college readiness survey. Instructors of CCP courses at the community college were asked to participate in a perception survey reflecting on the college readiness of the students in their CCP courses (Research Question 4).

Field test. As with the student perception survey, the instructor college readiness perception survey was sent to three instructors at the college. The participants were asked to consider four areas regarding the survey – understandability of the stems, adequateness of the scale, assurance that each question only had one response, and assurance that there were no loaded questions (Rogers, n.d.). Table 29 shows the

feedback and recommendations provided by the survey field test participants.

Table 29

Feedback and Recommendations from Instructor Field Test

Reviewers	Feedback and Recommendations
#1	• Clarify the introduction
	• Fix grammatical issues in questions #
	• Question # is good
#2	• Clarify some of the terms such as "some" and "most."
	• Change questions # so that the student is doing the action in the statement, not instructor.
	• Add a progress bar to the survey.
#3	• No changes.

As shown in Table 29, there were several changes suggested to be made to the survey. Changes were made to the instructor college readiness survey prior to emailing the survey link to participants. In addition, if applicable, the changes were also made to the student college readiness survey.

Data collection. An email containing the SurveyMonkey link for the instructor college readiness survey was sent to all instructors at the college who taught a CCP course during the 2015-2016 academic years (n=24). Follow-up emails were sent at 7 and 14 days, thanking those who had already participated in the survey and encouraging those who had not. After 3 weeks, the survey link was closed and the data (n=9) were organized using SurveyMonkey. Of the survey respondents, four were male and five were female; most were over the age of 45 years of age (n=6); all had taught over 16 years; and while a variety of course delivery methods were noted, most instructors taught traditional (TR) and internet (IN) course delivery methods. The instructor survey results were coded as shown in Table 30.

Table 30

Instructor Survey Coding

Alignment to Conley's College Readiness			
Four Key	Questions	Participants	Responses
1 = Key Cognitive Strategies	1,8,9,15,18, 24,26,32,36	1 = CCP students 3 = CCP instructors	4 = Mastery 3 = Competence
2 = Key Content Knowledge	2,6,10,13,1		2 = Developing 1 – New Knowledge
3 = Key Academic Behaviors	7,22,25,30, 33		No Code = Unobserved
4 = Key Contextual Skills	3,5,12,14,1 9,23,28,31, 34		
	4,7,11,16,2 0,21,27,29, 35		

For each participant, the data from total responses from the college readiness survey were averaged. In addition, the participant responses from the nine questions for each of the Keys of College Readiness were averaged. The participant averages were compiled using Microsoft Excel. The instructor responses to the college readiness survey were compared to the CCP student responses.

Data analysis. The data from the student perception survey were analyzed using the statistical program SPSS. There were nine CCP instructors and 27 CCP students. The descriptive statistics for the perception college readiness survey responses can be found in Table 31.

Table 31

Descriptive Statistics for Instructor Perception College Readiness Survey

Participants	N	Mean	SD	SEM
CCP Instructors	9	2.38	.65	.22
CCP Students	27	3.27	.45	.09

The analysis of the descriptive statistics of the college readiness survey data was graphed and shown in Figure 12. This figure shows a box plot displaying the distribution of data based on the five-number summary (minimum, first quartile, median, third quartile, and maximum) of CCP instructor and CCP student total average responses on the college readiness survey. This box plot also displays outliers in the data.
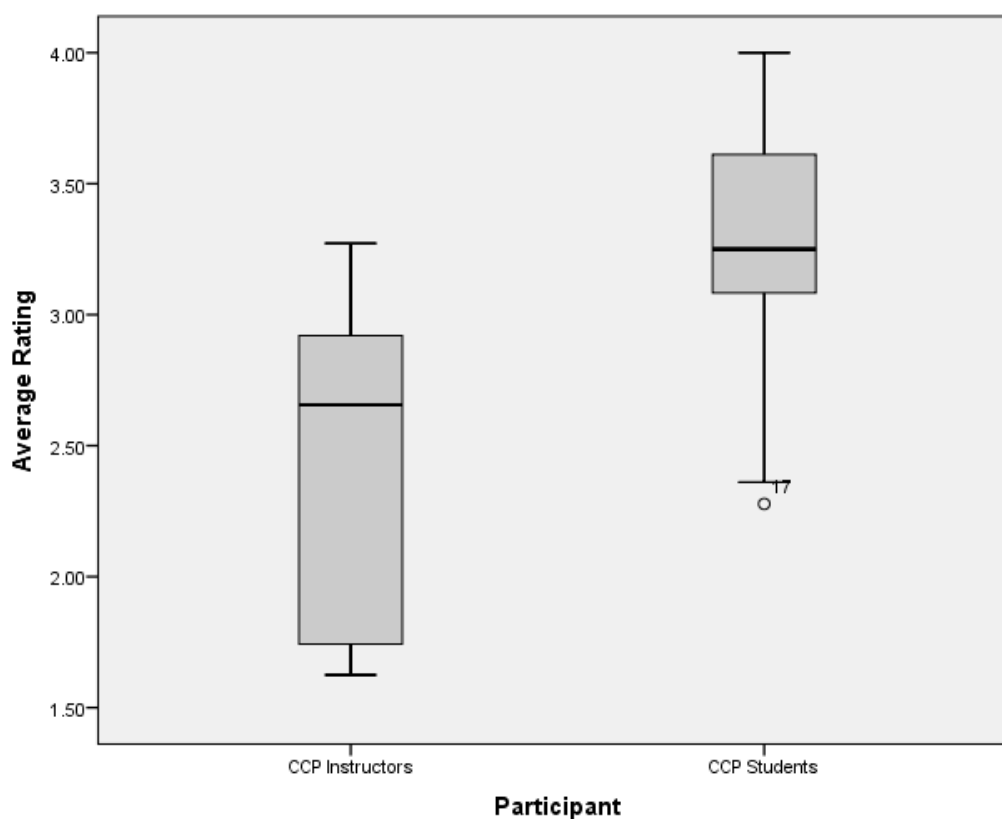
Figure 12. Instructor Perception College Readiness Survey.

An independent *t* test was run to determine if there were differences in student

perception college readiness survey ratings between CCP instructors and CCP students. Those results are shown in Table 32.

Table 32

Instructor Perception College Readiness Survey Independent t Test

	Levene's Test for Equality of Variance		t-test for Equality of Means				95% CI	
	F	p	t	df	p	MD	LL	UL
Equal Variance Not Assumed	5.79	.02	-3.77	11	.00	-.88	-1.40	-.36

Although there was an outlier in the CCP student data as assessed by the box plot, the researcher did not exclude any score in the final analysis. The researcher did review the data to eliminate the possibility of data entry error. Then, the researcher removed the outlier and statistically analyzed the data. There was no difference in statistical significance between the data set with the outlier and the data set without the outlier, so the researcher did not exclude any data points. Perception survey ratings were normally distributed for both groups as assessed by Shapiro-Wilk test (p>.05). There was a violation of the homogeneity of variance as assessed by Levene's test for equality of variances (p= 0.02). The ratings for the college readiness perception survey were lower for CCP instructors (M = 2.38, SD = .65) than for CCP students (M = 3.27, SD = .45), a statistically significant difference, M= -.88, 95% CI [-1.40 to -.36], *t*(11)= -3.77, p = .00, d=1.59 (Laerd Statistics, 2015).

Two of the nine CCP instructors responded to the qualitative survey question. Question 37 asked the participants to respond to the following prompt: "Other information I would like to share about CCP Program and college readiness is as follows." Those responses are listed in Table 33.

Table 33

Responses to Qualitative Survey Question (Q37)

Instructor	Response
1	I have only taught a few CCP students.
2	Good progress is routinely made by my students.

As shown in Table 33, two instructors responded to the qualitative survey

question (Q37). One instructor responded that his/her students show "good progress."

In order to analyze each key dimension of college readiness, an independent *t* test

was run comparing CCP students to non-CCP students. The results for each key are

presented below.

Key cognitive strategies. The data from the student perception survey (questions

1, 8, 9, 15, 18, 24, 26, 32, and 36) were analyzed using the statistical program SPSS.

There were nine CCP instructors and 27 CCP students. The descriptive statistics for the

key cognitive strategies questions from the perception college readiness surveys can be

found in Table 34.

Table 34

Descriptive Statistics for Key Cognitive Strategies Survey Questions

Participants	N	M	SD	SEM
CCP Instructors	9	2.42	.69	.23
CCP Students	27	3.33	.47	.09

The analysis of the descriptive statistics of the key cognitive strategies questions

data was graphed and shown in Figure 13. This figure shows a box plot displaying the

distribution of data based on the five-number summary (minimum, first quartile, median,

third quartile, and maximum) of CCP instructor and CCP student key cognitive strategies

questions on the college readiness survey. This box plot also displays outliers in the data.
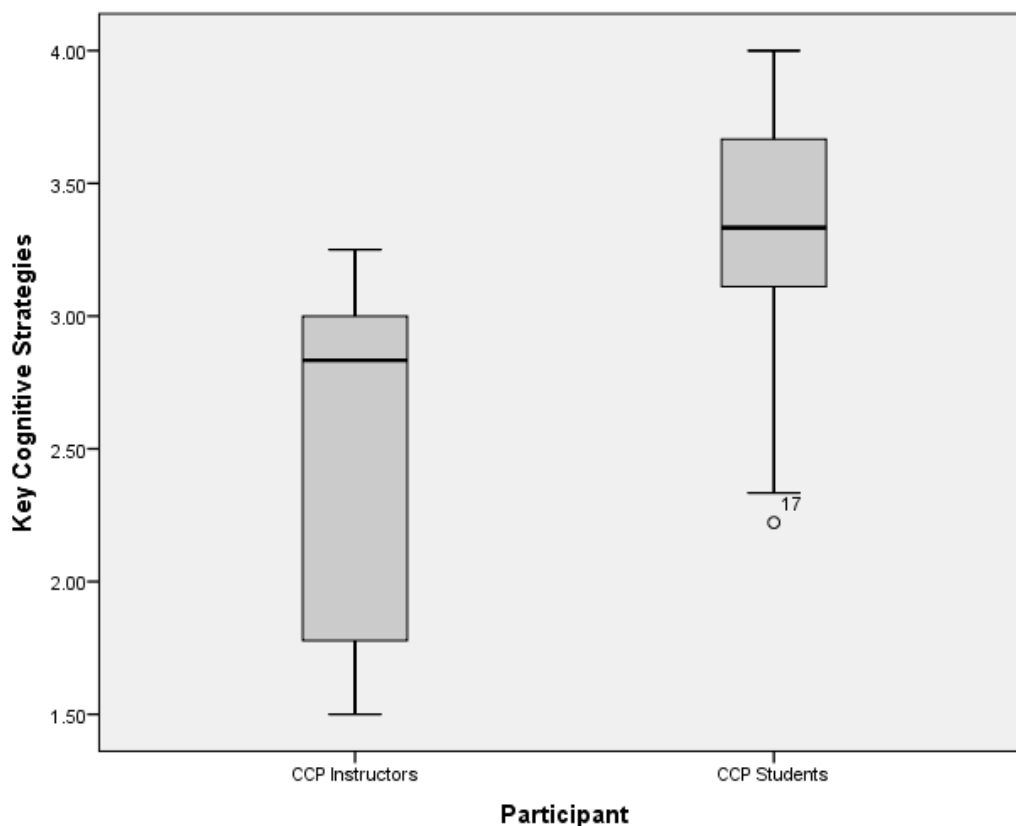
Figure 13. Key Cognitive Strategies Survey Questions – Instructors.

An independent *t* test was run to determine if there were differences in key

cognitive strategies questions ratings between CCP instructors and CCP students. Those

results are shown in Table 35.

Table 35

Key Cognitive Strategies Survey Questions Independent t Test

| | Levene's Test for Equality of Variance | | t-test for Equality of Means | | | | | |
| | | | | | | | 95% CI | |
	F	p	t	df	p	MD	LL	UL
Equal Variance Not Assumed	7.2	.01	-3.68	11	>.001	-.91	-1.46	-.36

Although there was an outlier in the CCP student data as assessed by the box plot,

the researcher did not exclude any score in the final analysis. The researcher did review

the data to eliminate the possibility of data entry error. Then, the researcher removed the

outlier and statistically analyzed the data. There was no difference in statistical

significance between the data set with the outlier and the data set without the outlier, so

the researcher did not exclude any data points. Key cognitive strategies ratings from the

college readiness perception survey for both groups were normally distributed as assessed

by Shapiro-Wilk test (p>.05). There was violation of the homogeneity of variance as

assessed by Levene's test for equality of variances (p = .01). The key cognitive strategies

questions of the college readiness perception survey were lower for CCP instructors (M =

2.42, SD = 0.69) than for CCP students (M = 3.33, SD 0.47), a statistically significant

difference, M= -.91, 95% CI [-1.46 to -.36], t(11)= -3.68, p = >.001, d = 1.54 (Laerd

Statistics, 2015).

 Key content knowledge. The data from the college readiness perception survey

(questions 2, 6, 10, 13, 17, 22, 25, 30, and 33) were analyzed using the statistical program

SPSS. There were nine CCP instructors and 27 CCP students. The descriptive statistics

for the key content knowledge questions from the perception college readiness surveys

can be found in Table 36.

Table 36

Descriptive Statistics for Key Content Knowledge Survey Questions

Participants	N	M	SD	SEM
CCP Instructors	9	2.42	.69	.23
CCP Students	27	3.26	.48	.09

 The analysis of the descriptive statistics of the key content knowledge questions

data was graphed and shown in Figure 14. This figure shows a box plot displaying the

distribution of data based on the five-number summary (minimum, first quartile, median,

third quartile, and maximum) of CCP instructor and CCP student key content knowledge

questions on the college readiness survey. This box plot also displays outliers in the data.

Figure 14. Key Content Knowledge Survey Questions – Instructors.

An independent *t* test was run to determine if there were differences in key

content knowledge questions ratings between CCP instructors and CCP students. Those

results are shown in Table 37.

Table 37

Key Content Knowledge Survey Questions Independent t-test

	Levene's Test for Equality of Variance		t-test for Equality of Means					
	F	Sig.	t	df	Sig.	Mean Difference	95% CI of Difference	
							Lower	Upper
Equal Variance Not Assumed	6.14	.02	-3.35	11	.007	-.83	-1.38	-.28

There were no outliers in the CCP data as assessed by inspection of a box plot.

Key content knowledge question ratings from the college readiness perception survey for

both groups were normally distributed as assessed by Shapiro-Wilk test (p>.05), and

there was a violation of homogeneity of variance as assessed by Levene's test for equality

of variances (p= .02). The key content knowledge questions of the college readiness

perception survey were lower for CCP instructors (M = 2.42, SD = .69) than for CCP

students (M = 3.26, SD = .48), a statistically significant difference, M= -.83, 95% CI [-

1.38 to -.28], t(11)= -3.35, p = .007, d = 1.36 (Laerd Statistics, 2015).

Key academic behaviors. The data from the college readiness perception survey

(questions 3, 5, 12, 14, 19, 23, 28, 31, and 34) were analyzed using the statistical program

SPSS. There were 27 CCP students and nine CCP instructors. The descriptive statistics

for the key academic behaviors questions from the perception college readiness surveys

can be found in Table 38.

Table 38

Descriptive Statistics for Key Academic Behaviors Survey Questions

Participants	N	M	SD	SEM
CCP Instructors	9	2.43	.74	.25
CCP Students	27	3.17	.48	.09

The analysis of the descriptive statistics of the key academic behaviors questions

data was graphed and shown in Figure 15. This figure shows a box plot displaying the distribution of data based on the five-number summary (minimum, first quartile, median, third quartile, and maximum) of CCP instructor and CCP student key academic behaviors questions on the student college readiness survey. This box plot also displays outliers in the data.
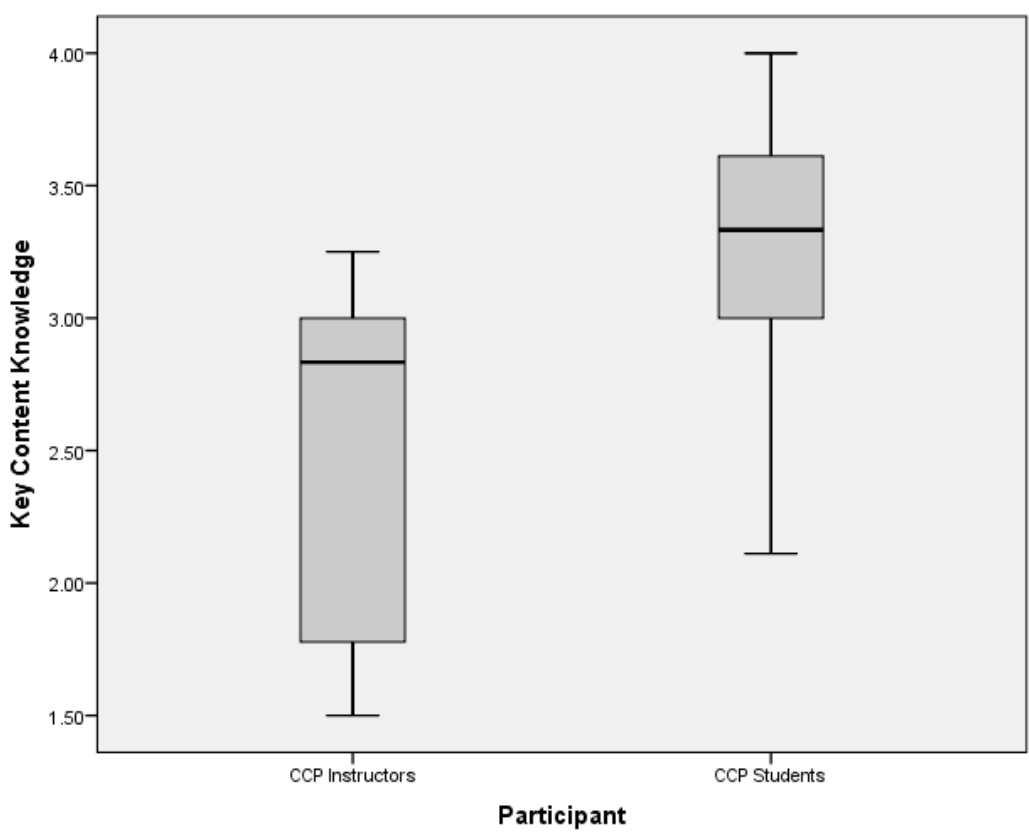

Figure 15. Key Academic Behaviors Survey Questions – Instructors.

An independent *t* test was run to determine if there were differences in key academic behaviors questions ratings between CCP instructors and CCP students. Those results are shown in Table 39.

Table 39

Key Academic Behaviors Survey Questions Independent t Test

	Levene's Test for Equality of Variance		t-test for Equality of Means					
							95% CI	
	F	p	t	Df	p	MD	LL	UL
Equal Variance Not Assumed	5.92	.02	-2.81	10	.01	-.74	-1.32	-.16

There were no outliers in the data as assessed by inspection of a box plot. Key

academic behavior question ratings from the college readiness perception survey for both

groups were normally distributed as assessed by Shapiro-Wilk test (p>.05), and there was

violation of homogeneity of variance as assessed by Levene's test for equality of

variances (p = .02). The key academic behavior questions of the college readiness

perception survey were lower for CCP instructors (M = 2.43, SD = .74) than for CCP

students (M = 3.17, SD = .48), a statistically significant difference, M= -.74, 95% CI [-

1.32 to -.16], t(10)= -2.81, p = .01, d=1.19 (Laerd Statistics, 2015).

Key contextual skills. The data from the college readiness perception survey

(questions 4, 7, 11, 16, 20, 21, 27, 29, and 35) were analyzed using the statistical program

SPSS. There were nine CCP instructors and 27 CCP students. The descriptive statistics

for the key contextual skills questions from the student perception college readiness

survey can be found in Table 40.

Table 40

Descriptive Statistics for Key Contextual Skills Survey Questions

Participants	N	M	SD	SEM
CCP Instructors	9	2.52	.42	.14
CCP Students	27	3.31	.51	.10

The analysis of the descriptive statistics of the key contextual skills questions data

was graphed and shown in Figure 16. This figure shows a box plot displaying the distribution of data based on the five-number summary (minimum, first quartile, median, third quartile, and maximum) of CCP instructor and CCP student the key contextual skills questions on the student college readiness survey. This box plot also displays outliers in the data.
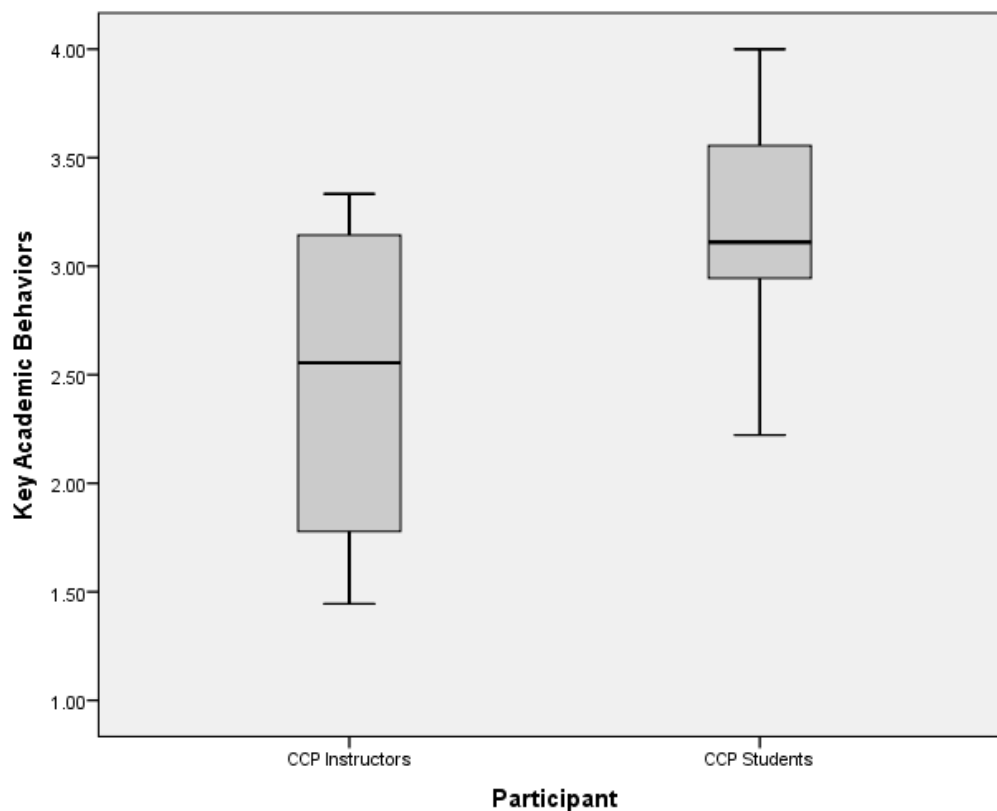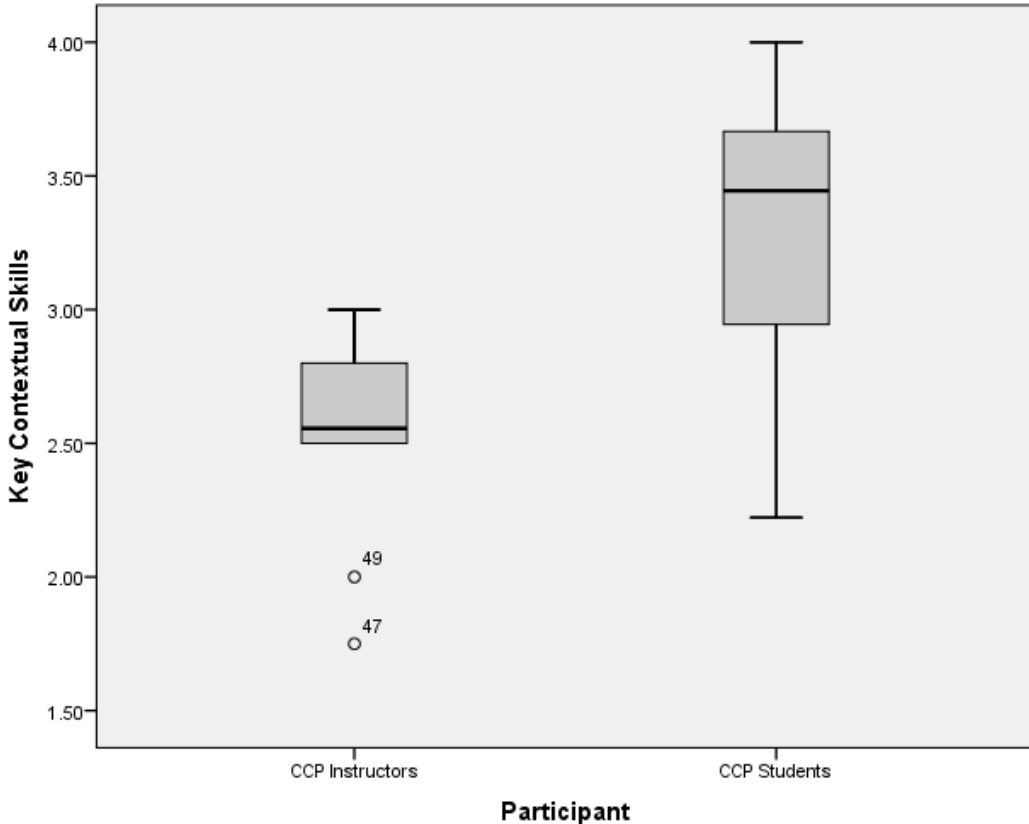

Figure 16. Key Contextual Skills Survey Questions – Instructors.

An independent *t* test was run to determine if there were differences in key contextual skills questions ratings between CCP instructors and CCP students. Those results are shown in Table 41.

Table 41

Key Contextual Skills Survey Questions Independent t Test

| | Levene's Test for Equality of Variance | | t-test for Equality of Means | | | | | |
| | F | p | t | Df | p | MD | 95% CI | |
							LL	UL
Equal Variance Assumed	1.33	.26	-4.20	34	>.001	-.79	-1.18	-.41

There were no outliers in the data as assessed by inspection of a box plot. Key contextual skills question ratings from the student perception survey for both groups were normally distributed as assessed by Shapiro-Wilk test (p>.05), and there was homogeneity of variance as assessed by Levene's test for equality of variances (p= .26). The key contextual skills questions of the student perception survey were lower for CCP instructors (M = 2.52, SD = .42) than for CCP students (M = 3.31, SD = .51), a statistically significant difference, M= -.79, 95% CI [-1.18 to -.41], t(34)= -4.19, p = >.001, d =1.71 (Laerd Statistics, 2015).

Instructor Focus Group

In order to explore further CCP instructor perceptions of the college readiness of the CCP students (Research Question 4), an instructor focus group was held. In order to develop the focus group questions, data from the student and instructor perception surveys were analyzed. For analysis of the CCP students versus non-CCP students, averages of the questions for each group were compared and trends (discrepancies and agreements in responses) were used to develop focus group questions. For the CCP instructors versus the non-CCP students, the CCP instructors consistently scored the CCP students lower in college readiness; therefore, an average score for the CCP instructor survey and for the CCP student survey were obtained. Then, each response on the

perception surveys was averaged and compared to the corresponding survey average. Afterwards, the focus group questions were determined based on trends (discrepancies and agreements in responses) seen between the instructor and student college readiness survey responses.

Eight CCP instructors and the college liaison for high school students participated in this focus group. The instructors represented various subjects (biology, economics, health, sociology, English, computers, and success/study skills), teaching experience (first semester to 36 years), and instructional methods of CCP courses (face-to-face, hybrid, and online) at the community college.

Data collection. Audio of the focus group session was recorded and then transcribed by the researcher. In addition, the researcher took notes on the behaviors of the "participants' para-linguistic behaviors" such as gestures, laughs, and postures (Litosseliti, 2003, p. 69). These notes were added to the transcript and used to aid in the analysis of the transcription of the taped discussion.

Data analysis. First, the researcher read the transcribed focus group in its entirety. Then, the transcribed focus group session was coded for themes by the researcher. Subsequently, those themes were classified into Conley's (2010) Four Key Dimensions of College Readiness. The themes were checked by a graduate student with experience in analyzing qualitative data. In addition, the identified themes were sent to the participants of the focus group to determine agreement and to gather feedback from the participants. Those classified themes from the focus group are found in Table 42.

Table 42

Focus Group Themes and Classification

Conley's Four Keys	Identified Themes
Key Cognitive Strategies	• Good basic skills • Lack critical thinking skills
Key Content Knowledge	• Good basic knowledge • Writing Skills – good at organization, not comprehension • Writing lacks depth • Reading skills – confusion about mechanics versus comprehension
Key Academic Behaviors	• Similar communication skills to traditional college students • Do not ask instructors for help • Do not complete assignments • Lack engagement with content • Lack organizational skills • Do not read directions or assignments • Lack reflection • Need to be self-motivators • Lack time management skills • Students do not always use technology appropriately
Key Contextual Skills	• Misuse of advising • Struggle recognizing differences between high school and college • Pressures of attending college • Lack of understanding on how college works

As shown by Table 42, the common themes included items in all four of Conley's (2010) key dimensions to college readiness. The first key dimension, key cognitive strategies, is defined as "patterns of intellectual behavior that lead to the development of cognitive strategies and capabilities necessary for college level work" (Conley, 2007, p. 13). These skills include "formulation, research, interpretation, communication, and precision and accuracy" (Conley, 2016, p. 25). Key content knowledge skills are necessary to comprehend challenging content and understand the overarching themes or

ideas of a subject area. A third component of Conley's framework for college readiness is contextual skills and awareness. This component includes both attitudes and behaviors students must possess in order to be successful in the college environment. The last component, key contextual skills and awareness, addresses the student's understanding of the postsecondary experience, otherwise known as college knowledge. The themes as they relate with regard to Conley's (2010) four keys to college readiness are described in more detail in the next section.

Key cognitive strategies. Instructors agreed that students had a good knowledge base. One instructor reflected that she has some of the best students in her CCP English course that she has ever had, but instructors agreed that CCP students lack critical thinking skills. One instructor summarized this part of the discussion with the following: "Maybe critical thinking skills is one of those things that I should be trying to teach and not just assume that they have." Another instructor stated that critical thinking skills were a "challenge for an 18 to 22-year-old, much less a high school student."

Key content knowledge. The instructors agreed that reading and writing were two areas of key content knowledge where they see differences in their CCP and non-CCP students. The instructors agreed that CCP students are strong in their reading levels and the basic mechanics of writing. One instructor stated that CCP students "do a very good job or organizing" their writing. She went on to explain that the students understand that a thesis is necessary "and that their paragraphs have to relate to their thesis." Another instructor reflected, "their writing is very good and I can tell that they know what they need to write, but their authenticity is off." Instructors agreed that CCP students lacked depth in their reading comprehension and writing skills.

Key academic behaviors. The focus group of CCP instructors felt that students

were weakest in key academic behaviors. Instructors stated that the CCP students in their courses lacked key academic behaviors such as organizational skills, time management, self-motivation, and asking for help from instructors. One participant stated, "getting assignments in on time seems to be an issue." Another participant said that the CCP students have to be self-motivated to get the benefits of taking the college class," while another participant said, "it is important that they have the communication skills where they will ask questions if they don't understand."

Key contextual skills. Instructors stated that they felt that students had a lack of understanding regarding the differences between high school and college course expectations. One instructor referred to CCP students asking for "extensions" to assignment deadlines. Another instructor discussed the confusion between college attendance polices versus the attendance policy for high school classes. One participant stated that she felt that many of the problems that CCP students faced are because students "don't necessarily know how the system works."

Other themes. During the focus group, a theme emerged that did not fall into Conley's (2010) four key dimensions of college readiness, specifically, instructors' reflection upon their teaching and how it affects their students' college readiness. During the focus group, instructors expressed frustration by student lack of depth and engagement. The instructors reflected on their roles in encouraging this skill; and one instructor commented, "but to facilitate something like that, I feel like it is much harder to grade because we are trying to make our jobs easier, we are taking away the challenge." During this part of the focus group, instructors also reflected on the preparation of the instructor to facilitate this type of deep learning. One participant stated that college classes were often taught by "instructors who do not have any background in

instruction and you don't offer any training. I think that is a challenge for that instructor . . . you have to be motivated enough to go find those resources that teach you how to do it."

Summary

In summary, this study used existing statistical data, perception surveys, and an instructor focus group to assess the effectiveness of the NCCCP program at a rural North Carolina community college. There was a significant difference in the final grades of NCCCP students and non-CCP students, with the CCP students having a higher mean final grade average. There was a significance difference in the MAT 152 – Statistical Methods I common assessment scores of CCP students compared to non-CCP students but not in the MAT 143 – Quantitative Literacy common assessment scores. The CCP instructors perceived that CCP students were lower in college readiness skills, while the CCP students rated themselves higher in college readiness, a statistically significant difference; however, there was not a significant difference in the perception of college readiness between CCP students versus non-CCP students. Finally, CCP instructors clarified some of the discrepancies seen in the student and instructor college readiness survey identifying strengths and weakness of CCP students in Conley's (2010) key college readiness skills. In addition, instructors discussed some challenges of helping the CCP students develop these college readiness skills in their classes.

In the next chapter, the findings from the data collection and analysis are compared to the existing literature, and interpretation of the findings are presented. Limitations of the research study are outlined. Recommendations based on the data interpretations are suggested. Finally, conclusions are drawn and the implications of this study are presented.

Chapter 5: Discussion

Introduction

Since the National Commission on Excellence in Education's (1983) release of *A Nation at Risk*, educational reform has been a national focus, especially at the secondary level. Legislation such as No Child Left Behind strove to close achievement gaps between different groups of students. Educational initiatives such as the Common Core State Standards were designed to better prepare students for career and college. With this focus on ensuring that students are career and college ready, states are enacting programs such as the NCCCP program to increase career and college readiness skills in their students; yet the verdict is still out on the impact of the NCCCP program on increasing the college readiness of its participants, since little research exists on the outcomes of this program.

The purpose of this sequential explanatory mixed methods research study was to investigate the effectiveness of the NCCCP program in terms of college readiness of the program participants. The study was conducted at a rural western North Carolina community college. In order to evaluate NCCCP, the researcher investigated four research questions.

1. To what extent does the academic proficiency of NCCCP students differ from non-CCP students as measured by final grades at a rural North Carolina community college? (Quantitative)

   Null hypothesis: There is no significant difference between the academic proficiency of CCP and non-CCP students as measured by final grades at a rural North Carolina community college.

2. To what extent does the academic proficiency of NCCCP students differ from

non-CCP students as measured by scores on common assessments at a rural

North Carolina community college? (Quantitative)

Null hypothesis: There is no significant difference in academic proficiency

between CCP and non-CCP students as measured by common assessment

scores at a rural North Carolina community college.

3. How do students perceive their college readiness after participating in the

   NCCCP program at a rural North Carolina community college?

   (Quantitative/Qualitative)

4. How do instructors perceive the college readiness of students who participated

   in the NCCCP program at a rural North Carolina community college?

   (Quantitative/Qualitative)

In phase one of the study, the researcher utilized existing statistical data in the

form of final course grades and common assessment scores and survey responses from

CCP students and CCP instructors regarding their perceptions of student college

readiness. Once the data from phase one was collected, entered, and analyzed using the

statistical software SPSS, the researcher used trends found in the data to aid in the

development of questions to be used for phase two, the CCP instructor focus group. The

researcher triangulated the data from all data sources to determine the effectiveness of the

NCCCP program in promoting college readiness in its participants.

Interpretation of Findings

  Proficiency of NCCCP students. Both Research Questions 1 and 2 of this study

looked at the proficiency of CCP students in comparison to non-CCP students. Research

Question 1 investigated proficiency rates in terms of final course grades. This study

found that CCP students (n=443) at this site scored statistically higher on final course

grades than did non-CCP students (n=443); however, for community college classes, transferability of course credit to students' postsecondary institute is dependent on final course grades. The North Carolina CAA (2016) stated that for a community college course on the transferability list to be transferable to the 4-year North Carolina public universities, the student must earn a "C" or better; therefore, transfer success rate was determined based as the proportion of students in each group who earned a "C" or better in the course. In this study, there was no significant difference in the transfer success rate between CCP and non-CCP students.

While Research Question 1 analyzed proficiency in terms of final course grades, Research Question 2 looked at proficiency in terms of general education math common assessment scores of CCP students compared to non-CCP students. In MAT 152: Statistical Methods I, CCP students (n=23) statistically outperformed non-CCP students (n=32) on the common assessment; however, there was no statistical difference in the MAT 143: Quantitative Literacy common assessment scores between CCP (n=30) and non-CCP (n=33) students. The differences in the analysis results seen between the two common assessment scores could be due to the nature of the two courses. Since MAT 143 is designed using labs, successful students must exhibit key academic behaviors such as self-motivation and the ability to work collaboratively. While still necessary for MAT 152, these skills are not as instrumental for this type of instructional design. Based on these findings, CCP students at this college are as proficient as the non-CCP students based on common assessments in their college math courses. In addition, the CCP students are outperforming their non-CCP counterparts in terms of both final grades and MAT 152 common assessment scores.

While most research regarding proficiency of dual enrollment students is focused

on when those students enter the postsecondary institutions, some studies have looked at success in terms of proficiency while in the secondary program. Like this study's results, those studies found that dual enrollment students showed success in their dual enrollment courses. Crouse and Allen (2014) found that dual enrollment students performed better than their traditional college counterparts in all college courses assessed. A study by White, Hopkins, and Shockley (2014) reported that dual enrollment students scored significantly higher than traditional college students on three of four exams in a college chemistry course.

It is important to point out that in order for the CCP students to participate in the college course in the North Carolina college transfer pathway, they must meet the requirements of eligibility for the NCCCP program involving measures of college readiness by test scores in English, writing, and math. Non-CCP students are not held to the same requirements; therefore, it is possible that the students in the two groups are not equal in academic levels and/or preparation. With regard to final course grades, the CCP and non-CCP courses both used online course delivery; however, most of the CCP students are assigned a designated time each day at the high school to complete their online CCP courses. Again, this standard is not true for non-CCP students. Non-CCP students must self-structure a time and place to complete the assignments for their online class(es). Last, participating students in the CCP program at this community college have a one-on-one initiative where students are provided a laptop and access to high speed internet through their high schools. Non-CCP students do not necessarily have the same access to technology. These three conditions – college-ready requirements, designated work time, and access to technology – could contribute to the higher final course grades for CCP students as compared to non-CCP students. Other studies have

cited increased contact hours, more depth with less breadth of information, increased student motivation to be successful, and additional support as reasons for these findings (Crouse & Allen, 2014; White et al., 2014).

With regard to Conley's (2010) Key Dimensions of College Readiness, research links different college readiness skills demonstrated by final course grades and single assessment scores. Research shows that final course grades are subjective and often take into consideration academic knowledge (key content knowledge) as well as noncognitive traits such as student effort, classroom behavior, and attitude (Allen, 2005; Earl, 2013; Marzano & Heflebower, 2011); therefore, one could argue that final grades represent all four of Conley's (2010) Key Dimensions of College Readiness: key cognitive strategies, key content knowledge, key academic skills, and key contextual knowledge. In this research study, differences in instructor grading was controlled by using the same number of participants in both the CCP and non-CCP groups from the same instructor; therefore, any instructor subjectivity bias in grading was balanced in both student groups.

Single assessment scores are perhaps a more objective assessment measurement than final grades. Objective tests such as the common assessments in MAT 143 and 152 can assess knowledge and content understanding (key content knowledge) as well as some key cognitive strategies such as critical thinking (Suskie, 2009). Conley (2010) stated that test scores are "perhaps good measures of a set of core academic capabilities, but not necessarily of the knowledge, strategies, and dispositions needed for college" (p. 26).

Perception of NCCCP student college readiness. Research Questions 3 and 4 looked at the perceptions of CCP students and CCP instructors regarding the college readiness of the CCP students.

Student perceptions of college readiness. A link to a college readiness perception survey was sent to all students at the college, aged 18-22. Based on the answer to question 39, "Did you take college classes at a 2-year or 4-year college when in high school," responding students were divided into CCP students (n=27) and non-CCP students (n=13). Analysis showed that there was no significant difference in student perception of college readiness between CCP and non-CCP students. When looking at questions on the survey that addressed Conley's (2010) Key Dimensions of College Readiness, there was again no significant difference in student perception between CCP and non-CCP students in any of the four key categories: key cognitive strategies, key content knowledge, key academic skills, and key contextual skills.

Research regarding dual enrollment student perception of their college readiness found that students perceived that they were well prepared for college (Gaitlin, 2009). Researchers An and Taylor (2015) found that students in dual enrollment programs scored higher than non-dual enrollment students on three of four of Conley's (2010) Key Dimensions of College Readiness at the end of the first year of college; however, there was no statistical difference between those groups in this study. Several factors may have contributed to these findings. First, less than 10% of the population surveyed responded; therefore, the findings may not represent the characteristics of the overall population of both groups. One instructor in the CCP instructor focus group joked that the students who responded to this survey are those students who had higher college readiness skills. She stated, "that is why they think that they are high level … because they are. They are the ones that did the survey." Another notable difference in the population between the two groups was that the CCP population reported being 77% first-generation college students as compared to only 38% of the non-CCP students;

therefore, the scores could be affected by the unique characteristics and challenges of the first-generation college students (Inman & Mayes, 1999; Wildhagen, 2015) instead of participation in the CCP program.

Instructor perception of college readiness. A link to a college readiness survey was sent to all instructors (n=24) of CCP courses during the 2014-2016 academic years. The instructors were asked to rate their perception of the college readiness of their CCP students. The instructor responses (n=9) were compared to the CCP student college readiness survey responses (n=27). This study found that CCP instructors rated their CCP students significantly lower on all aspects of college readiness as compared to the CCP student self-assessments. The analysis of survey responses was followed up with a CCP instructor focus group to clarify the survey findings. Common themes identified from the CCP instructor focus group included lack of depth in writing, deficiencies in reading comprehension, poor critical-thinking skills, and lack of academic skills such as time management and communication.

A study by Gaitlin (2009) also found that students perceived their college readiness level to be higher than what their teachers felt it to be. A participant in the instructor focus group reflected on why this trend may be true. She said, "We are in academics, right? We get the broad understanding of things." Students are new to the world of academics and therefore they do not always accurately assess their level of competence in certain areas. As students progress through the field of academia and accomplish more and more, they tend to realize the progress that they have made; however, this realization is not obvious until going through the process and obtaining that knowledge. College instructors, on the other hand, recognize the path that student must travel and identify their students' progress on that path to mastery; therefore, they scored

the students lower on the college readiness skills. It may not be that those students are incompetent or actually lacking in those skills but that the instructors just realize where the students are on their educational journey.

Limitations of the Study

By identifying the limitations of this research study, the readers can determine the transferability of the results to other dual enrollment populations. The researcher works as a biology instructor at the community college that served as the site in this study. It is possible that her employment at the community college could have led to bias in the data collection process. In addition, her involvement could have affected the participation rates in the college readiness perception surveys, particularly the CCP instructor survey. Last, the CCP instructors may not have felt that they could respond forthright during the CCP focus group.

Another major limitation of this study was the small population who participated. This study investigated only the NCCCP program at one North Carolina rural community college; therefore, the findings can only be used to describe this population of dual enrollment students at that one institution. In addition, data from only a small sample of the CCP students and courses at the college were analyzed; therefore, the results might not describe the larger population.

Recommendations for Further Study

Based on the findings of this study, the researcher has several recommendations to strengthen the benefits of the NCCCP program in increasing college readiness in its participants. The recommendations are listed in the following paragraphs.

Recommendation #1. This study investigated the proficiency of CCP students in terms of final course grades and common assessment scores. The data for final course

grades, while coming from different courses, were not broken into core academic areas. In addition, only math common assessment scores were analyzed; therefore, in order to better assess the success of students in the key content areas as outlined by Conley (2010), the researcher suggests that more research in the area of content knowledge proficiency should be completed. This additional research should look specifically at student proficiency in Conley's (2005) six content areas: math, English, science, social studies, the arts, and foreign languages. By assessing the proficiency level of CCP students in these different subject areas, the studies may reveal differences in student course success. Both the high school counselors and college advisors might use this information to help correctly advise students in which CCP courses to enroll.

Recommendation #2. Current literature supports that dual enrollment programs such as the NCCCP program increase postsecondary success, persistence, and completion rates for their participants (Hughes et al., 2012; Oakley, 2015; Swanson, 2010; Young et al., 2013). The researcher recommends a follow-up study at this site to evaluate NCCCP student postsecondary success at this community college. This information would be beneficial for stakeholders and policymakers to aid in decision making regarding financial and organizational support both at the state and institutional levels.

Recommendation #3. Community colleges have greatly increased their online dual enrollment offerings. This method of delivery has the benefits of ensuring the qualifications of instructor and level of rigor for the college course as well as increasing the availably of dual enrollment offerings, particularly in rural areas. The CCP and non-CCP courses selected for this research study were delivered to the student groups using the online delivery format. All instruction for both sets of courses were delivered through the learning management system, Moodle. Research shows that the "typical

student had trouble adapting to online courses" (Xu & Jaggars, 2013, p. 23). Thus,

students in the NCCCP program at this college face two separate challenges in online

dual enrollment courses: the challenge of taking college courses as high school students

and learning to navigate the online learning environment. In a study by Stark

Educational Partnership (2015), dual enrollment students rated not having an instructor in

the room as one of the top three challenges of dual enrollment with the other two

challenges being time for group work and time management. The researcher suggests

that a study investigating the success of students, both dual enrollment and traditional, in

online compared to traditional delivery be completed. This additional research will

ensure that all students are provided the best method of instructional delivery, thus

increasing their chances of course success.

Implications

      Support for the CCP student. A reoccurring theme that emerged in the

instructor focus group was the need for support for the dual enrollment student at both the

high school and community college. The instructors talked about the importance of

having someone there at the high school for the dual enrollment students to use as a

resource. One instructor mentioned that "[dual enrollment students] do not have the

skills for self-motivation. They do not have those organizational skills, just naturally. . . .

They need that support." The literature echoes the CCP instructor concerns. Tinberg and

Nadeau (2011) cautioned that while the level of depth into the content is an obvious

difference between high school and college courses, a less obvious difference is the

variance in the culture that exists between the two institutions.

      Even the daily schedule shift from high school to college demands a certain level

      of maturity. What college students do on their days without classes and between

and after classes is up to them. These decisions often mean the difference between academic success or failure. (Tinberg & Nadeau, 2011, p. 714).

Adequate support from both the high school and the community college could make a difference in whether the dual enrollment student is successful in his or her courses.

While the traditional college students at this community college are required to attend orientation, the dual enrollment students are not. Research supported that an adequate orientation process is a common attribute of successful dual enrollment programs (Conley, 2010). An orientation program would allow students exposure to the college campus, including the support services that are available to all students such as tutoring, supplemental instruction, writing center, career counseling, and the advising center. In addition, an orientation program could set expectations for college courses such as attendance policies, grading, and course syllabus requirements.

A college advisor located at each high school could provide help to the dual enrollment student and ease some of the burden on the high school counselors (Conley, 2010; Matthews, 2017; Raia-Taylor, 2012). The American Counseling Association (2013) suggested that an ideal student to counselor ratio is 250:1. Many schools do not meet this recommendation. In addition, dual enrollment programs at many schools are added to the duties of school counselors who are already stretched thin. Also, high school counselors might not be knowledgeable in college course requirements and certificate or degree pathways. The placement of a college advisor at the high school could aid students in registering for the appropriate classes and monitoring their progress in those courses. Monitoring of the student progress could identify gaps in key content knowledge, key cognitive strategies, or key academic behaviors of the CCP students and provide support for those students who are struggling in their CCP courses. Finally,

college advisors could increase communication between the students and college faculty, a problem identified in the CCP instructor focus group.

Better preparing CCP students for college. Karp (2012) found that the dual enrollment program better prepared students for college by providing authentic college experience while in the safety of the high school. She stated that dual credit courses gave the student the chance to experience college as different from high school and "an opportunity to practice the role" of a college student (Karp, 2012, p. 27).

During the CCP instructor focus group, CCP instructors reflected that students did not understand the difference between the high school and college courses. One instructor felt that this issue was a challenge for her students, stating that students needed "some clarity between . . . yes, this class is taught during the high school day, but this is a college class." While the CCP instructors might see students in their CCP courses who are not "college ready," Karp (2012) argued that the dual enrollment experience makes them better prepared for success at their postsecondary institution. In addition, numerous studies have shown that dual enrollment students perform better than non-dual enrollment students at their postsecondary institutions in terms of GPA (Oakley, 2015; Young et al., 2013) and completion (Hughes et al., 2012; Oakley, 2015; Swanson, 2010); however, it is important that the CCP courses mirror the non-CCP courses.

Karp (2012) found that it is important for dual enrollment programs to provide an "authentic" college experience (p. 26). She stated that dual enrollment courses should model the academic rigor of the college course as well as the "normative, behavioral and attitudinal expectation" (Karp, 2012, p. 26). Dual enrollment programs are one method to increase the rigor of high school, particularly during the last 2 years. In addition, these courses provide an opportunity for exposure to new experiences, thus accelerating the

cognitive development of the participants.

Discrepancies in dual enrollment performance and instructor perceptions of student college readiness. In this study, CCP instructors rated the CCP students lower in college readiness than the students rated themselves. In addition, the themes of CCP students lacking college readiness skills, particularly in Conley's (2010) key academic behaviors, emerged from the CCP instructor focus group; however, the CCP students showed proficiency in terms of dual enrollment final grades and common assessment scores that matched or outperformed the non-CCP students. A study by Ferguson, Baker, and Burnett (2015) supported this statement. That study reported in its findings that

> Faculty perceived that students in dual enrollment courses did not behave like college students and were less mature than their older, standard community college students. Whereas the academic "college readiness" of these students may be adequate, their affective readiness to participate in college courses two years before high school graduation may present challenges that could require significant support. (Ferguson et al., p. 90)

Therefore, this question may be asked, "Why the discrepancies?" The researcher believes there could be several contributing factors to this finding from this study.

First, in the college readiness perception survey, CCP instructors were asked to rate only their CCP students in terms of college readiness; therefore, the data reflect the difference in CCP instructor perceptions and CCP student perceptions of college readiness only. It is possible had the instructors rated their non-CCP students in terms of college readiness, the same trends would have been identified. During the instructor focus group, CCP instructors agreed that several deficiencies in college readiness skills identified for CCP students were also seen in non-CCP students, aged 18-22. These

college readiness skills included writing, communication, and using the textbook.

Another contributing factor could be the nature of the questioning used in the college readiness perception survey and the CCP instructor focus group. When asked to reflect on an experience, the negative attributes of that experience often emerged first. One participant in the CCP instructor focus group reflected on this inclination, stating, "sometimes when we are asked to reflect on our students, what immediately comes to our minds is often negative . . . the problem areas that we have had, instead of thinking about the students that I do not worry about as much." This discrepancy between CCP instructor perception of CCP student college readiness and the CCP student performance based on final course grades and common assessment scores could be affected by this trait.

Last, it is possible that postsecondary instructors could have a bias against teaching secondary students. Most community college instructors are not trained in the field of education but instead serve as experts in their content fields; therefore, they may not feel adept at serving this age of student and dealing with the characteristics that often accompany them. Research by Ferguson et al. (2015) found that while dual enrollment students performed well in the college courses, the instructors of those courses reported that the students are less mature and often introduced "drama" into the classroom (p. 89). This social immaturity adds a dimension to the college classroom that some college instructors are not adequately ready to deal with. The researcher believes that more communication with the CCP instructors with regard to this discrepancy could lead to dialogue that could improve the academic interactions and communication between the college instructors and CCP students.

Conclusions

As the need for a more educated workforce accelerates, it is important that the nation finds innovative ways to support this requirement. Providing accelerated educational pathways for completion of credentials is one way to support the growing need of the workplace. Dual enrollment programs such as the NCCCP program offer high school students the opportunity to earn college credit by taking college classes while still enrolled in high school. These programs offer the students a seamless pathway toward a certificate or degree while increasing the chances they will be successful in their postsecondary institution.

This chapter presented the findings of the sequential explanatory mixed methods study investing the effects of the NCCCP program in increasing college readiness of its participants. The results of this study indicated that NCCCP is indeed effective in terms of proficiency. CCP students statistically outperformed non-CCP in final course grades and MAT 152 common assessment scores. There was no statistical significance in terms of MAT 143, transfer success rate, or student perception of college readiness. Based on these results, the NCCCP program can indeed serve as a method to accelerate students at this site to completion of a certificate or a degree. This chapter also presented limitations of the study and provided recommendations for future studies on the NCCCP program at this site. Finally, implications of the study were outlined.

In this researcher's opinion, a participant in the instructor focus groups summed up the reason why dual enrollment programs are important for students:

That was the point of going to college. I can connect those dots now, but it took time. And some maturity . . . I feel like the point of college is to expand your knowledge and learn about the world as a whole. When I was 18, I was still

wondering why I had to take British Literature when it had nothing to do with what I was going to do for the rest of my life. And I never had to recite anything from Beuwolf after that. But I did learn critical thinking skills and I did learn a lot about British Lit. I learned what really good teaching was. What it means to be passionate about a job, because my professor was really good at it. But could I have told you that after that class? No. And had I not gone to college, I would not have understood the importance of that, but it took the journey for me to get it. (Focus Group Participant, personal communication, April 12, 2017)

The benefit of dual enrollment programs such as the NCCCP program is the journey for those students who participate. It is a journey that starts while they are still in high school and ultimately leads to more prepared college students as well as functioning, qualified members of the workforce.

References

About the IB. (2016). Retrieved May 17, 2016, from International Baculaureate: http://www.ibo.org/about-the-ib/

Accelerating Student Success through Credit-Based Transition Programs: Homepage. (2008, September 17). Retrieved September 19, 2016, from U.S. Department of Education: http://www2.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html

ACT. (2016). *The condition of college & career readiness 2016: National.* Iowa City, IA: National ACT College Success Reasearch Partnership. Retrieved from http://www.act.org/content/dam/act/unsecured/documents/CCCR_National_2016.pdf

Alkhausi, H. A., Al-Yahmadi, H., Al-Kalbani, M., Clayton, D., Al-Barwani, T., Al-Sulaimani, H., . . . Khan, M. A. (2015). Predictors of first-year Sultan Qaboos University students' grade point average. *Journal of Education Practice, 6*(12), 121-127. Retrieved from http://files.eric.ed.gov/fulltext/EJ1080673.pdf

Allen, J. D. (2005). Grades as valid measures of academic achievement of classroom learning. *The Clearing House, 78*(5), 218-223. doi:10.3200/tchs.78.5.218-233

American Counseling Association. (2013, February 11). *Student support act: Reducing the student to counselor ratio*. Retrieved from American Counseling Association - Government Affairs: http://www.counseling.org/government-affairs/public-policy/public-policy-news-view/position-papers/2013/02/11/student-support-act-reducing-the-student-to-counselor-ratio

An, B. P. (2013). The influence of dual enrollment on academic performance and college readiness: Differences by socioeconomic status. *Research in Higher Education, 54*(4), 407-432. doi:10.1007/s11162-012-9278-z

An, B. P., & Taylor, J. L. (2015). Are dual enrollment students college ready? Evidence from the Wabash National of Liberal Arts Education. *Education Policy Analysis Archives, 23*(58). Retrieved from http://dx.doi.org/10.14507/epaa.v23.

Bailey, T., & Karp, M. M. (2003). *Promoting college access and success: A review of credit-based transition programs.* Washington, DC: Office of Vocational and Adult Education, U.S. Department of Education. Retrieved from ccrc.tc.columbia.edu

Butin, D. W. (2010). *The education dissertation: A guide for practitioner scholars.* Thousand Oaks, CA: Corwin.

Caruth, G. D. (2013, August). Demystifying mixed methods research design: A review of the literature. *Mevlana International Journal of Education, 3*(2), 112-122. Retrieved from http://dx.doi.org/10.13054/mije.13.35.3.2

Cassidy, L., Keating, K., & Young, V. (2010). *Dual enrollment: Lessons learned on school-level implementation.* SRI International. Retrieved from www2.ed.gov

Cheng, H. G., & Phillips, M. (2014). Secondary analysis of existing data: Opportunites and implementation. *Shanghai Archives of Psychiatry, 26*(6), 371-375. doi:10.11919/j.issn.1002-0829.214171

Chickering, A. W., & Havighurst, R. J. (1981). The life cycle. In A. W. Chickering, *The modern American college: Responding to the new realities of diverse students and a changing society* (pp. 18-25). San Francisco, CA: Jossey-Bass.

CollegeBoard. (2015a). *AP program guide 2015-16.* Retrieved from https://secure-media.collegeboard.org/digitalServices/pdf/professionals/ap-program-guide.pdf

CollegeBoard. (2015b). *Program summary report.* Retrieved May 17, 2016, from https://secure-media.collegeboard.org/digitalServices/pdf/research/2015/Program-Summary-Report-2015.pdf

Common Course Catalog. (2008). Retrieved December 16, 2016, from NC Community Colleges: https://webadvisor.nccommunitycolleges.edu/WebAdvisor/HelpServlet?TOKENIDX=6063827669&WEB=Y&type=P&pid=ST-XWCCS01A&constituency=WBAP&username=Guest%20for%20Webadvisor

Comprehensive Articulation Agreement. (2016). Retrieved November 18, 2016, from NC Communtiy Colleges: http://www.nccommunitycolleges.edu/academic-programs/college-transferarticulation-agreements/comprehensive-articulation-agreement-caa

Conley, D. T. (2005). *College knowledge: What is really takes for students to succeed and what we can do to get them ready.* San Francisco, CA: Jossey-Bass.

Conley, D. T. (2007). *Redefining college readiness.* Eugene, OR: Educational Policy Improvement Center. Retrieved from http://aypf.org/documents/RedefiningCollegeReadiness.pdf

Conley, D. T. (2010). *College and career ready: Helping all student succeed beyond high school.* San Francisco, CA: Jossey-Bass.

Conley, D. T. (2014). *Getting ready for college, careers, and the common core.* San Francisco, CA: Jossey-Bass.

Conley, D. T. (2016, April). Teaching 'success skills' to conquer content: An approach for preparing students for college, careers and life. *School Administrator, 73*(4), 23-26. Retrieved from http://go.galegroup.com.ezproxy.gardner-webb.edu/ps/retrieve.do?tabID=T003&resultListType=RESULT_LIST&searchResultsType=SingleTab&searchType=AdvancedSearchForm&currentPosition=1&docId=GALE%7CA451229745&docType=Article&sort=RELEVANCE&contentSegment=&prodId

Course Prefix Definitions. (2016). Retrieved December 16, 2016, from St. Petersburg College: http://web.spcollege.edu/courses/prefix

Cowan, J., & Goldhaber, D. (2015, Spring). How much of a "running start" do dual enrollment programs provide students? *Review of Higher Education, 38*(3), 425-460. Retrieved from https://muse.jhu.edu/article/576572

Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.

Crouse, J. D., & Allen, J. (2014). College course grades for dual enrollment students. *Community College Journal of Research and Practice, 36*(8), 494-511. doi:10.1080/10668926.2011.567168

Curriculum Procedures Reference Manual. (2010, 28 January). Retrieved December 16, 2016, from North Carolina Community Colleges: http://www.nccommunitycolleges.edu/academic-programs/curriculum-procedures-reference-manual-cprm

Domina, T., & Ruzek, E. (2012). Paving the way: K-16 partnerships for higher education diversity and high school reform. *Educational Policy, 26*(2), 243-267. Retrieved from epx.sagepub.com

Earl, L. M. (2013). *Assessment as learning: Using classroom assessment to maximize student learning.* Thousand Oaks, CA: Corwin.

Educational Policy Improvement Center. (2015, September). *South Carolina college & career readiness toolkit.* Readiness, Center of Excellence for College and Career, Eugene, OR. Retrieved from http://www.epiconline.org/south-carolina-toolkit/

Evans, N. J., Forney, D. S., & Guido-DiBrito, F. (1998). *Student development in college: Theory, research and practice.* San Francisco, CA: Jossey-Bass.

Ferguson, C., Baker, P., & Burnett, D. (2015). Faculty members' perception of rigor in dual enrollment, accelerated programs, and standard community college courses. *New Directions for Community Colleges, 2015*(169), 83-91. doi:10.1002/cc.20135

Fitzpatrick, J. L., Sanders, J. R., & Worthen, B. R. (2011). *Program evaluation: Alternative approaches and practical guidelines* (4th ed.). New York, NY: Pearson Education.

The Four Keys in Action. (2017). Retrieved January 16, 2017, from epic: Empowering students for college and career: http://www.epiconline.org/projects/four-keys-in-action/

Fowler, M., & Luna, G. (2009). High school and college partnerships : Credit-based transition programs. *American Secondary Education, 38*(1), 62-76. Retrieved December 2015, from http://search.proquest.com.ezproxy.gardner-webb.edu/docview/195189001/fulltextPDF/40F4AF452DB461EPQ/1?accountid=11041

Frequently Asked Questions. (n.d.). Retrieved December 16, 2016, from Lane Community College: Institutional research, assessment, and planning: https://www.lanecc.edu/research/ir/frequently-asked-questions

Gaitlin, J. (2009). *The perceptions of regular high school and dual enrollment teachers and dual enrollment students towards college preparedness and dual enrollment courses in two Tennessee public school systems* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. AAI3404351)

Giani, M., Alexander, C., & Reyes, P. (2014, Summer). Exploring variation in the impact of dual-credit coursework on postsecondary outcomes: A quasi-experimental analysis of Texas students. *High School Journal, 97*(4), 200-218. Retrieved from http://ezproxy.gardner-webb.edu/login?url=http://search.proquest.com.ezproxy.gardner-webb.edu/docview/1532770735?accountid=11041

Ginder, S., & Sykes, A. (2013). *College costs - A decade of change 2002-03 to 2011-2012 (NCES 2013-170).* Washington, DC: U.S. Department of Education. Retrieved from Nationl Center for Education Statistics: http://nces.ed.gov/pubs2013/2013170.pdf

Greenbaum, T. L. (2000). *Moderating focus groups: A practical guide for group faciliation.* Thousand Oaks, CA: Sage Publications, Inc.

Haxton, C., Song, M., Zeiser, K., Berger, A., Turk-Bicakci, L., Garet, M. S., . . . Hosen, G. (2016, June). Longitudinal findings from the Early College High School Initiative impact study. *Educational Evaluation and Policy Analysis, 38*(2), 410-430. doi:10.3102/0162373716642861

Hershbein, B., & Kearney, M. S. (2014, September 29). *Major decisions: What graduates earn over their lifetimes.* Retrieved December 23, 2016, from The Hamilton Project: http://www.hamiltonproject.org/papers/major_decisions_what_graduates_earn_over_their_lifetimes/

Hughes, K., Rodriguez, O., Edwards, L., & Belfield, C. (2012). *Broadening the benefits of dual enrollment: Reaching underachieving and underrepresented students with career-focused programs.* Teachers College, Columbia University, Community College Research Center. James Irvine Foundation. Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/broadening-benefits-dual-enrollment-rp.pdf

Huskins Bill Incentives Fund of 1997. S. 1549, Cong. (1997).

Inman, W. E., & Mayes, L. (1999, Spring). The importance of being first: Unique characteristics of first generation community college students. *Community College Review, 26*(4), 3-22. Retrieved from http://search.proquest.com.ezproxy.gardner-webb.edu/docview/213284189/fulltextPDF/8B659CA3FBE94DD8PQ/5?accountid=11041

Johnson, R. B., & Onwuegbuzie, A. J. (2004, October). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14-26. doi:10.3102/0013189x033007014

Karp, M. M. (2012, June 1). "I don't know. I've never been to college!" Dual enrollment as college readiness strategy. *New Directions for Higher Education, 2012*(158), 21-28. doi:10.1002/he

Karp, M. M., & Jeong, D. W. (March 2008). *Conducting research to answer your questions about dual enrollment.* Washington, D.C.: U.S. Department of Education, Office of Elementary and Secondary Education. Retrieved from http://ccrc.tc.columbia.edu/publications/conducting-research-dual-enrollment.html

Kena, G., Musu-Gillette, L., Robinson, J., Wang, X., Rathbun, A., Zhang, J., . . . Velez, E. D. (2015). *The condition of education 2015: Institutional retention and graduation rates for undergraduate students (NCES 2014-144).* Washington, DC: US Department of Education, National Center for Educational Statistics. Retrieved from http://nces.ed.gov/programs/coe

Laerd Statistics. (2015). Independent samples t-test using SPSS Statistics. *Statistical tutorials and software guides*. Retrieved from https://statistics.laerd.com

Litosseliti, L. (2003). *Using focus groups in research.* New York, NY: Continuum: London.

Lombardi, A. R., Kowitt, J. S., & Staples, F. E. (2014, May). Correlates of critical thinking and college and career readiness for students with and without disabilities. *Career Development for Exceptional Individuals, 38*(3), 142-151. doi:10.1177/2165143414534888

Long, M. C., Conger, D., & Iatarola, P. (2012). Effects of high school course-taking on secondary and postsecondary success. *American Educational Research Journal, 49*(2), 285-322. doi:10.3102/0002831211431952

Marken, S., Gray, L., Lewis, L., & Ralph, J. (2013). *Dual enrollment programs and courses for high school students at postsecondary institutions: 2010-2011.* Washington, DC: National Center for Education Statistics. Retrieved from https://nces.ed.gov/pubs2013/2013002.pdf

Maruyama, G. (2012). Assessing college readiness: Should we be satisfied with ACT or other threshold scores? *Educational Researcher, 41*(7), 252-261. doi:10.3102/0013189X12455095

Marzano, R. J., & Heflebower, T. (2011, November). Show what students know: Best practices suggest four ways to make the most of standards-based grading and reporting. *Educational Leadership*, 34-39. Retrieved from http://eds.b.ebscohost.com.ezproxy.gardner-webb.edu/eds/pdfviewer/pdfviewer?sid=c36c3cc1-840e-4c0d-a7f2-363f1e360f5a%40sessionmgr102&vid=9&hid=127

Matthews, J. A. (2017). *Impact of embedded advisors on high school student participation in dual enrollment courses.* (Doctoral dissertation). Retrieved from http://search.proquest.com.ezproxy.gardner-webb.edu/docview/1889832553/abstract/5F4B85E81D3D4E32PQ/17?accountid=11041

Mertes, S. J., & Jankoviak, M. W. (Spring 2016). Creating a college-wide retention program: A mixed methods approach. *Community College Enterprise, 22*(1), 9-27. Retrieved from http://go.galegroup.com.ezproxy.gardner-webb.edu/ps/retrieve.do?tabID=T002&resultListType=RESULT_LIST&searchR esultsType=SingleTab&searchType=AdvancedSearchForm&currentPosition=1& docId=GALE%7CA459170982&docType=Article&sort=RELEVANCE&content Segment=&prodId

Michaels, H. R., Hawthorne, K., Cuevas, N., & Mateev, A. (2011). Creating seamless K-16 pathways: Role of assessment. *Research & Practice in Assessment, 6*, 15-21. Retrieved from eric.ed.gov

Mishkind, A. (2014). *Overview: State definitions of college and career readiness.* Washington, DC: American Institutes of Research, College & Career Readiness & Success Center. Retrieved from http://files.eric.ed.gov/fulltext/ED555670.pdf

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform: A report to the Nation and the Secretary of Education, United States Department of Education.* Washington, D.C: The Commission. Retrieved from https://www2.ed.gov/pubs/NatAtRisk/risk.html

Nodine, T. (2011). *Making the grade: Texas early college high school prepares students for college.* Boston, MA: Jobs for the future. Retrieved from http://www.jff.org/sites/default/files/publications/MakingTheGrade-032311.pdf

North Carolina Community College System. (2015). *Career and college promise*. Retrieved January 22, 2016, from http://www.nccommunitycolleges.edu/sites/default/files/basic-pages/academic-programs/attachments/section14_30oct2015_ccpv2.pdf

North Carolina Community College System. (2016). *Dual enrollment statistics 2015*. Retrieved from NCCCS Success.

North Carolina Community Colleges. (2016). *Career and college promise.* Raleigh, NC. Retrieved from http://www.nccommunitycolleges.edu/sites/default/files/basic-pages/academic-programs/attachments/section14_15april16_ccp_operating_procedures.pdf

Oakley, N. (2015). *Dual enrollment and dual credit as predictors of community college graduation, grade point average, and credit hour accumulation.* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database (UMI No. 3737142)

Obama, B. (2009, February). *Remarks of President Barack Obama -- Address to Joint Session of Congress.* Retrieved from The White House: https://www.whitehouse.gov/the-press-office/remarks-president-barack-obama-address-joint-session-congress

Obama, B. (2013, February 12). *Speeches and remarks.* Retrieved Novemeber 18, 2016, from The White House: https://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address

Our History. (2016). Retrieved from Project Advance Syracuse University: http://supa.syr.edu/about/about.php?page=562&activemenu=566

Our Work: The Four Keys. (n.d.). Retrieved from EdImagine: http://edimagine.com/work/

Owen, G. T. (2014, June 30). Qualitative methods in higher education policy analysis: Using interviews and document analysis. *The Qualitative Report, 19*(26), 19. Retrieved from http://ezproxy.gardner-webb.edu/login?url=http://go.galegroup.com/ps/i.do?id=GALE%7CA376933213&v=2.1&u=nclivegwu&it=r&p=AONE&sw=w&asid=1e6db9c42e5f9261dd43d6ebc1e01dcf

Oxenreider, A. (2016). *Fact book.* [Research site], Office of Assessment, Planning and Research, NC.

Papalia, D. E., & Martorell, G. (2015). *Experience human development* (13th ed.). Columbus, OH: McGraw-Hill Education.

Partnership for 21st Century Skills. (2009). *P21 framework definitions.* Washington, DC. Retrieved from http://files.eric.ed.gov/fulltext/ED519462.pdf

Peer, E., & Gamleil, E. (2011, June). Too reliable to be true? Response bias as a potential source of inflaction in paper-and-pencil questionnaire reliability. *Practical Assessment, Research & Evaluation, 16*(9). Retrieved from http://pareonline.net/getvn.asp?v=16&n=9

Perry, Jr, W. G. (1981). Cognitive and ethical growth: The making of meaning. In A. W. Chieckering, *The modern American college: Responding to the new realities of diverse students and a changing society* (pp. 70-80). San Francisco, CA: Jossey-Bass.

Public Schools of North Carolina. (2007). *N.C. new schools project*. Retrieved November 9, 2016, from District and School Transformation: http://www.ncpublicschools.org/schooltransformation/turnaround/archives/model s/new-schools

Raia-Taylor, M. (2012). *A case study examining the influence of dual enrollment and high school advising on student persistence in college (Doctoral Dissertation).* Retrieved from http://search.proquest.com.ezproxy.gardner-webb.edu/docview/1316620278/EA70BFE836144737PQ/16?accountid=11041

Roderick, M., NagaokaJ, Coca, V., Moeller, E., Roddie, K., Gilliam, J., & Patton, D. (2008). Potholes on the road to college: High school effects in shaping urban students' participation in college application, four-year college enrollment, and college match. *Sociology of Education, 84*(3), 178-211. Retrieved from http://ezproxy.gardner-webb.edu/login?url=http://search.proquest.com.ezproxy.gardner-webb.edu/docview/892336908?accountid=11041

Rogers, G. (n.d.). *Sample protocol for pilot testing survey items.* Retrieved from Abet: http://www.abet.org/wp-content/uploads/2015/04/sample-protocol-pilot-testing-survey-items-1.pdf

Schaie, K. W., & Parr, J. (1981). Intelligence. In A. W. Chickering, *The modern American college: Responding to the new realities of diverse students and a changing society* (pp. 118-126). San Francisco, CA: Jossey-Bass.

Smith, A. R., & Garton, B. L. (2008, September). Prior college credit of first semester freshmen: Does it make a difference? *NACTA Journal, 52*(3), 39-45. Retrieved from http://search.proquest.com.ezproxy.gardner-webb.edu/docview/214366676/54EA867C25754C58PQ/8?accountid=11041

Sparks, D., & Malkus, N. (2013). *Statistics in Brief: First year undergraduate remedial coursetaking: 1999-2000, 2003-04, 2007-08.* National Center for Educational Statistics, Institution of Education Sciences. Washington, DC: U.S. Department of Education. Retrieved from http://nces.ed.gov/pubs2013/2013013.pdf

Spilliett, M. A. (2003, Fall). Peer debriefing: Who, what, when, why, how. *Academic Exchange Quaterly, 7*(3), 36-40. Retrieved from http://go.galegroup.com.ezproxy.gardner-webb.edu/ps/i.do?ty=as&v=2.1&u=nclivegwu&it=DIourl&s=RELEVANCE&p=AONE&qt=SN~1096-1453~~TI~Peer%20debriefing%3A%20who%2C%20what%2C%20when%2C%20why%2C%20how~~PU~Academic%20Exchange%20Quarterly&lm=&sw=w&authCount=1

Stark Educational Partnership. (2015). *Do facilitated online dual credit courses result in deep learning?* Retrieved October 27, 2015, from http://www.edpartner.org/pdfs/Deep%20Learning.pdf

Sue, V. M., & Ritter, L. A. (2007). *Conducting online surveys.* Los Angeles, CA: Sage Publications, Inc.

Suskie, L. (2009). *Assessing student learning: A common sense guide.* San Francisco, CA: Jossey-Bass.

Swanson, J. (2010, March). Dual enrollment. *Principal Leadership, 10*(7), 42-43. Retrieved from search.proquest.com.proxy091.nclive.org

Thayer-Hart, N., Dykema, J., Elver, K., Schaeffer, N. C., & Stevenson, J. (2010). *Survey Fundamentals: A guide to designing and implementing surveys.* Madison, WI: Office of Quality Improvement, University of Winsonsin-Madison. Retrieved from https://oqi.wisc.edu/resourcelibrary/uploads/resources/Survey_Guide.pdf

Thomas, S. J. (2004). *Using web and paper questionnaires for data-based decision making: From design to interpretation of the results.* Thousand Oaks, CA: Corwin.

Thomas, N., Marken, S. G., Lewis, L., & Ralph, J. (2013). *Dual credit and exam-based courses in U.S. public high schools: 2010-11.* District of Columbia: U.S. Department of Education. Retrieved from http://nces.ed.gov/pubs2013/2013001.pdf

Tinberg, H., & Nadeau, J. P. (2011, June). Contesting the space between high school and college in the era of dual-enrollment. *College Composition and Communication, 62*(4), 704-725. Retrieved from http://search.proquest.com.ezproxy.gardner-webb.edu/docview/869017733/fulltextPDF/FBD01B2CA0144963PQ/1?accountid=11041

Turk-Bicakci, L., Garet, M., Knudson, J., & Hoshen, G. (2014, Jan.). *Early college, continued success: Early College High School Initiative impact study.* Washington, DC: American Institutes for Research. Retrieved from http://www.air.org/sites/default/files/downloads/report/AIR%20ECHSI%20Impac t%20Study%20Report-%20NSC%20Update%2001-14-14.pdf

Uebersax, J. S. (2006). *Likert scales: Dispelling the confusion.* Retrieved July 16, 2016, from Statistical methods for rater agreement: http://john-uebersax.com/stat/likert.htm

Urdan, T. C. (2010). *Statistics in plain English* (3rd ed.). New York: Routledge.

U.S. Department of Education. (2016, June 6). *Race to the top fund.* Retrieved from Programs: http://www2.ed.gov/programs/racetothetop/index.html

U.S. Department of Education. (n.d.a). *College Affordability and Completion: Ensuring a Pathway to Opportunity.* Retrieved from U.S. Department of Education: http://www.ed.gov/college

U.S. Department of Education. (n.d.b). *Next generation high schools: Redesigning the American hgih school experience.* Retrieved November 18, 2016, from U.S. Department of Education: http://www.ed.gov/highschool

Verrell, P., & McCabe, N. R. (2015). In their own words: Using self-assessments of college readiness to develop strategies for self-regulated learning. *College Teaching, 63*(4), 162-170. doi:10.1080/87567555.2015.1053046

White, J., Hopkins II, R., & Shockley, D. (2014). Gaining insights from a case study of high school student performance in dual-credit college chemistry courses. *Journal of Chemical Education, 91*(1), 30-36. doi:10.1021/ed400325t

Wildhagen, T. (2015, September). "Not your typical student": The social construction of the "first-generation" college student. *Qualitative Sociology, 38*(3), 285-303. doi:10.1007/s11133-015-9308-1

Wilson III, J. K. (2012, May). *Predictors of college readiness: An analysis of the student readiness inventory.* (Doctoral Dissertation). Denton, TX. Retrieved from UNT Digital Library website http://digital.library.unt.edu/ark:/67531/metadc115181/

Xu, D., & Jaggars, S. S. (2013, Feb.). *Adaptability to online learning: Differences across types of students and academic subject areas.* Community College Research College, Columbia University, CCRC Working Paper No. 54, New York, NY. Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/adaptability-to-online-learning.pdf

Young, R. D., Joyner, S. A., & Slate, J. R. (2013). Grade point average differences between dual and nondual credit college students. *Urban Studies Research*. doi:10.1155/2013/638417

Zinth, J. D. (2015). *Dual Enrollment course content and instructor quality.* Washington, DC: National Center on Education Statistics. Retrieved from http://files.eric.ed.gov/fulltext/ED555525.pdf

Appendix A

NCCCP CTP - AA Pathway

Career and College Promise College Transfer Pathway
Leading to the Associate in Arts (P1012C)

The CCP College Transfer Pathway Leading to the Associate in Arts is designed for high school juniors and seniors who wish to begin study toward the Associate in Arts degree and a baccalaureate degree in a non-STEM major.

GENERAL EDUCATION (31-32 SHC)
The general education requirement includes study in courses selected from the Universal General Education Transfer Component (UGETC) component of the Comprehensive Articulation Agreement.

English Composition (6 SHC)
The following two English composition courses are required.

ENG 111	Writing & Inquiry	(3 SHC)
ENG 112	Writing/Research in the Disciplines	(3 SHC)

Select three courses from the following from at least two different disciplines (9 SHC)

Communication

COM 231	Public Speaking	(3 SHC)

Humanities/Fine Arts

ART 111	Art Appreciation	(3 SHC)
ART 114	Art History Survey I	(3 SHC)
ART 115	Art History Survey II	(3 SHC)
ENG 231	American Literature I	(3 SHC)
ENG 232	American Literature II	(3 SHC)
ENG 241	British Literature I	(3 SHC)
ENG 242	British Literature II	(3 SHC)
MUS 110	Music Appreciation	(3 SHC)
MUS 112	Introduction to Jazz	(3 SHC)
PHI 215	Philosophical Issues	(3 SHC)
PHI 240	Introduction to Ethics	(3 SHC)

Social/Behavioral Sciences (9 SHC)
Select three courses from the following from at least two different disciplines:

ECO 251	Principles of Microeconomics	(3 SHC)
ECO 252	Principles of Macroeconomics	(3 SHC)
HIS 111	World Civilizations I	(3 SHC)

(continued)

HIS 112	World Civilizations II	(3 SHC)
HIS 131	American History I	(3 SHC)
HIS 132	American History II	(3 SHC)
POL 120	American Government	(3 SHC)
PSY 150	General Psychology	(3 SHC)
SOC 210	Introduction to Sociology	(3 SHC)

Math (3-4 SHC)
Select one course from the following:

MAT 143	Quantitative Literacy	(3 SHC)
MAT 152	Statistical Methods I	(4 SHC)
MAT 171	Precalculus Algebra	(4 SHC)

Natural Sciences (4 SHC)
Select 4 SHC from the following course(s):

AST 111 Descriptive Astronomy (3 SHC) *and* AST 111A Descriptive Astronomy Lab (1 SHC)
AST 151 General Astronomy I (3 SHC)   *and* AST 151A General Astronomy Lab I (1 SHC)

BIO 110	Principles of Biology	(4 SHC)
BIO 111	General Biology I	(4 SHC)
CHM 151	General Chemistry I	(4 SHC)
GEL 111	Introductory Geology	(4 SHC)

PHY 110 Conceptual Physics (3 SHC)   *and*   PHY 110A Conceptual Physics Lab (1 SHC)

Total General Education Hours Required: 32

Academic Transition (1 SHC)
The following course is required:

| ACA 122 | College Transfer Success | (1 SHC) |

*OPTIONAL GENERAL EDUCATION HOURS (0-8 SHC)
A student may take up to 8 SHC of foreign language courses and accompanying labs, in a single language, designated as General Education in the CAA as a part of this pathway. These courses are not a part of the Universal General Education Transfer Component. Students who complete these courses with a grade of "C" or better will receive transfer credit. The receiving university will determine whether the courses will count as general education, pre-major, or elective credit.

Total Semester Hours Credit (SHC) in Program: 32- 41*

High school students in the CCP College Transfer Pathway Leading to the Associate in Arts must complete the entire pathway before taking additional courses in the Associate in Arts degree with the exception of mathematics courses beyond MAT 171 in the Associate in Arts.

(North Carolina Community College System, 2015)

Appendix B

NCCCP CTP - AS Pathway

Career and College Promise College Transfer Pathway
Leading to the Associate in Science (P1042C)

The CCP College Transfer Pathway Leading to the Associate in Science is designed for high school juniors and seniors who wish to begin study toward the Associate in Science degree and a baccalaureate degree in a STEM or technical major.

GENERAL EDUCATION (34 SHC)
The general education requirement includes study in courses selected from the Universal General Education Transfer Component (UGETC).

English Composition (6 SHC)
The following two English composition courses are required.

ENG 111	Writing & Inquiry	(3 SHC)
ENG 112	Writing/Research in the Disciplines	(3 SHC)

Select two courses from the following from at least two different disciplines (6 SHC)

Communication

COM 231	Public Speaking	(3 SHC)

Humanities/Fine Arts

ART 111	Art Appreciation	(3 SHC)
ART 114	Art History Survey I	(3 SHC)
ART 115	Art History Survey II	(3 SHC)
ENG 231	American Literature I	(3 SHC)
ENG 232	American Literature II	(3 SHC)
ENG 241	British Literature I	(3 SHC)
ENG 242	British Literature II	(3 SHC)
MUS 110	Music Appreciation	(3 SHC)
MUS 112	Introduction to Jazz	(3 SHC)
PHI 215	Philosophical Issues	(3 SHC)
PHI 240	Introduction to Ethics	(3 SHC)

Social/Behavioral Sciences (6 SHC)
Select two courses from the following from at least two different disciplines:

ECO 251	Principles of Microeconomics	(3 SHC)
ECO 252	Principles of Macroeconomics	(3 SHC)
HIS 111	World Civilizations I	(3 SHC)
HIS 112	World Civilizations II	(3 SHC)
HIS 131	American History I	(3 SHC)
HIS 132	American History II	(3 SHC)
POL 120	American Government	(3 SHC)

PSY 150	General Psychology		(3 SHC)
SOC 210	Introduction to Sociology		(3 SHC)

Math (8 SHC)
Select two courses from the following:

MAT 171	Precalculus Algebra		(4 SHC)
MAT 172	Precalculus Trigonometry		(4 SHC)
MAT 263	Brief Calculus		(4 SHC)
MAT 271	Calculus I		(4 SHC)
MAT 272	Calculus II		(4 SHC)

Natural Sciences (8 SHC)
Select 8 SHC from the following course(s):

AST 151	General Astronomy I (3 SHC)	*and* AST151A	General Astronomy Lab I (1 SHC)
BIO 110	Principles of Biology		(4 SHC)
BIO 111	General Biology I (4 SHC)	*and* BIO 112	General Biology II (4 SHC)
CHM 151	General Chemistry I (4 SHC)	*and* CHM 152	General Chemistry II (4 SHC)
GEL 111	Introductory Geology		(4 SHC)
PHY 110	Conceptual Physics (3 SHC)	*and* PHY 110A	Conceptual Physics Lab (1 SHC)
PHY 151	College Physics I (4 SHC)	*and* PHY 152	College Physics II (4 SHC)
PHY 251	General Physics I (4 SHC)	*and* PHY 252	General Physics II (4 SHC)

Total General Education Hours Required: 34

Academic Transition (1 SHC)
The following course is required:

ACA 122	College Transfer Success	(1 SHC)	

*OPTIONAL GENERAL EDUCATION HOURS (0-8 SHC)

A student may take up to 8 SHC of foreign language courses and accompanying labs, in a single language, designated as General Education in the CAA as a part of this pathway. These courses are not a part of the Universal General Education Transfer Component. Students who complete these courses with a grade of "C" or better will receive transfer credit. The receiving university will determine whether the courses will count as general education, pre-major, or elective credit.

Total Semester Hours Credit (SHC) in Pathway: 35-43*

High school students in the CCP College Transfer Pathway Leading to the Associate in Science must complete the entire pathway before taking additional courses in the Associate in Science degree with the exception of mathematics courses beyond MAT 271.

Please see CC15-017 at http://www.nccommunitycolleges.edu/numbered-memos for direct placement criteria for MAT 271 Calculus I.

(North Carolina Community College System, 2015)

Appendix C

Email Invitation for Instructor Focus Groups

In the past two years, you have taught a Career and College Promise (CCP) course for the college. I am currently working on a research study that focuses on college readiness of CCP students. I would like to invite you to participate in a focus group on April 12th at 11:30 am, BSCI Blue Room with four to eight other CCP instructors from the college to investigate the effects of the CCP program on college readiness of our students. The focus group should last no longer than one and a half hours and lunch will be provided.

In March, two surveys regarding student readiness were sent to college students who participated in the CCP program and instructors of CCP courses at this college. The purpose of this focus group is to find out more about trends that were identified from these surveys regarding the CCP program at our college and its effects on the college readiness of our students.

Jo James has agreed to facilitate this focus group. Participation in this focus group is voluntary and has no impact on your employment at this college. While the focus group will be audio taped, no personal identifying information will be recorded for the participants. If you are willing to participate in this focus group, please respond to Ashley Day (aday@isothermal.edu or 828.395.1491) by Friday, March 31.

Thank you!

Ashley Day

If you have any questions or concerns, please contact Ashley Day, Gardner-Webb Ed.D. candidate, aday@gardner-webb.edu.

Appendix D

Consent for Participation in the Focus Group

Gardner-Webb University IRB
Informed Consent Form

Title of Study: Effectiveness of the Career and College Promise Program in Increasing College Readiness at a Rural North Carolina Community College

Researcher: Ashley Day, EDCI candidate

Purpose: The purpose of the research study is to investigate the effects of the CCP program on college readiness of our students. In March, two surveys regarding student readiness were sent to college students who participated in the CCP program and instructors of CCP courses at this college. The purpose of this focus group is to find out more about trends that were identified from these surveys regarding the CCP program at our college and its effects on the college readiness of our students.

Procedure:
What you will do in the study: Participate in a focus group with six to eight other CCP instructors from the college to investigate the effects of the CCP program on college readiness of our students. While the focus group will be audio taped, no personal identifying information will be recorded for the participants.

Time Required: It is anticipated that the study will require about 90 *minutes* of your time.

Voluntary Participation: Participation in this study is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any question(s) for any reason without penalty. If you choose to withdraw, you may request that any of your data which has been collected be destroyed unless it is in a de-identified state.

Confidentiality: The focus group will be audio recorded and then transcribed. That data will be coded for college readiness themes. No identifying factors of participants will be recorded. Then at the end of the research study all audio recordings and transcripts of recording will be shredded.

Risks: There are no anticipated risks in this study.

Benefits: There are no direct benefits associated with participation in this study. The study may help us to understand the effectiveness of the Career and College Promise Program at this research site.

The Institutional Review Board at Gardner-Webb University has determined that participation in this study poses minimal risk to participants.

Payment: You will receive no payment for participating in the study.

Right to Withdraw from the Study: You have the right to withdraw from the study at any time without penalty.

How to Withdraw from the Study
- If you want to withdraw from the study, please tell the researcher and leave the room. There is no penalty for withdrawing.
- If you would like to withdraw after your materials have been submitted, please contact Ashley Day, aday@gardner-webb.edu, 828-395-1491

If you have questions about the study, contact the following individuals.
Ashley Day
School of Education
Gardner-Webb University
Boiling Springs, NC 28017
828.-395-1491
aday@gardner-webb.edu

Dr. Jennifer Putnam
School of Education
Gardner-Webb University
Boiling Springs, NC 28017
704-406-2015
jputnam2@gardner-webb.edu

If the research design of the study necessitates that its full scope is not explained prior to participation, it will be explained to you after completion of the study. If you have concerns about your rights or how you are being treated, or if you have questions, want more information, or have suggestions, please contact the IRB Institutional Administrator listed below.
Dr. Jeffrey S. Rogers
IRB Institutional Administrator
Gardner-Webb University
Boiling Springs, NC 28017
704-406-4724
jrogers3@gardner-webb.edu

(continued)

<u>Voluntary Consent by Participant</u>

I have read the information in this consent form and fully understand the contents of this document. I have had a chance to ask any questions concerning this study and they have been answered for me.

_____   I agree to participate in the focus group I understand that this interview may be
               audio recorded for purposes of accuracy. The audio recording will
               be transcribed and destroyed.

_____   I do not agree to participate in the focus group.

_____   Date: _____

Participant Printed Name

_____   Date: _____

Participant Signature

You will receive a copy of this form for your records.

Appendix E

Email Directions to Students for College Readiness Perception Survey

Hello,

I am currently working on a research study that focuses on college readiness of Isothermal's students. I would appreciate you taking the time to complete the College Readiness Survey.

The survey should take about 10-15 minutes of your time. Your responses are voluntary and will be confidential. Responses will not be identified by individual. All responses will be compiled together and analyzed as a group. Neither your choice to participate nor your responses to this survey have any effect on your enrollment or grade in any course at this college. The survey can be accessed by following this link and by clicking the link, you are consenting to taking the survey, College Readiness Survey – Students (opens in new window).

The informed consent information for participation in the survey is found below.

Informed Consent

The purpose of the research study is to investigate the effects of the Career and College Promise program on college readiness of our students. The purpose of this perception college readiness survey is to find out more the CCP program at our college and its effects on the college readiness of our students as compared to our non-CCP students.

In this study, you will complete a college readiness perception survey which will take about 10-15 minutes of your time. Participation in this study is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any question(s) for any reason without penalty. If you choose to withdraw, you may request that any of your data which has been collected be destroyed unless it is in a de-identified state.

The information that you give in the study will be handled confidentially. Your data will be anonymous which means that your name will not be collected or linked to the data. Because of the nature of the data, it may be possible to deduce your identity; however, there will be no attempt to do so, and your data will be reported in a way that will not identify you.

There are no anticipated risks in this study. There are no direct benefits associated with participation in this study. The study may help us to understand the effectiveness of the Career and College Promise program in promoting college readiness in its participants The Institutional Review Board at Gardner-Webb University has determined that participation in this study poses minimal risk to participants. You will receive no payment for participating in the study.

If you have questions about the study, contact the following individuals.

(continued)

Ashley Day

School of Education

Gardner-Webb University

Boiling Springs, NC 28017

828-395-1491

aday@gardner-webb.edu

Dr. Jennifer Putnam

School of Education

Gardner-Webb University

Boiling Springs, NC 28017

704-406-2015

jputnam2@gardner-webb.edu

If the research design of the study necessitates that its full scope is not explained prior to participation, it will be explained to you after completion of the study. If you have concerns about your rights or how you are being treated, or if you have questions, want more information, or have suggestions, please contact the IRB Institutional Administrator listed below.

Dr. Jeffrey S. Rogers

IRB Institutional Administrator

Gardner-Webb University

Boiling Springs, NC 28017

704-406-4724

jrogers3@gardner-webb.edu

If you are ready to take the survey, click here College Readiness Survey –Students (opens in new window). By clicking the survey link, you are indicating consent in participation.

Thank you!

Ashley Day

Appendix F

Email Directions to Instructors for College Readiness Perception Survey

Hello,

In the past two years, you have taught a Career and College Promise (CCP) course for Isothermal CC. I am currently working on a research study that focuses on college readiness of CCP students. I would appreciate you taking the time to complete the College Readiness Survey.

It should take about 15-20 minutes of your time. Your responses are voluntary and will be confidential. Responses will not be identified by individual. All responses will be compiled together and analyzed as a group. The survey can be accessed by following this link and by clicking the link, you are consenting to taking the survey, College Readiness Survey – Instructors (opens in new window).

The informed consent information for participation in the survey is found below.

Informed Consent

The purpose of the research study is to investigate the effects of the CCP program on college readiness of our students. The purpose of this instructor perception college readiness survey is to find out more the CCP program at our college and its effects on the college readiness of our students.

In this study, you will complete a college readiness perception survey which will take about 15-20 minutes of your time. Participation in this study is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any question(s) for any reason without penalty. If you choose to withdraw, you may request that any of your data which has been collected be destroyed unless it is in a de-identified state.

The information that you give in the study will be handled confidentially. Your data will be anonymous which means that your name will not be collected or linked to the data. Because of the nature of the data, it may be possible to deduce your identity; however, there will be no attempt to do so, and your data will be reported in a way that will not identify you.

There are no anticipated risks in this study. There are no direct benefits associated with participation in this study. The study may help us to understand the effectiveness of the Career and College Promise program in promoting college readiness in its participants The Institutional Review Board at Gardner-Webb University has determined that participation in this study poses minimal risk to participants. You will receive no payment for participating in the study.

(continued)

If you have questions about the study, contact the following individuals.

Ashley Day
School of Education
Gardner-Webb University
Boiling Springs, NC 28017
828-395-1491
aday@gardner-webb.edu

Dr. Jennifer Putnam
School of Education
Gardner-Webb University
Boiling Springs, NC 28017
704-406-2015
jputnam2@gardner-webb.edu

If the research design of the study necessitates that its full scope is not explained prior to participation, it will be explained to you after completion of the study. If you have concerns about your rights or how you are being treated, or if you have questions, want more information, or have suggestions, please contact the IRB Institutional Administrator listed below.

Dr. Jeffrey S. Rogers
IRB Institutional Administrator
Gardner-Webb University
Boiling Springs, NC 28017
704-406-4724
jrogers3@gardner-webb.edu

If you are ready to take the survey, click here College Readiness Survey – Instructors (opens in new window). By clicking the survey link, you are indicating consent in participation.

Thank you!
Ashley Day

Appendix G

Student College Readiness Perception Survey

College Readiness - Students

Introduction

Welcome to the Student College Readiness Survey!

In this survey, you will respond based on your experience in college. Read each statement and then determine which of the four performance levels best describe your knowledge and/or skill level which is relative to the statement. The performance levels are defined below.

Mastery: I do this well or I understand this well. I can apply this knowledge/skill appropriately with deep conceptual and procedural understanding.

Competence: I do this pretty well or I understand this pretty well. When I apply this knowledge/skill, I have to think about it carefully. I do not necessarily have a deep understanding of the conceptual basis underlying the knowledge skill.

Developing: I cannot apply this knowledge/skill yet with consistency. I do not do this well or understand this well, but I understand what is required to do this well and I am working to develop competence and eventual mastery of this knowledge/skill.

New Knowledge: I do not have this knowledge/skill. I have not yet encountered this knowledge/skill in my education; or if I have, I do not recall it well enough to use it.

College Readiness - Students

Mastery: I do this well or I understand this well. I can apply this knowledge/skill appropriately with deep conceptual and procedural understanding.

Competence: I do this pretty well or I understand this pretty well. When I apply this knowledge/skill, I have to think about it carefully. I do not necessarily have a deep understanding of the conceptual basis underlying the knowledge skill.

Developing: I cannot apply this knowledge/skill yet with consistency. I do not do this well or understand this well, but I understand what is required to do this well and I am working to develop competence and eventual mastery of this knowledge/skill.

New Knowledge: I do not have this knowledge/skill. I have not yet encountered this knowledge/skill in my education; or if I have, I do not recall it well enough to use it.

* 1. I recognize that there are different procedures, devices/instruments, and means of data collection for answering different kinds of questions.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 2. I look for clues in the plot, language, and style of the texts I read that might give me insight into the moral, religious, or philosophical views of the author.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 3. Regardless of the grade I receive on an assignment, I regularly reflect on the quality of work that I produced.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 4. I know how to research my career goals on my own or how to access my career counselors at my school.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

(continued)

* 5. I was able to persist with a task that takes a great deal of long-term effort.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 6. I try to keep in mind that texts from different cultures and time periods might be influenced by religious or social conventions that are different from my own.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 7. Once I determine my career choice, I talk to professionals in that field, job-shadow, or complete internships to gain a better understanding of the career.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 8. I understand that the appropriate procedures and devices/instruments must be chosen for an experiment to provide meaningful, reproducible results.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 9. I can use the library and the internet to find both print and electronic sources.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 10. I know how to break down my ideas into clear individual points.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 11. I know how to develop my Major Academic Plan (MAP) for this college that outlines my degree, diploma, or certificate that I want to obtain.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 12. If there are barriers to completing the task, I find other ways to navigate around the barrier presented.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 13. I know how to put the individual points into the order that will be most effective for my piece of writing as a whole.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 14. I work effectively in a group situation by actively listening to other's ideas in a positive manner.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

(continued)

* 15. I understand the strengths and weaknesses of books, periodicals, electronic databases, and Web sites as sources of information.

◯ Mastery

◯ Competence

◯ Developing

◯ New Knowledge

* 16. I know how to use Patriot Port to complete tasks such as registering for courses, dropping/adding courses, viewing grades, and evaluating my program.

◯ Mastery

◯ Competence

◯ Developing

◯ New Knowledge

* 17. I am willing to take risks with the second language in practicing and using new grammatical structures and vocabulary.

◯ Mastery

◯ Competence

◯ Developing

◯ New Knowledge

* 18. When I read something, I think about whether I agree with the point the author is making.

◯ Mastery

◯ Competence

◯ Developing

◯ New Knowledge

College Readiness - Students

Mastery: I do this well or I understand this well. I can apply this knowledge/skill appropriately with deep conceptual and procedural understanding.

Competence: I do this pretty well or I understand this pretty well. When I apply this knowledge/skill, I have to think about it carefully. I do not necessarily have a deep understanding of the conceptual basis underlying the knowledge skill.

Developing: I cannot apply this knowledge/skill yet with consistency. I do not do this well or understand this well, but I understand what is required to do this well and I am working to develop competence and eventual mastery of this knowledge/skill.

New Knowledge: I do not have this knowledge/skill. I have not yet encountered this knowledge/skill in my education; or if I have, I do not recall it well enough to use it.

* 19. To increase my exposure to this college cultural, I regularly participate in activities and opportunities at my college.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge

* 20. I encourage other's efforts and work toward cooperation with the group rather than competition.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge

* 21. I know how to complete the FASFA or how to get help from my financial counselors at my school to complete the FASFA.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge

(continued)

* 22. I recognize that making errors is part of the process in learning a second language, and I try to learn from my errors.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 23. I create an academic planner at the beginning of each academic semester to track all my tasks for my courses and my personal life.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 24. I think critically about what is written and how it is presented, including the quality of the logic, the writing style employed, and the manner in which the author attempts to engage the reader.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 25. I prefer to take courses that challenge me and I take the necessary actions to rise to that challenge.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 26. When preparing a speech or composition, I can choose a topic, vocabulary, and format that are appropriate to the assignment and to my audience.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

(continued)

* 27. While my advisors, instructors, and other college employees have my best interest in mind, I am ultimately responsible for making my own decisions because I am the one who best understands my unique strengths and weakness.

   ⚪ Mastery

   ⚪ Competence

   ⚪ Developing

   ⚪ New Knowledge

* 28. I am able to prioritize my to-do-list to avoid becoming overloaded with my responsibilities.

   ⚪ Mastery

   ⚪ Competence

   ⚪ Developing

   ⚪ New Knowledge

* 29. I understand that financial aid comes in many forms including grants, scholarships, and loans and the benefits and disadvantages of each.

   ⚪ Mastery

   ⚪ Competence

   ⚪ Developing

   ⚪ New Knowledge

* 30. I understand that the skills and knowledge that I am gaining in my courses are not just to make a good grade.

   ⚪ Mastery

   ⚪ Competence

   ⚪ Developing

   ⚪ New Knowledge

* 31. I understand the importance of attending my classes and organizing my course materials.

   ⚪ Mastery

   ⚪ Competence

   ⚪ Developing

   ⚪ New Knowledge

(continued)

* 32. As I revise, I am able to catch and correct almost all spelling, punctuation, and grammar errors.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 33. I understand that gaining skills in communication, critical thinking, information literacy, global awareness, and interpersonal skills will be tools necessary for employment in the job market.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 34. I stay ahead of my course readings and digest content material as I go. Therefore, my test preparation only consists of consolidating and reviewing materials.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 35. While I control the lead, I take advantage of my advisor in helping to plan and navigate my MAP.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

* 36. When revising, I am able to identify places where my ideas need to be expressed more clearly, developed more fully, or integrated more effectively.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

(continued)

* 37. Other information I would like to share about Career and College Promise Program and college readiness is as follows:

College Readiness - Students

Demographics

---

* 38. Are you male or female?

○ Male

○ Female

* 39. Did you take college classes through a 2-year or 4-year college while you were in high school?

○ Yes

○ No

* 40. Are you a first time college student?

○ Yes

○ No

Appendix H

Instructor College Readiness Perception Survey

College Readiness - Instructors

Introduction

Welcome to the Instructor College Readiness Survey!

In this survey, please respond based on your experience of teaching students in your Career College Promise course(s). Read each statement and then determine which of the five performance levels best describe overall student knowledge and/or skill level during your CCP course which is relative to the statement. The performance levels are defined below.

Mastery: My students do this well or they understand this well. They can apply this knowledge/skill appropriately with deep conceptual and procedural understanding.

Competence: My students do this pretty well or they understand this pretty well. When they apply this knowledge/skill, they have to think about it carefully. My students do not necessarily have a deep understanding of the conceptual basis underlying the knowledge skill.

Developing: My students cannot apply this knowledge/skill yet with consistency. They do not do this well or understand this well, but they understand what is required to do this well and they are working to develop competence and eventual mastery of this knowledge/skill.

New Knowledge: My students do not have this knowledge/skill. They have not yet encountered this knowledge/skill in their education; or if they have, they do not recall it well enough to use it.

Unobserved: I have not had the opportunity to observe whether or not my students have this knowledge/skill.

College Readiness - Instructors

Mastery: My students do this well or they understand this well. They can apply this knowledge/skill appropriately with deep conceptual and procedural understanding.

Competence: My students do this pretty well or they understand this pretty well. When they apply this knowledge/skill, they have to think about it carefully. My students do not necessarily have a deep understanding of the conceptual basis underlying the knowledge skill.

Developing: My students cannot apply this knowledge/skill yet with consistency. They do not do this well or understand this well, but they understand what is required to do this well and they are working to develop competence and eventual mastery of this knowledge/skill.

New Knowledge: My students do not have this knowledge/skill. They have not yet encountered this knowledge/skill in their education; or if they have, they do not recall it well enough to use it.

Unobserved: I have not had the opportunity to observe whether or not my students have this knowledge/skill.

At the completion of my CCP course(s),

* 1. My students recognize that there are different procedures, devices/instruments, and means of data collection for answering different kinds of questions.

- ◯ Mastery
- ◯ Competence
- ◯ Developing
- ◯ New Knowledge
- ◯ Unobserved

* 2. My students look for clues in the plot, language, and style of the texts that they read that might give them insight into the moral, religious, or philosophical views of the author.

- ◯ Mastery
- ◯ Competence
- ◯ Developing
- ◯ New Knowledge
- ◯ Unobserved

* 3. Regardless of the grade my students receive on an assignment, they regularly reflect on the quality of work that they produced.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 4. My students know how to research career goals on their own and/or how to access career counselors at this school.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 5. My students are able to persist with a task that takes a great deal of long-term effort.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 6. My students try to keep in mind that texts from different cultures and time periods might be influenced by religious or social conventions that are different from their own.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

(continued)

* 7. Once my students determine their career choice, they talk to professionals in that field, job-shadow, or complete internships to gain a better understanding of the career.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge
- ○ Unobserved

* 8. My students understand that the appropriate procedures and devices/instruments must be chosen for an experiment to provide meaningful, reproducible results.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge
- ○ Unobserved

* 9. My students can use the library and the internet to find both print and electronic sources.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge
- ○ Unobserved

* 10. My students know how to break down their ideas into clear individual points.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge
- ○ Unobserved

* 11. My students know how to develop a Major Academic Plan (MAP) for this college that outlines their degree, diploma, or certificate that they want to obtain.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 12. If there are barriers to completing the task, my students find other ways to navigate around the barrier presented.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 13. My students know how to put the individual points into the order that will be most effective for their piece of writing as a whole.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 14. My students work effectively in a group situation by actively listening to other's ideas in a positive manner.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

(continued)

* 15. My students understand the strengths and weaknesses of books, periodicals, electronic databases, and Web sites as sources of information.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 16. My students know how to use Patriot Port to complete tasks such as registering for courses, dropping/adding courses, viewing grades, and evaluating their program.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 17. My students are willing to take risks with the second language in practicing and using new grammatical structures and vocabulary.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 18. When my students read something, they think about whether they agree with the point the author is making.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

College Readiness - Instructors

(continued)

Mastery: My students do this well or they understand this well. They can apply this knowledge/skill appropriately with deep conceptual and procedural understanding.

Competence: My students do this pretty well or they understand this pretty well. When they apply this knowledge/skill, they have to think about it carefully. My students do not necessarily have a deep understanding of the conceptual basis underlying the knowledge skill.

Developing: My students cannot apply this knowledge/skill yet with consistency. They do not do this well or understand this well, but they understand what is required to do this well and they are working to develop competence and eventual mastery of this knowledge/skill.

New Knowledge: My students do not have this knowledge/skill. They have not yet encountered this knowledge/skill in their education; or if they have, they do not recall it well enough to use it.

Unobserved: I have not had the opportunity to observe whether or not my students have this knowledge/skill.

* 19. To increase my students' exposure to this college cultural, they regularly participate in activities and opportunities at this college.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 20. My students encourage other's efforts and work toward cooperation with the group rather than competition.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge
- ○ Unobserved

* 21. My students know how to complete the Free Application for Federal Student Aid or how to get help from my financial counselors at this school to complete the FASFA.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge
- ○ Unobserved

* 22. My students recognize that making errors is part of the process in learning a second language and try to learn from their errors.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge
- ○ Unobserved

* 23. My students create an academic planner at the beginning of each academic semester to track all their tasks for their courses and personal life.

- ○ Mastery
- ○ Competence
- ○ Developing
- ○ New Knowledge
- ○ Unobserved

(continued)

* 24. My students think critically about what is written and how it is presented, including the quality of the logic, the writing style employed, and the manner in which the author attempts to engage the reader.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 25. My students prefer to take courses that challenge them and take the necessary actions to rise to that challenge.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 26. When preparing a speech or composition, my students can choose a topic, vocabulary, and format that are appropriate to the assignment and to their audience.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 27. While advisors, instructors, and other college employees have my students' best interest in mind, they ultimately show responsiblity for making their own decisions because they are the ones who best understand their unique strengths and weakness.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

(continued)

* 28. My students are able to prioritize their to-do-list to avoid becoming overloaded with their responsibilities.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 29. My students understand that financial aid comes in many forms including grants, scholarships, and loans and the benefits and disadvantages of each.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 30. My students understand that the skills and knowledge that they are gaining in their courses are not just to make a good grade.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 31. My students understand the importance of attending classes and organizing course materials.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

(continued)

* 32. As my students revise, they are able to catch and correct almost all spelling, punctuation, and grammar errors.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 33. My students understand that gaining skills in communication, critical thinking, information literacy, global awareness, and interpersonal skills will be tools necessary for employment in the job market.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 34. My students stay ahead of my course readings and digest content material as they go; therefore, test preparation only consists of consolidating and reviewing materials.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 35. While my students control the lead, they take advantage of their advisors in helping to plan and navigate their MAP.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

(continued)

* 36. When revising, my students are able to identify places where their ideas need to be expressed more clearly, developed more fully, or integrated more effectively.

○ Mastery

○ Competence

○ Developing

○ New Knowledge

○ Unobserved

* 37. Other information I would like to share about Career and College Promise Program and student college readiness is as follows:

[   ]

College Readiness - Instructors

Demographics

* 38. Are you male or female?

○ Male

○ Female

39. What is your age?

○ 18 to 24

○ 25 to 34

○ 35 to 44

○ 45 to 54

○ 55 to 64

○ 65+

40. How many years have you been teaching?

◯ Less than 1 year

◯ 1-5

◯ 6-10

◯ 11-15

◯ 16-20

◯ 21+

41. Delivery method of your CCP courses: (please select all that apply)

☐ Flexible-paced

☐ Traditional (TR)

☐ Web-based (WB)

☐ Hybrid (HY)

☐ Internet (IN)

42. Delivery method of your traditional courses: (please select all that apply)

☐ Flexible-paced

☐ Traditional (TR)

☐ Web-based (WB)

☐ Hybrid (HY)

☐ Internet (IN)

☐ Not applicable

Appendix I

Email from Dr. Conley

Reply all | ∨   🗑 Delete   Junk | ∨   •••   ✕

Re: Conley readiness index

DC Dr. David Conley <conley@uoregon.edu>   👍   ↩ Reply all | ∨
         Tue 9/27, 2:02 PM
         Ashley Day ⌄

graduate school

You replied on 9/27/2016 2:06 PM.

📄 **22-Appendix A.pdf**   ⌄
    2 MB

⌄ Show all 1 attachments (2 MB)   Download   Save to OneDrive - Isothermal Community College

One other idea is to build off of the Checklist for College Readiness I included in the appendix of College Knowledge. I've attached a copy.
Best,
-DC

On Sep 26, 2016, at 6:03 AM, Ashley Day <aday@isothermal.edu> wrote:

Professor Conley,

My name is Ashley Day. I am a Biology instructor with Isothermal Community College in Spindale, NC. I am currently working on my Ed.D. in Curriculum and Instruction at Gardner-Webb University in Boiling Springs, NC.

I am in the research proposal stage of my dissertation. My research is going to be looking at the effectiveness of the Career and College Promise, NC's dual enrollment program, at my college. I am planning on using your four keys to college and career success as the theoretical framework for my project. I would like to administer a survey to our current college students who participated in the Career and College Promise while in high school. This survey would address the student's perception of their college readiness at the beginning of his/her first semester as a dual enrollment student and then at the end of that semester.

Through my research, I found the Conley Readiness Index and have previewed it through Pearson. For this particular data collection, I am going to have to construct a shorter assessment tool. Do you have other assessment tools available that might meet my needs? Or, do you have any suggestions of key questions or concepts that I could address in the survey that would give me the best indication of college readiness in the student. I would like to address all four of your identified keys for college success.

Thank you in advance for any guidance that you can provide.

Ashley Day

Appendix J

Survey Tool Alignment Matrix

Conley's 4 Keys	Statement	Survey #	Conley's Framework	SC Chart (Educational Policy Improvement Center, 2015, p. 5)	EPIC Questions ("The four keys in action," 2017)	Professional ideas (Personal Communication, January 2017)
Key Cognitive Strategies (THINK)	I recognized that there are different procedures, devices/instruments, and means of data collection for answering different kinds of questions.	1	Problem Formulation (Conley, 2005, p. 311) (Conley, 2014, p. 59)	problem formulation	What problem am I trying to solve?	investigative
	I understood that the appropriate procedures and devices/instruments must be chosen for an experiment to provide meaningful, reproducible results.	8	Problem Formulation (Conley, 2005, p. 311) (Conley, 2014, p. 59)	problem formulation	What problem am I trying to solve?	investigative
	I could use the library and the internet to find both print and electronic sources.	9	Research (Conley, 2005, p. 306) (Conley, 2014, p. 60)	research	Where can I find the information I need?	
	I understood the strengths and weaknesses of books, periodicals, electronic databases, and Web sites as sources of information.	15	Research (Conley, 2005, p. 306) (Conley, 2014, p. 60)	research	Where can I find the information I need?	
	When I read something, I thought about whether I agree with the point the author is making.	18	Interpretation (Conley, 2005, p. 303) (Conley, 2014, p. 60)	interpretation	How do I make sense of the information?	Critical thinking

(continued)

	I thought critically about what is written and how it is presented, including the quality of the logic, the writing style employed, and the manner in which the author attempts to engage the reader.	24	Interpretation (Conley, 2005, p. 303) (Conley, 2014, p. 60)	interpretation	How do I make sense of the information?	Critical thinking
	When preparing a speech or composition, I chose a topic, vocabulary, and format that are appropriate to the assignment and to my audience.	26	Communication (Conley, 2005, p. 328) (Conley, 2014, p. 61)	communication	What is the best way to communicate what I have learned?	
	As I revise, I was able to catch and correct all spelling, punctuation, and grammar errors.	32	Precision and Accuracy (Conley, 2005, p. 305) (Conley, 2014, p. 61)	precision and accuracy	How do I know if I am on the right track?	
	When revising, I was able to identify places where my ideas need to be expressed more clearly, developed more fully, or integrated more effectively.	36	Precision and Accuracy (Conley, 2005, p. 305) (Conley, 2014, p. 61)	precision and accuracy	How do I know if I am on the right track?	

Key Content Knowledge (KNOW)	I looked for clues in the plot, language, and style of the texts I read that might give me insight into the moral, religious, or philosophical views of the author.	2	Reading (Conley, 2005, p. 303) (Conley, 2010)	structure of knowledge	Do I understand the point of what I'm learning and how it fits into what I already know?	
	I tried to keep in mind that texts from different cultures and time periods might be influenced by religious or social conventions that are different from my own.	6	Reading (Conley, 2005, p. 303) (Conley, 2010)			
	I know how to break down my ideas into clear individual points.	10	Writing (Conley, 2005, p. 304)			
	I know how to put these individual points into the order that will be most effective for the piece as a whole.	13	Writing (Conley, 2005, p. 304)			
	I am willing to take risks with the second language in practicing and using new grammatical structures and vocabulary.	17	Students believe that effort will make a difference (Conley, 2005, p. 331) (Conley, 2014, p. 64)	attitudes towards learning	Am I pushing myself to work hard, tackle new challenges, and embrace new ideas?	

(continued)

	I recognize that making errors is part of the process in learning a second language, and I try to learn from my errors.	22	Students believe that effort will make a difference (Conley, 2005, p. 331) (Conley, 2014, p. 64)			
	I prefer to take courses that challenge me and I take the necessary actions to rise to that challenge.	25	Challenge (Conley, 2010, p. 69)			Acceptance of college difficulty
	I understand that the skills and knowledge that I am gaining in my courses are not just to make a good grade.	30	Orientation of learning relationships (Conley, 2014, p. 69)	technical knowledge and skills	What am I learning that will open doors to future career paths?	General Education Competencies Soft skills Learn critical thinking skills that will help throughout life
	I understood that gaining skills in communication, critical thinking, information literacy, global awareness, and interpersonal skills will be tools necessary for employment in the job market.	33	Orientation of learning relationships (Conley, 2014, p. 69)			
Key Academic Behaviors (ACT)	Regardless of the grade I received on an assignment, I regularly reflected on the quality of work that I produced.	3	self-awareness of strengths and weaknesses (Conley, 2010, p. 83) (Conley, 2014, p. 75)	Ownership of learning	Do I approach learning with curiosity and find ways to work towards my goals in different situations?	
	I was able to persist with a task that takes a great deal of long-term effort.	5	persistence with difficult tasks (Conley, 2010, p. 89) (Conley, 2014, p. 74)			

(continued)

	If there were barriers to completing the task, I found other ways to navigate around the barrier presented.	12	persistence with difficult tasks (Conley, 2010, p. 89) (Conley, 2014, p. 74)			
	I worked effectively in a group situation by actively listen to other's ideas in a positive manner	14	Collaboration (Conley, 2005, p. 331) (Conley, 2010, p. 76) (Conley, 2014, p. 83)	Learning Techniques	What habits and skills do I have to help me achieve my goals?	work collaboratively
	I encouraged other's efforts and work toward cooperation with the group rather than competition.	19	Collaboration (Conley, 2005, p. 331) (Conley, 2010, p. 76) (Conley, 2014, p. 83)			
	I created an academic planner at the beginning of each academic semester to track all my tasks for my courses and my personal life.	23	time management (Conley, 2010, p. 73) (Conley, 2014, p. 78)			time management organization
	I was able to prioritize my to-do-list to avoid becoming overloaded with my responsibilities.	28	time management (Conley, 2010, p. 73) (Conley, 2014, p. 78)			
	I understood the importance of attending my classes and organizing my course materials.	31	study skills (Conley, 2010, p. 75) (Conley, 2014, p. 79)			Ask questions

(continued)

	I stayed ahead of my course readings and digested content material as I go. Therefore, my test preparation only consisted of consolidating and reviewing materials.	34	test taking skills (Conley, 2010, p. 78) (Conley, 2014, p. 80)			
Key Contextual Skills (GO)	I knew how to research my career goals on my own or how to access my career counselors at my school.	4	Contextual (Conley, 2010, p. 89) (Conley, 2014, p. 88)	Contextual	How do I set goals and decided if my next step is a good fit?	difference between a degree, diploma, certificate

interests correlate with college and career choices

need to plant – Sallie Mae

Multiple Measures

Start early

clear plan towards a degree/major |
	Once I determined my career choice, I talked to professionals in that field, job-shadow, or complete internships to gain a better understanding of the career.	7	Contextual (Conley, 2010, p. 89) (Conley, 2014, p. 88)			
	I knew how to develop my Major Academic Plan (MAP) for this college that outlines my degree, diploma, or certificate that I want to obtain.	11	Procedural (Conley, 2014, pp. 88, 89)	Procedural	How will I navigate the processes necessary to make my dreams a reality?	Understand role and responsibility during academic advising
	I knew how to use Patriot Port to things such as registering for courses, dropping/adding courses, viewing grades, and evaluating my program.	16	Procedural (Conley, 2014, pp. 88, 89)			

(continued)

	I knew how to complete the FASFA or how to get help from my financial counselors at my school to complete the FASFA.	20	Financial (Conley, 2010, p. 92) (Conley, 2014, pp. 88, 90)	Financial	Do I know how to finance my plans for the future?	How to pay for college
	I understood that financial aid comes in many forms including grants, scholarships, and loans and the benefits and disadvantages of each.	21	Financial (Conley, 2010, p. 92) (Conley, 2014, pp. 88, 90)			
	To increase my exposure to this college cultural, I regularly participated in activities and opportunities at my college.	27	Cultural/Personal (Conley, 2010, p. 89) (Conley, 2014, pp. 88, 92)	Cultural	Am I developing my identify while respecting the culture and people around me?	Inquisitive Active learning Rely on email Know SS# or student ID
	While my advisors, instructors, and other college employees had my best interest in mind, I was ultimately responsible for making my own decisions because I was the one who best understands my unique strengths and weakness.	29	Personal (Conley, 2014, pp. 88, 92)	Personal	Can I advocate for myself and others in a new situation when necessary?	Can-do attitude Personal responsibility Access career counseling Use resources Support/resources (helps with sense of purpose or ownership)
	While I controlled the lead, I took advantage of my advisor in helping to plan and navigate my MAP.	35	Personal (Conley, 2014, pp. 88, 92)			

Appendix K

Instructor Focus Group Topic Guide

I.   Introduction (5 mins)

    a. Moderator Introduction – emphasize role as facilitation

    b. Purpose of the group – College readiness

    c. Details – Audio taped, research purposes only, anonymous

    d. Norms – On poster board

        i.   You should speak freely.

        ii. Your opinions are important.

        iii. There are no right and wrong answers.

        iv. Don't worry about building consensus.

        v.   Please don't talk at the same time and allow others to speak.

        vi. You do not have to respond to any question that makes you uncomfortable.

        vii. You are free to stop participating at any time.

II.   Opening Questions (15 mins)

    a. Introduction of participants

    b. State your name and your job title

    c. How long have you taught? Here at Isothermal?

    d. What CCP courses do you teach?

III. Warm-Up Discussion

    a. What behaviors or skills do you think are necessary to be successful in your college course?

        i.   Can you elaborate on that point?

        ii. Give me an example, please...

        iii. Do you agree or disagree?

IV.   Key Questions – depend on survey results (45 mins)

   a. What differences do you notice between your CCP students and traditional age non CCP students (ages 18-25)?

   b. Students felt that they were strong in higher level reading skills, such as using the text to determine ethical or political views of the author, but instructors did not agree. Why do you think that is?

      i. Can you elaborate on that point?

      ii. Give me an example, please...

      iii. Do you agree or disagree?

   c. In regards to student understanding of the importance of general education competencies for employment success, both students and instructors scored this questions low. How do we convey this understanding to students?

      i. Can you elaborate on that point?

      ii. Give me an example, please...

      iii. Do you agree or disagree?

   d. Both instructors and students scored the question that refers to students challenging themselves low. What can we do as instructors to increase this skill?

      i. Can you elaborate on that point?

      ii. Give me an example, please...

      iii. Do you agree or disagree?

   e. CCP students scored themselves slightly higher than non-CCP students on organizing their writing effectively. Why do you that it is true?

       i. Can you elaborate on that point?

      ii. Give me an example, please...

     iii. Do you agree or disagree?

f. Instructors felt that students were strong in skills needed to go to college such as determining career goals or using their MAP, but students scored themselves low in this area. Why do you think that is?

       i. Can you elaborate on that point?

      ii. Give me an example, please...

     iii. Do you agree or disagree?

g. Both instructors and students scored students high in several key academic behaviors such as reflecting on strengths and weakness of their work. What factors led to this high mastery of this skill in students?

       i. Can you elaborate on that point?

      ii. Give me an example, please...

     iii. Do you agree or disagree?

h. There was a slight discrepancy in the scores on the key academic behaviors question between CCP students and non-CCP students. For example, non-CCP students scored themselves slightly higher on reflecting on their work regardless of the grade. Do you think that is accurate? Why or why not?

       i. Can you elaborate on that point?

      ii. Give me an example, please...

     iii. Do you agree or disagree?

V.   Final Questions (15 mins)

      a. Of all the things we discussed, what was the most important to you?

      b. Have we missed anything?

      c. If you could give advice to the state on recommendations for the CCP

          program, what would they be?

VI.   Closing (5 mins)

      a. Thank you for participating

      b. Anonymous and for research purposes only

      c. Ashley will send a follow-up summary of the focus group via email for

          feedback.