STUDENT PERCEPTIONS OF DUAL ENROLLMENT REGARDING COLLEGE READINESS

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Abstract

Previous studies regarding Dual Enrollment involved more quantitative approaches through examination of student Grade Point Averages (GPA), retention rates in college, or graduation rates from college. This qualitative study of student perceptions of Dual Enrollment regarding college-readiness involved high school graduates from a faith-based, private school in East Tennessee. The purpose of the study was to identify the constructs that affected those perceptions. The study participants expressed their perceptions of Dual Enrollment regarding college-readiness through an online survey, interviews, and a focus group. Using open, axial, and selective coding, the study revealed four significant constructs that influence student perceptions: academic rigor, independence, inclusivity, and technological awareness. The student perceptions were more positive regarding academic rigor and inclusivity; however, they were more negative regarding independence and technological awareness. The information gained from this study will assist school districts in the quantity and quality of their Dual Enrollment programs.

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Chapter 1: Introduction

Introduction and Background

According to the National Center for Education Statistics (n.d.), approximately 19 million students will attend college in the fall of 2019 in the United States. However, paying for a college education can be difficult for many families. That difficulty has prompted many students to use loans to pay for college expenses, such as tuition, fees, and housing. According to Friedman (2019), student loan debt in the United States has never been higher, with approximately 44 million people with loans totaling roughly $1.5 trillion. Large student loan payments can affect how college graduates live. This crisis in American education and society requires a rethinking of the college experience. One way to rethink higher education in America is to have increased options for academically prepared high school students to earn college credits at low-cost while also earning high school credit.

Dual Enrollment is an effective, low-cost option for high school students to earn college credit. Pierce (2017) discussed how successful Dual Enrollment programs are predicated upon a strong relationship between the school or school system and the local college or university. However, the concern for many is whether Dual Enrollment courses properly prepare a student for the academic rigor of the collegiate experience. An and Taylor (2015) found students that earned college credit in high school were more prepared for college than those students that did not earn college credit. The goal for Dual Enrollment programs is for students to save time and money by earning college credits, be intellectually challenged, and avoid boredom in traditional high school classes.

Research Problem

There are numerous programs for intellectually capable high school students to take college courses. The Advanced Placement (AP) program offers students opportunities to earn college credits through an examination, but roughly half of the students do not pass their AP exam (The College Board, 2018). However, Dual Enrollment students pass their courses and earn college credits at much higher rates (Pierson, Hodara, Luke, Regional Educational Laboratory Northwest, Education Northwest, & National Center for Education Evaluation and Regional Assistance, 2017). Thus, a new focus is placed on Dual Enrollment, but numerous critics argue that dual enrollment does not prepare students for the rigor of college. There have been quantitative studies to show otherwise, such as the impact of Dual Enrollment on college retention and GPA (Cowan and Goldhaber, 2015). This study utilized a qualitative approach determining the impact of Dual Enrollment on the college experience from the perspective of college students.

Purpose of the Study

The purpose of this case study was to understand the effects of Dual Enrollment on college-readiness for recent high school graduates who are in their first year of college in East Tennessee. At this stage in the research of the effects of dual enrollment on the collegiate experience, college-readiness is defined as having the skills and knowledge necessary to be successful in college. This research explored the perceptions of college freshman, after completing one semester of college, regarding whether they felt prepared for college after taking Dual Enrollment courses.

Theoretical Foundation

Dual Enrollment and college-readiness fit within the broader context of gifted education, which concerns itself with measuring intelligence. Sternberg's Theory of Successful Intelligence

(2005), measures intelligence by exercising the ability to accomplish goals in life within the appropriate sociocultural context. For Dual Enrollment students, college graduation is a significant life goal. Most students would not take Dual Enrollment courses unless they were planning on attending college at some point in their future with graduation as the primary goal. This theory is different from traditional measures of intelligence via an Intelligent Quotient test or Gardner's (2006) Multiple Intelligences.

The Theory of Successful Intelligence's expanded definition includes four parts. The first part concerns the ability to achieve desired goals (Sternberg, 2005). This informs college-readiness because students learn and achieve in vastly diverse ways; however, the goal is to graduate and finish the degree. In East Tennessee, considering that most study participants are white and suburban, going to college and graduating are integral to the sociocultural context (Putman, 2017). Sternberg (2005) stated that intelligent people identify goals, coordinate the goals to match what they are seeking in life, and move toward reaching those goals. Students enrolled in Dual Enrollment are progressing toward their goals and are particularly striving to complete their general education courses to then focus on a specific course of study.

The second component of the expanded definition of Successful Intelligence is about the ability to capitalize on strengths and correcting for weaknesses. This is similar to Gardner's (2005) Multiple Intelligences in that it recognizes that not all people are good at all tasks. Some students may excel at mathematics while struggle with writing an essay. For other students, it would be the opposite. Students who are successful in college recognize this, choose majors appropriately, and join study groups for help in classes they find difficult. This also extends beyond the educational context. Sternberg (2005) used an example of a lawyer. One lawyer might excel at formulating a legal argument; however, the same lawyer might struggle with

courtroom presence. Thus, the lawyer would rely on others for assistance. Consequently, an intelligent person takes those necessary steps to ensure success.

The third section of the expanded definition of Successful Intelligence emphasizes adaptability to one's ever-changing environment, as well as selecting and shaping his/her context. The world, including education, is constantly changing (Hart, 2012). Sternberg (2005) stated that an intelligent person is willing to change with the individual's environment. Dual Enrollment is a relatively new phenomenon for most schools, and thus educational leaders would have to adapt to that change (Khazem and Khazem, 2012). According to Darwin (1859), intelligence is more than just adaptability. Intelligent persons also shape the environment in which they occupy, although the entire environment may not be successfully shaped. This includes a certain level of influence surrounding each individual. If adaptability and shaping does not work, the intelligent person chooses to select a new environment.

Finally, the fourth part of Successful Intelligence within the expanded definition includes three major abilities: analytical, creative, and practical. Sternberg (2005) specified that intelligence is broader than what most intelligence tests measure. The analytical part of intelligence that deals with memory and analysis is the most measurable feature of intelligence tests; however, a student that does not perform well on a standardized examination should not necessarily be associated with a lower intelligence. Rather, test scores are only one indicator in measuring a student's numerous intellectual abilities. This is the heart of Dual Enrollment as compared with Advanced Placement (AP). Students earn college credit in AP classes by passing an examination at the end of the course; however, many students do not do well and thus do not earn college credit (The College Board, 2018). Dual Enrollment, however, has a much higher pass rate nationwide because it takes the whole body of work from a student instead of one day's

performance.

Sternberg (2005) stipulated that a person can be intelligent and at the same time not wise by demonstrating five characteristics. First, unrealistic optimism involves persons believing they cannot make a mistake because of their high intelligence. Second, egocentrism is about losing sight of other people's needs and emotions. Third, omniscience is someone having an unlimited amount of knowledge. Fourth, omnipotence is when a person possesses a great deal of power, which results in not recognizing limits. Fifth, invulnerability is when a person acquires their desires. These five characteristics, especially for an educator, are important checks to consider when interacting with highly intelligent individuals.

Thus, the Theory of Successful Intelligence is a different way to measure intelligence compared with previous attempts, and this helps inform a study on Dual Enrollment because intelligent individuals, especially of the analytical skill set, would be enrolled in Dual Enrollment courses (The Glossary of Education Reform, 2013). In fact, high school students taking college-level classes are experiencing acceleration. Acceleration is where students progress through education at a different and faster pace than their same-age peers. For example, a student could be significantly gifted in reading and writing, thus that student could join the next grade level's reading and writing class. In some instances, acceleration would involve a student skipping a whole grade level or even multiple levels. The byproduct of acceleration in elementary and middle school is often a student taking Dual Enrollment and other college-level courses in high school (McCarthy, 1999).

A meta-analysis study scrutinized 100 years of research concerning acceleration in schools and concluded that "accelerated students significantly outperformed their nonaccelerated same-age peers ($g = 0.70$) but did not differ significantly from nonaccelerated older peers ($g =$

0.09)" (Steenbergen-Hu, Makel, and Olszewski-Kubilius, 2016, p. 849). Additionally, the same researchers concluded that "acceleration appeared to have a positive, moderate, and statistically significant impact on students' academic achievement (g = 0.42) (p. 849)." Acceleration has many positive effects even outside of the traditional pk-12 classroom experience. Schudde and Keisler (2019) found that students entering community college needing remedial math courses flourished in an accelerated program where they would complete all their math courses within the first year of college, and the study concluded that after three years, there was a positive correlation between participation in acceleration and college success, such as completing math courses and accumulating college-level credits.

The Theory of Successful Intelligence and the best practice of acceleration display that every student is unique and that education should allow students an opportunity to flourish in an environment that they select. Students in Dual Enrollment courses choose that environment, and then they must adapt to be successful. Likewise, those students in Dual Enrollment are being accelerated beyond the traditional high school curriculum in order to earn college credit earlier than their same-age peers. Dual Enrollment is essentially gifted education for high school students, and gifted education measures intelligence in some capacity (McCarthy, 1999).

Research Question

The research question at the center of this study focused on students' perceptions of their Dual Enrollment course or courses regarding college-readiness. This study determined the reasoning for what constitutes Dual Enrollment courses as quality preparation for higher education success. To understand the perceptions of students, conversations occurred in the form of interviews and a focus group. Student perceptions are pivotal because those opinions may

influence policymaking in local and national forums. With this understanding, this research question is proposed:

1. What are the identifiable constructs that affect student perceptions of Dual Enrollment courses regarding college-readiness?

Rationale for the Study

The reason to study the validity of Dual Enrollment concerning preparing a student for college is to attempt to solve contemporary problems related to college-level work in high school, motivate districts to implement more dual enrollment courses, and to continuously seek ways to improve existing Dual Enrollment programs. As stated previously, student loan debt in the United States is well over $1 trillion, which can negatively impact college graduates' buying power throughout their 20s and 30s (Friedman, 2019). Collinge (2009) discussed how some college graduates have so much student loan debt that they cannot buy a home until much later in life, which might also contribute to delaying children or marriage until they have more control over their finances. The expansion of Dual Enrollment programs for both the gifted and average students could potentially preclude large amounts of student loan debt (Loberti & Roth, 2018).

In addition to student loan debt, the most prominent college-level coursework for high school students is the AP program from the College Board. However, to earn college credits through an AP course, students must earn a certain score on a standardized examination that corresponds with the AP course that they took. AP scores range from 1-5, with 5 being the highest score possible (The College Board, n.d.). Gewertz (2017) discussed the movement in 20 states passing legislation requiring public colleges to accept a score of three for college credit, and noted that the state legislature in Washington deliberated on becoming the 21st state to require public colleges to accept AP exam credit. However, not every state has passed

legislation. In Tennessee, the University of Tennessee (n.d.) only accepts a score of 4 or 5 on the AP U.S. History examination to qualify for college credit, which, in 2018, only 51% of students nationwide earned a score of 3 or higher. Also, in 2018, only 29% of students earned a score of 4 or higher on the AP U.S. History exam (The College Board, 2018). The other 71% of students who scored below a 4 on the AP U.S. History exam would not earn any credit at the University of Tennessee in Knoxville (n.d.).

Conversely, Dual Enrollment is sometimes much easier to transfer into places like the University of Tennessee or other accredited institutions. For example, a Dual Enrollment course in World History taken at a local faith-based institution of higher learning would transfer to a publically funded university and satisfy the general education requirement for a bachelor's degree (University of Tennessee, n.d.). Thus, in this specific instance, Dual Enrollment would be better for most students to earn college credits, assuming that students who earned a 3 on the AP exam would pass the Dual Enrollment course. The pushback from expanding Dual Enrollment in favor of keeping AP is that AP is viewed as preparing students for college by establishing higher academic standards than Dual Enrollment instructors (T. Packer, personal communication, 2018). Unlu and Edmunds (2019) suggested that Dual Enrollment fosters a climate where students become academically ready for college, and this early access to college is leading to Dual Enrollment's expansion across the country.

The problem with expanding Dual Enrollment programs is frequently a lack of qualified instructors to teach the offered courses, whether that occurs at the high school or local college campus. According to the Southern Association of Colleges and Schools Commission on Colleges (2018), a person needs to have a master's degree along with a minimum of 18 graduate credits hours in order to teach at the collegiate level. This presents a significant impediment to

expanding Dual Enrollment courses; however, perhaps this study showing Dual Enrollment students were prepared for college would motivate school districts to allocate professional development funds toward graduate courses for their teachers because, as Rumberger (2018) discussed, high schools are increasingly focusing on college and career readiness. With the increase in online graduate education, it is entirely plausible for full-time teachers to take 1-2 graduate classes each semester. It might take a few years to develop a core group of teachers at every school that are qualified to teach college; however, once that is implemented, those teachers would be more than likely heavily invested into the program, leading to increased longevity due to teacher support (Fagan et al., 2017).

In addition to decreasing student loans, expanding the student population that receives college credits, and shifting professional development funds toward graduate education, this study concerning Dual Enrollment and college-readiness would improve overall instruction for all students since teachers are more knowledgeable in their content areas (Grieser & Hendricks, 2018). The state of Tennessee adopted an evaluation system for its teachers that mandates teachers should demonstrate significant content knowledge of the subjects they teach. (TEAM-TN, n.d.). This conveys that investing in graduate education for teachers, whether they teach English, history, science, or mathematics, would align with the evaluation system in place in many school districts in Tennessee. Grieser and Hendricks (2018) discussed how all students would benefit from teachers' increased levels of content knowledge. Expanding Dual Enrollment programs, because they are effective, would benefit all students.

Researcher Positionality Statement

A personal interest in the topic came from experiences with teaching Dual Enrollment courses in a faith-based school in East Tennessee. The motivation for the study derived from

encounters with students that enrolled in both AP and Dual Enrollment courses, with those students scoring below a 3 on an AP exam but passing the Dual Enrollment class. Due to this discrepancy in earning college credits, discussions needed to occur for determining the goal for college-level coursework in high school. The goal in offering either AP or Dual Enrollment is for students to earn college credits, and it was determined that Dual Enrollment offered the greatest benefit for the greatest number of students regarding saving time and money within their college experience. This idea resulted from teaching AP and Dual Enrollment courses for six years, serving over 100 students.

Biases have the potential to emerge from the context of personal experiences. However, the study used methods of reliability to address possible areas of bias. The methods of trustworthiness included peer debriefing, member checks, triangulation, and detailed descriptions of context that were sufficiently substantial. The triangulation occurred through a survey, interviews, and a focus group. The focus group allowed students to check one another and offer clarity about any potential biases.

Limitations, Delimitations, and Assumptions

The limitations for this study are that the sample size of the study was small, with less than 20 students responding to the survey. The research school does not have large graduating classes, thus the reason for the small sample size. Research was conducted from December 2019 to March 2020. The delimitations of the study are the participants attended a small faith-based school in East Tennessee. The assumptions for this study are that Dual Enrollment positively impacts student academic performance in college through their GPA and retention rates, and it was also assumed that students were honest with their survey, interview, and focus group responses.

Definition of Terms

Dual Enrollment: "an arrangement where students are enrolled in courses that count for both high school and college credit" (Department of Education, n.d.).

College-Readiness: Oliveri, Lawless, and Molloy (2017) defined college-readiness as "collaborative problem solving" skills that encompass teamwork, communication, leadership, and problem solving.

AP (Advanced Placement): "AP gives students the chance to tackle college-level work while they're still in high school and earn college credit and placement." (The College Board, n.d.).

Gifted: This is associated with children when "their ability is significantly above the norm for their age. Giftedness may manifest in one or more domains such as; intellectual, creative, artistic, leadership, or in a specific academic field such as language arts, mathematics or science" (NAGC, n.d.).

GPA (Grade Point Average): "a score used to evaluate your success during the entirety of your degree programme" (MastersPortal, 2017).

Acceleration: "acceleration allows students to progress through school at a more rapid pace than their peers or to take courses at ages younger than typical students" (Steenbergen-Hu, Makel, and Olszewski-Kubilius, 2016, p. 852).

Theory of Successful Intelligence: "the ability to achieve one's goals in life, within one's sociocultural context" (Sternberg, 2005).

College Retention: "the percentage of a school's first-time, first-year undergraduate students who continue at that school the next year" (FAFSA, n.d.).

Organization of the Study

The study is organized into five chapters: Chapter One, Introduction; Chapter Two, Literature Review; Chapter Three, Methodology; Chapter Four, Presentation of Findings; and Chapter Five, Conclusions, Implications, and Recommendations. Chapter One provides an overview of the study through the inclusion of an introduction and background of the study; a statement of the problem, the purpose and significance of the study, the theoretical and conceptual framework that provides constructs for the study, the qualitative research question, the rationale for the study, the positionality statement to recognize potential bias; the limitations, delimitations, and assumptions, definition of terms, and the organization of the study. Chapter Two is a review of relevant and current literature regarding Dual Enrollment. The second chapter analyzes the historical perspective of gifted education in the United States; the theoretical framework provided by Sternberg's (2005) Theory of Successful Intelligence and acceleration as a best practice of Successful Intelligence; demographics of Dual Enrollment students, and Dual Enrollment in relation to college-readiness. Chapter Three examines the methodology and procedures of the study through a discussion and description of the research design, setting and participants, instruments used to gather data, data process and analysis, ethical considerations, and methods to increase validity and credibility. Chapter Four details the findings of the study. Chapter Five discusses the conclusion and implications from the findings of the research, and offers recommendations and speculation regarding these findings.

Summary

This study was intended to foster understanding of student perceptions of Dual Enrollment on college-readiness. Many studies about Dual Enrollment regarding college-readiness have been conducted previously; however, most of these studies gauge college-readiness based on GPA or retention rates. This study identified students' perceptions regarding

their experience with Dual Enrollment compared with their college experience. Through a survey, interviews, and a focus group, the study ascertained student perceptions, whether they were positive, negative, or a mixture of both. This study could impact district-wide policy decisions concerning course offerings for accelerated and mainstream students.

Chapter 2: Review of the Literature

Dual Enrollment, Advanced Placement, and Honors courses are the byproduct of efforts to individualize instruction and intellectually challenge secondary students in gifted education. These efforts did not materialize in the United States until the early 1900s, with the Cold War influencing even greater focus on gifted education. The first school dedicated entirely to gifted children opened in 1901 in Worchester, Massachusetts, and since that time, the United States has emphasized aptitude tests in hopes to identify giftedness in children. The following events and people within the Gifted Education movement are of paramount significance regarding its influence on Dual Enrollment in the United States.

History of Gifted Education in the United States

Undoubtedly, throughout human history, gifted and talented individuals existed within humanity. Examples include Socrates, Plato, and Aristotle from ancient Greece. However, in the United States, it was not until the advent of "intelligence tests" that focused on separating children based on ability. The Binet-Simon test was developed in 1905 to identify children with "inferior" intelligence and remove them from mainstream education in France (NAGC, n.d.). This test, unlike any previous test in the history of Western education, did not assess information and content. Rather, the Binet-Simon test sought to measure attention and memory of students (Cherry, 2019).

The American version of the Binet-Simon test is essentially the Stanford-Binet test. The test, first developed in 1916, was used to measure a student's Intelligence Quotient (The Gale Group, 2003). Although it has experienced several revisions, the latest edition of the test was introduced in 1986, and the structure of the test is broken into four parts: Verbal Reasoning, Abstract/Visual Reasoning, Quantitative Reasoning, and Short-Term Memory. These attempts to

avoid content-based questions in favor of skills-based inquiries, with an example asking for the test-taker to identify something out of place in a visual representation. Traditionally in American education, the Stanford-Binet test was used to identify gifted individuals, and one of the creators of this test also published a major work about gifted individuals.

Terman (1925), in *Genetic Studies of Genius*, suggested there are more gifted boys than girls, gifted children are physically superior and healthier than non-gifted children of the same age, gifted students are roughly a grade and half above what they should be, genetics plays a large factor in whether a child is gifted or not, and along the lines of genetics, Jewish children are more likely to be gifted than children of Mexican or Italian descent. He used the early version of the Stanford-Binet test to arrive at his conclusions, and he searched public schools in California for gifted individuals to participate in his study. He eventually studied over 1,000 students as part of his research. His research, in addition to the Stanford-Binet test, included scrutinizing the children's family history, abilities, interests, and personality. His research included following his population throughout the 1920s, and he concluded the students maintained a high IQ as time progressed.

Hollingworth (1926) argued that children received their giftedness biologically, and gifted students were for too long just thought of as being able to take care of themselves while society tries to focus on helping students on the lower end of the IQ scale. Gifted children were mostly left on their own to study and learn, the early 20th Century approach to identifying intelligence through the use of the Stanford-Binet test, and that learning came easy for the gifted students, which in turn made them enjoy school more than their fellow classmates. She later established a school for gifted children called the Speyer School that taught children in the age range of 7-9 years old.

Guilford (1950), the president of the American Psychological Association at the time, gave the keynote address at the annual convention. In that address, Guilford challenged the ability of the IQ scale to measure creativity, which he believed is an integral part of giftedness in children. He also suggested that psychologists have practically ignored the issue of creativity by 1950, and that through more research, discoveries will yield more precise ways to measure creativity in children, thus transforming how educational leaders approach the field of gifted education.

Legislation & Governmental Reports

By the 1950s, the United States found itself as a nation in an entirely new position in the world as one of two major superpowers engaged in a Cold War. This situated the United States in a competition with the other superpower, the Soviet Union, for dominance in scientific advancement. During this era, the federal government of the United States placed a renewed focus on gifted education, especially in the fields of science, mathematics, and engineering (Fenby, 2019). Congress passed several pieces of legislation and other reports to compete with the Soviets, such as the National Science Foundation Act of 1950, the National Defense Education Act of 1958, the Marland Report, *A Nation at Risk*, and Jacob Javits Gifted and Talented Students Education Act of 1988. After the end of the Cold War, more legislation and reports were passed, including National Excellence: The Case for Developing America's Talent, No Child Left Behind Act of 2002, and A Nation Deceived: How Schools Hold Back America's Brightest Students. These reports and laws shaped dual enrollment policies for high school students.

The National Science Foundation Act of 1950 outlined the overall goals to promote advanced research in science and mathematics. The National Science Foundation exists to fund

and centralize science, mathematics, and engineering research, as well as to provide money for education activities that would also help in research. In fact, the Foundation supports research for all levels, meaning places that received their help would include elementary schools in addition to post-doc programs at universities. The Foundation is held accountable by the President in having to create a report and submit it to that office every year, and this allows the potential for more research funding.

One new facet to the Cold War emerged in the late 1950s when the Soviet Union successfully launched the first satellite into space. Their satellite, named Sputnik, propelled the U.S. to take even greater measures in challenging gifted students in the fields of mathematics and science. The National Defense Education Act of 1958 is the official, legislative reaction to Sputnik. The Act states that an influx of federal money will guarantee gifted individuals will experience educational opportunities in order to ensure national defense necessities of the United States. In addition to money for mathematics and science education, this Act also desires to see an expansion of modern foreign language classes in American schools. In this piece of legislation, spending on education is interconnected with the broader context of the Cold War and national defense.

The Marland Report (1972) was developed by the Education Commissioner regarding the nature of giftedness and how giftedness should be approached in the United States (U.S. Commissioner of Education, 1972). The Marland Report details six areas where a child could demonstrate superior ability in order to be classified as gifted: intellectual, academic aptitude, creativity, leadership, artistic, and psychomotor (p. 2). Schools should differentiate curriculum in order to continually challenge gifted students, which takes the form of special grouping arrangements, different tasks to demonstrate mastery, and a different curriculum in general.

A Nation at Risk (1983) detailed the danger posed on the U.S. because its education system is declining instead of improving. Warning signs included declines on SAT scores from 1963-1980, colleges offering more remedial math courses than ever, and "over half the population of gifted students do not match their tested ability with comparable achievement in school." Thus, this report suggested a failure in American education for both the lower and higher academically achieving students. According to this report, national defense and economics are important. Furthermore, A *Nation at Risk* suggested there are numerous jobs being created that require higher-order thinking skills, and it stated a desire for all students to reach their maximum potential regarding intellectual capacity.

The Jacob Javits Gifted and Talented Students Education Act of 1988 provides financial assistance to schools to offer programs for gifted students that the school would not normally offer. This Act defines giftedness as "high performance capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who require services or activities not ordinarily provided by the school in order to fully develop such capabilities." This piece of legislation establishes several centers at universities across the nation for gifted and talented students, such as at Yale University, the University of Virginia, and the University of Connecticut. The goal of these centers is to serve as places for summer camps and other enrichment opportunities for gifted individuals that reach beyond traditional educational contexts.

The Cold War officially ended in 1991; however, the federal government continues to pass legislation related to education. Congress passed the No Child Left Behind Act (2002) that mandates school systems focus on standardized testing, state standards, and grades for schools and teachers for the purpose of accountability. One part of No Child Left Behind established

access to Advanced Placement programs for both courses and the corresponding examinations for low-income students that otherwise would not have access. Even though the Cold War ended, funding for gifted education from the federal government did not.

In addition to the No Child Left Behind Act, two reports concerning education in America were published in the post-Cold War era that relate to gifted education and ultimately Dual Enrollment. First, in *National Excellence: The Case for Developing America's Talent*, the author discussed how most gifted elementary students are bored throughout the school day because they have already mastered most of the curriculum in a much shorter time than their peers (Pat O'Connell, 1993). Thus, it was recommended that the curriculum be changed to make it more challenging, creating high-level learning opportunities, providing teacher training for the gifted student, and making school tasks more matched with real-world issues.

A Nation Deceived: How Schools Hold Back America's Brightest Students discussed the need for acceleration to take place in schools across the country instead of the fear many schools have with accelerating their gifted students across curriculums and grade levels (Colangelo, Assouline, and Gross, 2004). Giftedness is not limited to any one gender, ethnicity, social and economic background, and geographic origin. These gifted children should be accelerated and examples are provided of what acceleration for gifted students would look like, such as entering school at a younger age, skipping grade levels where appropriate, skipping subject areas, and taking Advanced Placement (AP) courses. AP and Dual Enrollment are examples of acceleration for high school students as well as a path to earning college credits depending upon the higher education institution.

College Courses in High School in the United States

There are two primary ways students take courses on the collegiate level and earn college credit while in high school: Advanced Placement and Dual Enrollment. There is a third way, International Baccalaureate (IB); however, that is currently not as popular as the other two options (Adams, 2014). Advanced Placement involves high school students taking the course and then the course examination in May of that school year, whereas in Dual Enrollment, students are enrolled at both the high school and a local college or university to take a course that would satisfy both high school and college credit, with students having to pass the class to earn the credit. The history of these two endeavors in the United States also involves Cold War era responses and legislation.

Advanced Placement.

The Advanced Placement program was instituted shortly after the end of World War II to help make college more academically attainable for secondary students. In 1952, 11 courses were launched in a pilot program for high school students to take college-level work and possibly earn credit. The course descriptions from these 11 classes were written by leaders in each field, such as in English or history. By the mid-1950s, the College Board officially took over those courses, creating a division within that company called Advanced Placement to manage them (The College Board, 2003). In the decades that followed, the College Board increased the number of courses they offered as well as the high schools that participate in their program.

Dual Enrollment.

The history of Dual Enrollment or concurrent credit is more difficult to synthesize because there is not a singular organization, like the College Board, that determines policies for the entire nation. Dual Enrollment involves relationships, at a local level, between individual

high schools and universities (Adams, 2014). Recently, especially with the passage of No Child Left Behind, more data has become available concerning Dual Enrollment participation and growth. For example, the Department of Education (n.d.) documented that in New York City, the colleges that offered dual enrollment courses increased from six to 17, and in Virginia, 6,700 students were enrolled in dual enrollment programs in 1997, a major increase from 2,000 in 1991. President Obama, in 2013, emphasized that Dual Enrollment expansion is critical to increased college-readiness for secondary students. Since then, and with the Department of Education's assistance, Dual Enrollment programs have expanded tremendously across the nation (Carey, 2015).

The Theory of Successful Intelligence

Definition

The Stanford-Binet test, created in the first two decades of the 20th Century, sought to measure intelligence in terms of analytical ability (The Gale Group, 2003). Later, Gardner (2006) identified multiple intelligences where some people are better at analytics than athletics; however, some individuals might be more musically inclined where others flourish in dance. Developed by Sternberg (2005), the Theory of Successful Intelligence measures intelligence more on a continuum than with an Intelligence Quotient, with end results in mind. More specifically, it is defined as striving for and succeeding in achieving a person's goal or goals in life while considering sociocultural background. Thus, Sternberg views intelligence as not necessarily a means to an end, but rather one's ability is interwoven with an end result. Zbainos (2012) tested this theory in Greek schools and was able to distinguish reasoning abilities between creative and practical skills.

Sternberg (2005) stipulated that Successful Intelligence is comprised of four components. It involves the ability to accomplish a task within one's cultural context and involves following through and accomplishing a goal. Also, individuals understand their strengths and weaknesses, and they are willing to take necessary steps to correct their weaknesses. Additionally, persons that achieve their goals must adapt, shape, and select environments where they can flourish. Finally, intelligence, in an overall sense, is a combination of analytical, creative, and practical abilities. This is the type of intelligence that leaders in society possess because they can connect with problems and people.

Successful Intelligence and Dual Enrollment

Sak and Maker (2004), using the theory of Successful Intelligence and Multiple Intelligences, developed a research project in which they analyzed identification of and curriculum for gifted students. They found they were able to more successfully identify giftedness in children using their DISCOVER model, which displayed an increase of more than 30% (p. 8). Their DISCOVER model for identification of gifted children included assessments in visual arts, diverse abilities, and diverse cultures and languages. In terms of curriculum, the DISCOVER model involved fast-paced instruction, open-ended questions, and real-world problems. They found it highly motivated the students in their Arizona school district.

Mechur Karp (2012) discussed how socialization in Dual Enrollment courses with other college students helps prepare that student for future academic success in that new environment. Since the Theory of Successful Intelligence includes adaptation as an integral component, the successful Dual Enrollment student would adapt socially to the college context. Mechur Karp notes how Dual Enrollment prepares students for not only the rigors of college academics, but also for all of the challenges college students face outside of the classroom.

Acceleration as a Best Practice of Successful Intelligence

Acceleration involves gifted students, such as those that would take Dual Enrollment in high school, being allowed to take a higher grade-level mathematics course, early entry to school with a 4-year-old starting kindergarten, and/or skipping grade levels in general. This best practice is designed to provide the best scenario for each individual student; however, it is important to understand if gifted students, such as those in Dual Enrollment, are successfully adapting to an accelerated environment (Venezia & Hughes, 2013).

Steenbergen-Hu, Makel, and Olszewski-Kublius (2016) conducted a meta-analysis of over 100 years of studies concerning acceleration. They found that accelerated students, those that skipped grade levels or subjects, academically outperformed nonaccelerated peers, but they did not outperform nonaccelerated older students. The study also suggested that acceleration had positive and statistically significant impact on students' academics from a holistic perspective. Dual Enrollment and other college-level courses in high school are examples of acceleration for secondary students.

Hoogeveen, van Hell, and Verhoeven (2012) investigated the social and emotional characteristics of accelerated and nonaccelerated students in the Netherlands. This study used a questionnaire and diary for students to report their self-concept and socialization, and parents also documented the behaviors of their children. The results of the study suggested that accelerated students did not differ from nonaccelerated students in terms of social and emotional characteristics. Furthermore, this study stated that acceleration did not harm gifted students, even when those students skipped multiple grade levels.

Another study concerning social and emotional well-being and overall academic success involved three levels of accelerated students: gifted, honors, and regular (Xin, 2002). In the three

levels, gifted students had a positive social-emotional outcome of acceleration, whereas honors students did not have a positive or negative reaction, but regular students were negatively affected by acceleration. More specifically, early acceleration in mathematics provided significant growth in self-esteem for male and minority gifted students.

Acceleration provides gifted students an important avenue for academic success and thus achieving their goals. It also shows the students that do well in acceleration have Successful Intelligence because they produce results (Hern & Snell, 2014). Seon-Young, Olszewski-Kubilius, and Peternel (2010) found that gifted minority students that were accelerated in math perceived it as exciting and beneficial because they liked the challenges in those advanced classes. Also, this study did not find negative peer pressure influencing these accelerated students, documenting both from the teachers and students perspectives. Teachers were more certain negative peer pressure did not exist than students believed. These students believe their acceleration at an early age will continue throughout high school and college, with Dual Enrollment and other college-level coursework serving as the accelerated classes in secondary school.

Methods for the Literature Review

The methodology for this literature review involved searching for gifted education, Dual Enrollment, and searching for specific states and school districts in terms of their policy about Dual Enrollment. For the section about gifted education, a Google search about the history of gifted education was utilized. That search directed to a website that provided a timeline for important events related to gifted education. From there, a search covering specific events in gifted education was employed to find more about them than just the brief summary provided on the timeline. Key search terms, such as “Stanford Binet history,” were incorporated to find

different sources about the history of that test and its development. Also, a Google search for "list of educational theories" provided valuable assistance in choosing a theoretical and conceptual framework for this study.

Subsequently, the majority of the research relied primarily on a local university's online library, searching using the key term "Dual Enrollment," with the date range from 2010-2019. The search included only full-text and peer-reviewed articles. The content of those articles provided the structure for the sections within the literature review about Dual Enrollment, such as backlash and college-retention. The journals accessed for Dual Enrollment information were from a variety of sources, such as the ERIC database, Journal of College Admission, and Journal of College Access. Most articles were found on the ERIC database.

To obtain information about the different states and school districts, a Google search provided those policies. For the state policies on Dual Enrollment, the Google search, "Georgia dual enrollment" was applied. From there, navigation occurred to the specific state website. Similar searches were used for North Carolina and Tennessee. It was sometimes necessary to click on additional links to find more specific information relating to grants and funding. Regarding school districts, the focus was placed upon one East Tennessee district. A Google search using the East Tennessee school district was completed. The top few links were to the School A, School B, and School C. This East Tennessee school district's website information concerning its Dual Enrollment offerings was extant as of June 2019.

Technological Skills for College Success

Aines (2012) discussed how part of college-readiness is the ability to learn and adapt to increasingly technologically dependent college campuses. In order for college students to experience success, they need to know a few basic skills related to technology usage, such as

email, Microsoft Office, and learning management systems. Additionally, some college courses and degree programs are completely online, which requires technological know-how to successfully complete. Therefore, technology, college-readiness, and success in college are inseparable for contemporary college students.

Fetherston, Cherney, and Bunton (2018) studied how college students use technology for exploring different careers that led to their self-efficacy or belief in themselves. They found that the perception of college students concerning the usefulness and ease of access to sites like LinkedIn and job boards predicted how frequent students used those sources. Students used those sites more if they believed it was beneficial. The study also found that the using LinkedIn frequently was the only technology that predicted self-efficacy in career preparation.

Technology plays a vital role in how college students communicate, spend their discretionary time, and relationship building. Morreale, Staley, Stayrositu, and Krakowiak (2015) studied these factors in their qualitative analysis of first-year college student perceptions of technology. They found that students reported using smartphones and texting as their most frequent technological use, especially with social networking sites and YouTube as receiving the most reported use. For formal communication purposes, the students reported using email to communicate with professors, texting for collaborating with students about a group project or homework assignment, and social networking for communicating with a large body of students about a serious campus problem. Regarding personal relationships, students used texting to communicate with friends, but they preferred face-to-face only in breaking off a romantic relationship.

Social Skills for College Success

Savitz-Romer, Rowan-Kenyon, and Fancsali (2015) studied how colleges build three primary non-cognitive skills: social skills, interpersonal skills, and skills related to learning and work. In this study, they found that colleges largely ignore social and interpersonal skills in favor of focusing on skills to assist in academics. However, first-year college students must adjust to more independence that accompanies life and work in the collegiate experience. They also ascertained that colleges rarely fostered skills such as self-awareness and self-concept, which are key social skills, and this leaves most students to attempt to develop these skills on their own, despite their immense importance.

Ferreria and Adleman (2018) researched the relationship between memory and social inference. Their study included participants completing computerized tasks related to memory and taking an awareness of social inference test, which is a part of being able to regulate one's emotions. They concluded that there is a positive relationship between memory and social inference; thus, it is worthwhile for educational institutions to seek to develop social skills in college students.

Kuwi and Mohammed (2012) studied the transformative role of education, especially in the development of social skills. They found that college education significantly contributes to their development of social skills that ultimately transforms identity. They concluded that developing social skills is important for the well-being of college students. Dual Enrollment, as a potential part of the college experience, should also seek to prepare students socially and emotionally for the independence accompanied in the college transformative experience.

Dual Enrollment

Definition

Dual Enrollment, or concurrent credit, is when a secondary student takes a course from a qualified college professor that satisfies credit requirements for both high school and college degrees. Dual Enrollment occurs in three primary ways. First, high school students travel to a local college or university to take a course alongside other traditional college students. Second, a college professor(s) travels to the high school and students take the course as part of their normal school day without having to leave campus. In some instances, high school students take the college course in an online setting, which can occur at the high school campus or at an off-site location, such as their home (The Glossary of Education Reform, 2013).

Growth of Dual Enrollment Programs

Loveland (2017) discussed the benefits and reasons for the growth of Dual Enrollment. First, the obvious benefit of saving money is generally the primary reason for families to enroll in Dual Enrollment classes. First-generation college students become more confident about their academic future if they experience success with dual enrollment classes. Additionally, access to Dual Enrollment courses is not just for the gifted and talented student. Rather, even regular academically performing students can benefit greatly from Dual Enrollment classes; however, the caution here is that poor performance in the class would be documented on a transcript.

Marken, Gray, Lewis, National Center for Education Statistics, and Westat (2013) reported the number of students participating in Dual Enrollment programs during the 2010-2011 school academic calendar, over 50% of secondary institutions surveyed reported having high school students participating in Dual Enrollment courses. This translated to approximately 1.2 million students taking at least one Dual Enrollment class during this academic year. Additionally, 87% of institutions reported having high school teachers that met the requirements to be a college professor as instructing the Dual Enrollment courses. However, only 4% of

institutions stated having a Dual Enrollment program focused on at-risk and minority student populations.

Idaho, Holten, and Pierson (2016) outlined the growth of Dual Enrollment with the state government providing funds that would cover roughly 75% of the cost of those courses, making them affordable for most families in that area. For example, in 2014, almost a fourth of students across the state participated in a Dual Enrollment program, which was an increase of 5% from 2011. Participants consisted mostly of females, non-Hispanics, and individuals from a higher socio-economic status. However, about 95% of students passed their Dual Enrollment courses, earning college credit. That type of success is important for continued investments from the state of Idaho for Dual Enrollment programs.

Most colleges, especially community and private institutions, want to see the expansion of Dual Enrollment programs because they believe it is a path for recruiting more students to their particular campus (J. Weatherly, personal communication, 2018). Martinez (2018) examined the perceptions of many admission officers at universities and colleges, and found that a majority of these university employees thought highly and positively about the prospects of Dual Enrollment attracting more students to enroll full-time after high school graduation. Their rationale consisted of having students already connected with the college campus in important ways, including being on campus, receiving a student identification card, taking a campus tour, and experiencing a library orientation.

Durosko (2019) analyzed the mainstream nature of Dual Enrollment programs across the United States with approximately 25% of college applications to four-year institutions containing at least one Dual Enrollment course. Furthermore, they reported the percentages of AP, IB, and Dual Enrollment course offerings at public, private non-parochial, and private parochial schools.

At public high schools, approximately 76% offer AP, 6% offer IB, and 91% offer Dual Enrollment courses. However, if the public school student population participates in free and reduced lunch programs over 76%, all percentages of accelerated course offerings decrease. At high free and reduced lunch schools, approximately 66% offer AP, 4% offer IB, and 83% offer Dual Enrollment. Additionally, as the student population at schools increased, the percentage of schools that offered Dual Enrollment access increased.

Piontek et al. (2016) reported Dual Enrollment expansion in the Appalachian context as a key strategy of Kentucky's Department of Education, and how six districts conducted their Dual Enrollment programs, including the challenges they encountered. Each Appalachian district studied offered Dual Enrollment in varying capacities. All six districts partnered with at least one two-year and one four-year higher education institution to offer the Dual Enrollment courses. In these six districts, Dual Enrollment courses being taught by qualified high school teachers at the high school was the predominant way Dual Enrollment programs were configured. However, if high schools are geographically close to a community college or university, then the six school districts expanded their Dual Enrollment offerings with more classes taken at the postsecondary institution. There are challenges to expanding Dual Enrollment in the Appalachian area, such as increasing the number of instructors qualified to teach Dual Enrollment, ensuring student's enrolled in Dual Enrollment are academically prepared for the rigor, and making Dual Enrollment courses affordable.

Backlash to growth of Dual Enrollment.

Kilgore and Wagner (2017) sought to balance out the excitement over accelerated programs, such as Dual Enrollment, by highlighting the barriers that exist for some students in taking Dual Enrollment courses. They divided their data between the perspectives of secondary

and postsecondary schools. For secondary schools, the main barriers are finding qualified teachers, cost of courses, and building the partnerships with local colleges and universities. For postsecondary schools, the main barriers were cost to the institution, cost to the family and student, and finding time to build partnerships with local school districts.

Ferguson, Baker, and Burnett (2015) conducted a qualitative study concerning faculty perceptions of Dual Enrollment students relative to college-readiness. The study stated three conclusions. Dual Enrollment general education courses were equally rigorous compared to the equivalent courses at the community college, as evidenced by scrutinizing course syllabi and interviewing faculty members. Additionally, from the faculty's perspective, Dual Enrollment students had greater academic ability than the standard community college student taking the same course. Also, although the study found that Dual Enrollment students were ready for college work, they were not ready socially and emotionally. The faculty overwhelming perceived the Dual Enrollment students as less mature compared with the traditional age college student, thus the Dual Enrollment students probably require a great deal of support to be successful.

Coleman and Patton (2016) determined that an "admissions crisis" existed for honors programs at universities. At the honors programs they analyzed, the intended time it takes to complete is usually four years. This conflicted with many students that already earned college credits from AP or Dual Enrollment courses taken while in high school, which shortened their time to college graduation. Since honors programs are designed for gifted students, many colleges reported seeing decreased participation. However, some universities changed their honors program requirements, called "Honors Flex," to still include students that had Dual Enrollment courses in high school.

Kinnick (2012) studied the impact on postsecondary institutions from increased access in Dual Enrollment programs. In order to successfully manage a Dual Enrollment program, colleges and universities have to communicate effectively across different departments within their campus, such as admissions, registrar's office, financial aid, and specific academic departments for which the classes are offered. If a university does not communicate effectively within itself regarding the growing number of Dual Enrollment students on their campus, it strains the resources of the college. Additionally, Dual Enrollment can have a negative impact on the financial status of postsecondary institutions because Dual Enrollment students generally pay a minimal amount in tuition and fees. State education officials expressed doubts about future funding for Dual Enrollment programs.

Howley, Howley, Howley, and Duncan (2013) researched the change over time regarding Dual Enrollment programs being for only the highest academically achieving students toward broader access for Dual Enrollment courses in the general high school student population, including the impact that situation created for the legitimacy of Dual Enrollment programs. They interviewed professors, students, and administrators concerning the ability of colleges and universities to sustain the growth of Dual Enrollment attendance. They discovered colleges were willing to fund Dual Enrollment programs as part of their recruitment efforts for future students, despite other concerns, such as academic rigor and student ability.

Demographics of Dual Enrollment Students

Nelson and Waltz (2019) discussed the importance of litigation protection for school districts and universities regarding having students that are minors in class with adult students. This scenario involves high school students travelling to the college campus to attend their Dual Enrollment courses. However, one part of their study acknowledged how Dual Enrollment

courses improved academic outcomes for minority students. The minority students still lag behind white students related to academic gains when both ethnic groups take Dual Enrollment courses.

One report that examined over 23,000 students from the high school years of 2009-2013 across the United States found about a third of those students took at least one Dual Enrollment course, students with parents that graduated from college took these courses at higher rates than students with parents that do not have a bachelor's degree, and there were more White and Asian students taking these courses than Black and Hispanic students (Shivji, Wilson, and National Center for Education Statistics, 2019). In fact, from their sample size of students that took Dual Enrollment courses, Black students were 27%, Hispanic students were 30%, and White and Asian students were both at 38% respectively. The study discussed how lower enrollment potentially relates to the education background of Black and Hispanic parents because for White and Asian, the percentage of parents that attended college is much higher. The study also reported that approximately 80% of Dual Enrollment courses took place at the high school.

Lochmiller, Sugimoto, Muller, Mosier, Williamson, and Regional Educational Laboratory Appalachia (2016) studied the nature and effectiveness of Dual Enrollment in Kentucky, especially with the intent to determine ways to increase postsecondary enrollment within the state. They found that from 2009-2013, about 20% of the students in public schools across Kentucky participated in at least one Dual Enrollment course, with over 80% of those students earning credit from the course. Additionally, they noted that students in the following categories - White, female, English as the first language, and not on a free or reduced school lunch plan had higher rates of participation than students that do not fit within those categories.

Staats and Laster (2018) discussed the growing importance of Universal Design for Learning (UDL) on college campuses, especially in how it is improving access to college-level work for a population that traditionally is not well-represented in collegiate life. In this study, they explored the role UDL played in college and how expansion of UDL into Dual Enrollment programs offers a great opportunity for expanding access to Dual Enrollment courses for students with disabilities. For example, at college-campuses, UDL helped improve student attitudes toward academics, especially mathematics. Also, student academic growth and positive teacher-student relationships were also reported as a result of UDL. The study concluded with a challenge to adopt more UDL principles in Dual Enrollment classes to improve outcomes for all students.

Karp (2015) considered the necessity to implement Dual Enrollment programs carefully because they can have unintended negative consequences for minority and first-generation college students. A lack of monetary funds or transportation could easily widen the gap between those that have access to high quality instruction and those that do not. Recommendations include friendly transfer policies, eligibility for who can apply, provisions for transportation if the Dual Enrollment course is at the postsecondary institution, and scholarships as ways to ensure minority and first-generation college students are able to participate in those classes.

In Oklahoma, the major barriers for students lower on the socioeconomic scale were the cost of enrollment fees and textbooks, transportation, and high academic admission standards. To overcome the first barrier of enrollment fees, the Oklahoma State Regents for Higher Education (OSRHE) waived all fees for public education students. Then, the required ACT test score was lowered from a 21 to a 19, along with revising the required GPA from 3.0 to 2.5. Then, to address transportation, the local colleges agreed to offer the Dual Enrollment courses at the high

school campus, which eliminates the need for those students to find transportation (Roach, Gamez Vargas, and David, 2015).

Ganzert (2012) researched Dual Enrollment effects on academic success and college retention through the lens of gender and ethnicity. The study used data from over 15,000 North Carolina community college students. It was determined that Dual Enrollment courses displayed positive effects on GPA and graduation rates for non-white students, and positive effects on graduation rates for female students. This study detailed that female participation in Dual Enrollment is higher than male; however, female graduation rates rise when correlated with Dual Enrollment participation. Using the Theory of Successful Intelligence as a framework, graduation rates are important goals for students since it involves an end goal (Sternberg, 2005).

Estacion, Cotner, D'Souza, Smith, Borman, and Regional Educational Laboratory Southeast (2011) studied the various accelerated programs across the state of Florida that students were taking to earn college-credit while still in high school. During the 2006-2007 school year, only 7.3% of students in grades 11 and 12 participated in Dual Enrollment programs, and 62% of those students were female. Also, 72% of those students were White and were less likely to be economically disadvantaged. Most of these students took Advanced Placement courses instead of Dual Enrollment, with this study citing the challenge of administrative costs as hindering the expansion of Dual Enrollment.

Huerta and Watt (2015) also studied the effects of Dual Enrollment on traditionally underrepresented students in terms of academic achievement. The students in their study came from Advancement Via Individual Determination (AVID) high schools, which generally have minority-dominated student populations. This study found that, out of over 300 students, grade point average and earning college credits were predictive of success in college. Also, students

attending four-year colleges following high school graduation earned more college credits than those attending community colleges within the same time frame. Dual Enrollment has positive effects for minority students nationwide on preparing them for college.

Pretlow and Wathington (2014) researched the expansion of Dual Enrollment options following a state policy change in Virginia. In 2005, the state of Virginia desired to expand access to Dual Enrollment for all students. However, this study found that minority students did not represent a significant portion of the student population that took Dual Enrollment courses. The increase in student participation in Dual Enrollment programs was mainly for White students. Despite smaller gains in minority student participation, the study also discovered that more students attended 4-year institutions earlier after high school graduation compared with students pre-2005.

Reese, Richards, Hansuvadha, Pavri, and Xu (2018) discussed the new Dual Enrollment program designed to assist minority student populations in urban contexts in enrolling and succeeding in Dual Enrollment courses. The program, Urban Dual Credential Program (UDCP), is associated with a university in California to prepare high school teachers to instruct Dual Enrollment courses, including having teachers earn graduate credit hours for proper credentials. Additionally, the program trains teachers to engage in culturally and linguistically appropriate ways the diverse student populations within California cities. The student population includes individuals whose first language is not English.

Funding for Dual Enrollment Students

Funding is a significant obstacle to any college-level coursework, whether in the traditional sense of going to a college-campus after completing high school, or if a student wants to take college-level work during high school. Additionally, the goal for Dual Enrollment in

general should not be to widen the academic gap between rich and poor with only the wealthy being able to afford the tuition for those classes. States handle funding Dual Enrollment in different ways, with some placing much more emphasis on it than others. Although every state should have its own discussion on Dual Enrollment funding, this literature review will only focus on Georgia, North Carolina, and Tennessee as examples of that part of the country, notably Tennessee because the population for the study derives from that state.

Funding for Dual Enrollment students in the state of Georgia is precise, with many rules and procedures in place for colleges and universities to participate in the program. The Georgia Student Finance Commission (2019) runs the Dual Enrollment funding for the state, both issuing money and implementing rules to help make Dual Enrollment courses affordable. For example, students get a grant that varies from year to year to fully or partially cover the cost of tuition because that differs from college to college. However, Georgia does not allow colleges to charge Dual Enrollment students for any required textbooks or any additional fees.

In North Carolina, all tuition and fees for Dual Enrollment students are paid by the North Carolina General Assembly (Public Schools of North Carolina, n.d.). Students can choose among three paths for how they want to take Dual Enrollment courses. First, the College Transfer path is for students going to continue taking more college classes after high school graduation with the goal of getting an associates or bachelor's degree. Second, the Career and Technical Education path is designed for students wanting to earn certification in a specific technical area, such as wielding. Third, the Cooperative Innovative High Schools are quite different from the previous two because these high schools are small and located on the campus of a university or community college where students complete a high school diploma and associate's degree

simultaneously. Since tuition is free in all three cases, it allows for students from low socioeconomic backgrounds to take advantage of the program.

Finally, in Tennessee, Dual Enrollment funding is achieved in a unique way. College Pays TN (n.d.) details what the state of Tennessee provides for Dual Enrollment students. First, students have to apply for the Dual Enrollment grant, which is an added step that some families might not take in addition to having to apply to local universities and colleges. Second, the grant only pays a maximum of 1,200 dollars in total over the junior and senior year of a high school student. Students still have access to more funding, but that would start subtracting from the HOPE scholarship on a dollar-by-dollar basis. There are no rules in place about not charging for textbooks like in Georgia or guarantees about credit transfers like in North Carolina.

Transferring Dual Enrollment Credits

The Southern Association for Colleges and Schools (2016) released a new policy statement about the nature of transferring credits accredited by SACS. SACS encouraged educational institutions in the 11 Southeastern states to have friendlier transfer policies so students can transfer their credits easier. In releasing their new policy, SACS includes Dual Enrollment students as beneficiaries of friendlier transfer policies because they recognize the degree-granting institution might not be the place the Dual Enrollment student attends following high school graduation.

Myers and Myers (2017) found that colleges that were more accepting and friendly with their transfer credit policies, especially regarding accepting credit from other institutions, students that took dual enrollment courses had higher graduation rates within six years than those colleges and universities that had stricter and less friendly transfer policies. The authors discussed the importance Dual Enrollment has on the student's academic career because having

to go back and retake courses already completed in high school leads to increased likelihood of students not graduating on time. The study suggested for state governments to enact legislation to force public institutions into more friendly credit transfer policies.

High Schools in East Tennessee

An East Tennessee school district partners with a local community college to offer Dual Enrollment classes for those students. According to information from that East Tennessee school district, in order to enroll in a Dual Enrollment course while a student at School A, students must have at least an ACT score in English of 18, ACT score in Reading of 19, and a 3.0 grade point average. Additionally, the majority of the Dual Enrollment courses are not offered at the high school, and this means that students are responsible for their own transportation from the high school to the community college. The only Dual Enrollment classes offered at School A are six credits of English and three credits of Psychology.

At School B in the same East Tennessee school district, all Dual Enrollment classes take place on the community college campus. This high school schedules meetings in the spring and fall semesters specifically to help parents and students apply for the community college and have their transcripts sent to there. Also, since School B is on a block schedule, it encourages its Dual Enrollment students to only take those classes during the first or fourth block in order to avoid missing more classes than necessary. That is also very important since School B does not offer any of those Dual Enrollment courses on its own campus. However, for School B, it is less than one mile from the community college.

The last institution in the East Tennessee school district to examine for context is School C. Unlike the other two schools within the same school district, School C has four Dual Enrollment courses that meet on its campus, according to information from the East Tennessee

school district. Those classes are six credits for English, three credits for probability and statistics, and three credits for an introduction to sociology. All other Dual Enrollment courses would need to be taken at a community college during the fourth block, online, or in the evenings. Three schools within the same school district all operate their Dual Enrollment programs differently with the differences among them being proximity to a community college and qualifications of faculty members.

Dual Enrollment Versus Advanced Placement

The two most prominent ways high school students can earn college credit is through Dual Enrollment and the Advanced Placement (AP) programs. Unlike Dual Enrollment, the College Board, a centralized organization, which standardizes its courses nationwide, operates AP. The AP program includes over 30 different exams for students to potentially earn college credit, including United States History, calculus, and Latin (The College Board, n.d.). This effectively allows students to earn as much college credit as intellectually possible throughout their high school career because AP classes can be taken as freshman and sophomores. Thus, there is considerable debate over which path, AP or Dual Enrollment, is best for students in allowing them to have a head start on their college careers.

Avery, Gurantz, Hurwitz, and Smith (2018) studied the impact of AP exam scores on the type of major a student chooses. They found that scoring higher on that exam increases the likelihood that a student will major in that subject. Their data showed an increase of 5% to 30% in some AP exams. This shows that participation in AP classes influences the college major a student chooses, and the study reported that students that do well on the AP exam will choose that subject as a major more often than students that scored below a 3.

Warne, Sonnert, and Sadler (2019) studied the relationship between participation in AP mathematics courses and interest in STEM related careers. They scrutinized over 15,000 college undergraduates that took AP Calculus and AP Statistics, and determined that students that took AP Calculus had a slightly higher career interest in engineering and computer science than the general population. Despite those results, the study found the relationship between non-Calculus AP mathematics classes and STEM related careers is not significant. Students taking AP Statistics and AP Chemistry were not significantly correlated to interest in a STEM career.

The University of Pennsylvania (2019) refuses to accept transfer credit from a college that a student received while in high school. The University of Pennsylvania wants students to take as many of their courses at their own institution. However, the University of Pennsylvania (n.d.) accepts some AP scores for either placement in a higher class or credit. For example, credit is granted for a five on the language exams and the physics exams. Thus, for those students wanting to attend the University of Pennsylvania, AP provides an option to earn college credits while in high school.

Pierson, Hodara, Luke, Regional Educational Laboratory Northwest, Education Northwest, and National Center for Education Evaluation and Regional Assistance (2017) found that about 90% of students that take Dual Enrollment pass these courses. Students that take the AP exams, however, have a much lower pass rate percentage. The College Board (2018) records the pass rates for students, defined by those with a 3 or higher on the exam. The subjects vary, but the pass rate, i.e. students scoring a 3 or higher, for the AP U.S. History exam was 51% in 2018. The typical response from the AP community is mostly that their courses are more rigorous than Dual Enrollment (T. Packer, personal communication, 2018).

Dual Enrollment on College-Performance

Describing College-Readiness

College-readiness is a broad term that can have multiple meanings depending upon how a person envisions success in college. For some, students that make the dean's list, which varies from school to school but typically involves a 3.5 grade point average or higher, is success in college. For those students, not making the dean's list translates into failure even though they are still earning college credit toward graduation. However, for others, just passing a class and getting the credits toward graduation is enough to count for success (Jones-White, Radcliffe, Huesman, & Kellogg, 2010). Thus, it is important to properly define and describe the various facets to college-readiness.

The Glossary of Education Reform (2013) defined college-readiness as students who are viewed to be prepared with the skills and knowledge considered vital for success in university, college, and community college programs. This involves the ability to utilize library resources to find proper sources for a research paper, the ability to write formal papers that are include reliable content and common grammatical construction and format. Likewise, college-readiness involves technological awareness, such as the use of email.

As a part of a significant literature review for GRE assessments, Oliveri, Lawless, and Molloy (2017) defined college-readiness, including readiness for success in the workplace, as having the ability of collaborative problem solving or CPS, which is the ability to work in an environment that is technologically advanced and suitable within the 21st Century. This is what college professors and employers value in terms of a successful pupil or employee. CPS can be seen through four major skills: teamwork, communication, leadership, and problem solving. Teamwork is associated with adaptability, flexibility, and open-mindedness. Communication involves active listening and exchanging ideas. Leadership is displayed through performance

monitoring, reorganizing in the face of setbacks, and resolving conflicts. Lastly, problem solving is essentially the scientific method where people identify problems, research, test, and reevaluate. Whether the person is a college-student, seasoned employee, or a dual enrollment student, these skills make a person successful.

Villarreal, Montoya, Duncan, and Gergen (2018) examined leadership style as a way to predict college and career readiness. They used a sample of almost 300 Dual Enrollment students, with those students responding to a questionnaire about leadership and employability skills. They discovered that college readiness and Dual Enrollment can predict some dimensions of career readiness, but leadership style was the single greatest predictor for career readiness. This showed how interwoven college readiness and Dual Enrollment are in the academic career of a student, especially for those with leadership characteristics.

Role of Dual Enrollment on college retention.

Bowers and Foley (2018) studied the influence of Advanced Placement and Dual Enrollment classes on both college-readiness and college retention after a year at a Tennessee university. This study concluded that a significant difference did not exist in college retention rates depending on whether a student took an Advanced Placement or Dual Enrollment course. However, this study stipulated that students that took Advanced Placement or Dual Enrollment classes had higher retention rates in college than students that did not take those courses. Additionally, students that took a course in Advanced Placement mathematics and English increased their American College Testing sub scores in English, reading, and mathematics, which is one indication of college-readiness.

Taylor and Yan (2018) discussed Dual Enrollment and Advanced Placement student data from several high school graduates in Arkansas to determine if they enrolled and stayed enrolled

at a college in the state. This study concluded that students that enrolled in those programs had increased college retention rates compared with other Arkansas high school graduates that did not participate in those programs. The study did not find a difference as to whether the college they enrolled at for dual credit was accredited or not. An expansion of Dual Enrollment and Advanced Placement opportunities for high school students was suggested due to the increase in college retention rates.

Burns, Ellegood, Bernard, Duncan, and Sweeney (2019) researched the effects of Dual Enrollment and other college credit options for high school students. In their study, they found Dual Enrollment and similar programs had a significant influence on reducing the time to college graduation. They used a land grant university in the Midwest for their study, and they controlled for GPA, ACT test score, gender, and ethnicity. Previous studies have examined college retention rates at community college; however, this study's emphasis on a large land grant institution displays Dual Enrollment's impact across multiple types of higher education institutions.

Initial enrollment is the first component of increasing retention rates. Unlu, Edmunds, Fesler, Glennie, and the Society for Research on Educational Effectiveness (2015) researched the impact Dual Enrollment had on North Carolina's postsecondary enrollment and continuing in the collegiate journey. This study found that Dual Enrollment increases student enrollment in college following high school graduation, likely due to the exposure to college the students received in Dual Enrollment. Also, the study reported that Dual Enrollment in this context is being successful at providing early access to college-level work that translates into college success.

Cowan and Goldhaber (2015) studied a popular Dual Enrollment program in Washington State and how it impacted college retention. They found that students that participated in that

program are more likely to attend college following high school graduation; however, these students are not necessarily attending four-year institutions. Most of these students are attending community colleges directly out of high school.

Role of Dual Enrollment on college-readiness.

There is significant debate about the role of Dual Enrollment courses in preparing a student for academic success in college or university work. Some believe that Dual Enrollment classes are not as rigorous as those equivalent courses taken during a freshman or sophomore year of college. Others think Dual Enrollment successfully prepares a student for the challenges of a collegiate course load, even putting those students ahead of students that did not take Dual Enrollment courses in high school. Overall, the literature indicates that Dual Enrollment leads to college-readiness.

In an agricultural context, Chumbley, Hainline, and Haynes (2018) found that Dual Enrollment could be a way to revive student enrollment in the college of agriculture. In this study, they instituted a program to help expand Dual Enrollment in their community, and they concluded that Dual Enrollment had a positive influence on course rigor related to farming. They subsequently surveyed school administrators about the program and administrators were overwhelmingly supportive. The administrators described the Dual Enrollment program as leading to higher standards, helping the overall reputation of the school as a center of academic excellence, and, from the administrators' perspective, shows students a proper and accurate glimpse of college-life. This study shows practical benefits of Dual Enrollment and how it can lead to college-success in an agricultural context.

According to What Works Clearinghouse and Development Services Group (2017), students taking Dual Enrollment classes were well-prepared for the academic and social rigors of

college while also keeping many of the support structures at a local high school in place to gradually help students in the participation for the next step in their academic career. This study used data from 77,249 students to conclude that Dual Enrollment had positive effects on obtaining a college degree, completing high school, and increased academic achievement while in high school. The study did not find that Dual Enrollment students performed academically better in college compared with their peers.

One way to measure college-readiness is through a student's GPA during the first year in college. An (2015) found a positive effect between students that took Dual Enrollment and first-year college GPA. The study further suggests Dual Enrollment students are more academically motivated and engaged than those that did not do Dual Enrollment. However, the positive influence on first-year college GPA mainly is associated with mid-selective institutions than at highly selective ones, meaning that students going to academically prestigious institutions might not have an influence on their GPA concerning whether they took Dual Enrollment or not. The study concluded that this is probably due to those highly selective institutions not accepting Dual Enrollment credit; however, other factors may contribute.

In addition to researching the influence of Dual Enrollment on traditional, mainstream college and university student performance, technical colleges are another type of higher-learning institution that some Dual Enrollment students attend following high school graduation. Wang, Chan, Phelps, and Washbon (2015) scrutinized Dual Enrollment students at these types of institutions. They found that participation in Dual Enrollment led students to attempt more credits, have a higher chance of entering college without delaying a year or more, enrolling in summer courses at higher rates, and stronger overall academic performance. In addition, they found college retention rates also higher for students that took dual enrollment. The influence of

Dual Enrollment on college success was deemed as "academic momentum," reasoning that a student will probably finish what was started.

Another study conducted with a community college in Tennessee studied the effects of Dual Enrollment on remedial college courses retention using a population of over 1,200 students from 2008-2012 (Grubb, Scott, and Good, 2017). The authors reported that college students that participated in Dual Enrollment in high school were over three times less likely to take remedial college courses, over two times more likely to graduate in two years from the community college, and about one and a half times more likely to graduate in three years from the same community college.

Lukes (2014) discussed how Dual Enrollment can successfully bridge the gap between high school science classes and those in colleges or universities. This study suggested that Dual Enrollment prepares students to be successful in college, both academically and regarding retention rates. Specifically, this study dealt with the implementation of a Dual Enrollment geology program that consisted of two lectures and two labs weekly. Challenging high school teachers provides some instability for students in general, and the Dual Enrollment credit does not transfer to all colleges and universities (p. 21). Additionally, funding can become problematic and bureaucratic because the instructors must wait for colleges and local school districts to negotiate the funds for it.

Morgan, Zakhem, and Cooper (2018) conducted a study about the effects of Dual Enrollment on college-readiness, specifically related to whether those high-rigor courses in high school influenced academic success despite student demographics. This study involved 1,464 students that graduated high school between 2009-2014, using logistic regression to analyze the data. This study confirmed that a positive relationship exists between high-rigor courses like

Dual Enrollment and success in the postsecondary context. The study controlled for gender, ethnicity, and socioeconomic status, thus displaying the transcendent nature of dual enrollment for all students.

Allen and Dadgar (2012) studied the effectiveness of Dual Enrollment on college achievement in New York City, and they found that Dual Enrollment allowed students to graduate earlier, increased college retention rates, and produced higher GPA's than students not enrolled in Dual Enrollment. The study found that despite the significant amount of diversity that exists in New York City, the Dual Enrollment courses were able to help students from numerous ethnic and economic backgrounds.

Oregon established a goal of ensuring that 40% of its residents have success in postsecondary education. The state believed this could occur was through a concentration on expanding Dual Enrollment programs throughout the state (Pierson, Hodara, Luke, Regional Educational Laboratory Northwest, Education Northwest, and National Center for Education Evaluation and Regional Assistance, 2017). The study analyzed the impact of this increased focus of Dual Enrollment on Oregon. They found Oregon's public colleges varying greatly depending upon cost, eligibility requirements, and geographic coverage. To remediate that problem, the state legislature would have to pass specific guidelines for these public colleges. Also, they found that more than 90% of students pass their dual credit courses that are taken at a community college.

Vargas, Hooker, and Gerwin (2017) reported the positive effects of Dual Enrollment regarding how it can help students in both high school and their transition to college. Blending high school and college could increase positive academic outcomes for the students involved. The success of a student with a low socio-economic background who attended college was

noted, and it was somewhat attributable to the Dual Enrollment option at his high school. Subsequently, four benefits of Dual Enrollment were noted: academic acceleration, college-going identity, transition, and options. The academic acceleration allows students to get a head start on college. The college-going identity allows students to determine that they can be successful in college, especially for students that might have otherwise not considered that as an option. The transition component allows students to learn about the nature of college while still having the support at the high school level. Lastly, participation in Dual Enrollment provides students varied options about which major to take, even switching majors, while not delaying graduation.

Zuidema and Eames (2014) studied the performance of Dual Enrollment students and traditional college students in the same general education chemistry class. The students, however, were not in the exact same class, but the instructor was the same for both. The students were evaluated using the American Chemical Society standardized examination. It was determined that the Dual Enrollment students outperformed the traditional college students on the college-level exam every year the Dual Enrollment program had existed. Since the science field is highly promoted in schools across the country, Dual Enrollment science courses would adequately prepare students for the next science class since those students are already outperforming the traditional college students.

Accordingly, with all the benefits of Dual Enrollment on college-readiness, Leonard (2013) studied how parental support can increase college readiness for academically average students at a suburban high school. This qualitative study analyzed meeting notes, surveys, and interviews over a three-year period. Parental involvement was significant in helping students become ready for college. During those three years, 74 students earned an average of 9.4 college

credits per year. The students had a success rate in those classes of 91%. Those academically average students earning that many college courses display how early college in high school benefits a large portion of the student population. Students with support at home for planning and financial assistance experience success in Dual Enrollment at statically significant rates.

Irvine (2017) described a situation where a school's Dual Enrollment program ceased because of a lack of organization, among other factors. Thus, the study focused on ways to prevent the collapse of a Dual Enrollment program. One idea is to recognize the importance of grassroots ways to respond to local issues. Since schools are so different, even within the same school district, it is important to allow local leaders agency to solve problems. It is also essential that high schools send prepared students to participate in Dual Enrollment programs. Colleges are not built to accommodate high school students that are not ready for college-level work. Lastly, programs for Dual Enrollment should consider strategic goals for continual improvement to produce college-ready students.

Taylor, Borden, and Park (2015) studied Dual Enrollment programs nationwide, focusing on the quality of those courses concerning academic rigor. They found state governments regulate Dual Enrollment programs across the nation to ensure those classes are requiring college-level work. Regulation takes the form of the type of courses that can be offered as Dual Enrollment, GPA and exam requirements from students in order to enroll in Dual Enrollment classes, instructors meeting the same academic requirements as college faculty, and Dual Enrollment programs could be audited by some state governments. In addition to regulation, colleges offering support services, such as tutoring and writing centers, are required in several states.

Perceptions of Dual Enrollment on college-readiness.

Azimzadeh, Koch, and Rollins (2015) conducted a qualitative study about student perception of the quality of the Dual Enrollment classes, especially regarding how they were able to balance academic challenges and extracurricular commitments in high school. Overall, the students were very positive about the college-level experience, especially considering the tuition savings, academic challenges, and improved time management. However, the students also indicated more negative characteristics of their experience with Dual Enrollment, such as high pressure and the corresponding stress to perform well in class. Also, these students recommended shorter lectures, more hands-on group projects, and in-person math and science courses instead of online as suggestions for improving the Dual Enrollment program. This study suggests further exploration is needed regarding whether the academic rigor of college can stay the same while the format, such as less lecturing, changes.

Kanny (2015) conducted a qualitative study using five students as a focus group to determine their perceptions of Dual Enrollment. In that study, three themes emerged as the primary benefits of Dual Enrollment other than saving time and money. First, the students noted that exposure to the academic environment that colleges offer was a major benefit of Dual Enrollment. This involved navigating a college campus and experiencing the rigor of a college course. Second, the students stated that doing Dual Enrollment allowed them to learn the skills and practices that are not necessarily discussed frequently, but are key to success in college. These skills and practices include time management and organization. Third, the students reported independence and freedom as being major benefits because it allowed them to overcome some fear associated with those practices and self-reliance that college classes require.

Similarly to student perception of Dual Enrollment on college-readiness, there are other stakeholders that have varying views of Dual Enrollment, such as administrators, teachers, and

guidance counselors. Administrators, teachers, and guidance counselors, according to Hanson, Prusha, and Iverson (2015), generally agreed that Dual Enrollment has significant positive benefits for the students and schools involved. The positive benefits include preparation for more college-level coursework and having more in-depth knowledge of a content area. However, the three groups differed on some issues related to the impact of Dual Enrollment. Compared to guidance counselors, teachers perceived Dual Enrollment courses as increased in rigor. Principals, more than guidance counselors, believed Dual Enrollment increased student participation in academically challenging classes. Overall, guidance counselors viewed Dual Enrollment as having less benefits compared to teachers and principals.

Wozniak and Palmer (2012) studied the different support systems in place that are needed for success in Dual Enrollment from the perspective of various stakeholders, such as superintendents, principals, and college Dual Enrollment officers. All perspectives indicated a general positive feeling about Dual Enrollment's impact on students. However, the study found that funding is the primary barrier for many students, and that proper funding would increase positive perceptions about Dual Enrollment in general. Another perceived barrier, other than financial assistance, is the lack of technical options for many students. These perceptions indicate that Dual Enrollment, if barriers are removed, is overwhelmingly positive in nature.

Roberts, Takahashi, and Park (2018) discussed how Dual Enrollment appeared to be the solution to making sure high school students were prepared for college following graduation. Their study focused on promoting Dual Enrollment programs to Native Hawaiian students, including mentorships, tutoring, and financial assistance. They studied whether Dual Enrollment would have a positive impact on perceptions from that population. Using a population of over 300 Native Hawaiian students at 17 high schools in Hawaii, they found that students'

participation in Dual Enrollment had a positive impact on the academic interests and college plans of these students.

Tobolowsky and Allen (2016) synthesized numerous studies regarding Dual Enrollment, concluding students experienced academic benefits for having participated in those programs. First, taking Dual Enrollments courses did reduce the cost of college and the time to college graduation. Second, high school students going to the college campus for their Dual Enrollment courses assisted in the transition from high school to college following high school graduation. Regarding student perceptions, they felt prepared for college, including significant advantages for students from first-generation and low-income family backgrounds. However, challenges persisted regarding Dual Enrollment programs, such as transferring earned college credits and minority student populations are less likely to enroll in Dual Enrollment courses.

Summary

The cost of college education and the rise of student loan debt are serious problems in the United States that require creative solutions. It is also problematic that gifted and talented students can be bored in the high school classroom (Colangelo, Assouline, and Gross, 2004). The proper solution to both of those issues is Dual Enrollment because participation in those classes saves time and money, but also provides outlets for acceleration for academically inclined students. Dual Enrollment benefits students from all demographics that meet the standard requirements for college entry, and students are successful when they enroll in those courses (Roberts, Takahashi, and Park, 2018).

With the United States economy growing technologically, many students need college degrees in order to find decent, high-paying jobs. Dual Enrollment increases college-readiness, college-retention, and improves perceptions about college, especially for students from a

minority population (Ganzert, 2012). However, not everyone supports the growth of Dual Enrollment. Some people prefer AP while others think Dual Enrollment does not prepare a person adequately for college (The University of Pennsylvania, 2019). Therefore, it is imperative to research the impact of Dual Enrollment on college readiness, especially from the perspective of the students utilizing Dual Enrollment.

Chapter 3: Methodology

Chapter 3 details how the study was conducted. The chapter includes a short description of the research question, the nature of qualitative research, the participants and setting of the study, the procedures for the data collection process, an examination of ethical considerations, the procedures for analyzing the data, and a brief summary of the entire methodology.

Research Question

Qualitative research focuses upon the emotions, feelings, and perceptions of people, attempting to understand the world as they perceive it. Smith (2019) described qualitative research as a subjective approach to a problem or situation in that it seeks to understand the world from the perspective of the participants, and the research is influenced by the point-of-view of all individuals involved within the project. For this study, qualitative research was used to analyze responses to the following research question:

1. What are the identifiable constructs that affect student perceptions of Dual Enrollment courses regarding college-readiness?

Description of the Research Approach

This study used the case study research approach within the qualitative research category. Alpi and Evans (2019) explained case studies as complex reports that synthesize multiple types of data. Smith (2019) described case studies as exploring a single phenomenon within a defined time period. The purpose of the study was to determine student perceptions regarding whether those courses prepared them for success in college. This approach allowed for reflection and to adjust interviews in order to discover the reasons regarding the responses concerning college-readiness.

The theoretical framework for this study was based on Sternberg's Theory of Successful Intelligence. Sternberg described intelligence as interconnected with achievement of goals. For students taking Dual Enrollment courses in high school, the primary objective is to attend college after high school, ultimately graduating in a reasonable amount of time. The Likert survey used in the survey addressed skills that are deemed necessary for success in college (Oliveri, Lawless, & Molloy, 2017). Additionally, other skills included in the Likert survey, which are fundamental to the college experience, include use of technology and social interactions. In the data analysis phase, data were analyzed and coded based on number of Dual Enrollment courses taken and GPA in high school.

Description of the Study Participants and Setting

This study was conducted in East Tennessee with graduates from a private faith-based day and boarding school. The school has students that hold passports from multiple countries other than the United States, including Brazil, Nigeria, Japan, South Korea, and China. The 2019 graduating class from this school totaled 47 students, including 18 students that took at least one Dual Enrollment course at the high school (R. White, personal communication, July 16, 2019). At this school, there were five teachers that taught Dual Enrollment courses during the 2018-2019 school year. For the purpose of this study, the survey was sent to graduates from the class of 2019 at this school that took at least one Dual Enrollment course. Recipients of the email link to the survey were asked to participate if they have enrolled at an academic institution of higher education following high school. The identity of the participants remained anonymous, and participants agreed to an informed consent document before participating in the survey, interviews, or focus group.

Data Collection Procedures

An email link to a Likert survey was sent to high school graduates who are enrolled at an institution of higher learning, along with an introduction of the study and an explanation of the study's purpose. Additionally, participants were informed that the survey, interview, and participation in a focus group were completely voluntary. The survey participants were provided a list of college-readiness skills that were analyzed in the literature review found in the second chapter of this research. Participants were asked to rate their perceptions of the effectiveness of their Dual Enrollment classes in developing the necessary skills for success in college. A composite score from the survey was calculated for each skill. The survey also asked participants to list the number of Dual Enrollment courses they took and their high school GPA. After the survey, six students were interviewed based on emergent themes from the survey to analyze the rationale behind the survey responses. Each interviewee was asked the same basic questions to expound on the reasoning regarding answers on the survey with examples from their specific college experience. There were follow up opportunities on the responses with alternative questions in order to customize the interview to each participant. After each interview, participants were given the opportunity to respond regarding whether they believed their responses accurately represent their perceptions. Finally, a focus group was conducted in which students further detailed their perceptions of Dual Enrollment preparing them for success in college. This allowed students to interact with one another and clarify one another's comments. Each participant was provided the opportunity to speak, and attention was appropriated to guide the focus group so no one person dominated the conversation. The interviews and focus group were recorded for transcription and coding purposes. After coding occurred, another teacher at the school was asked whether he/she developed same conclusions from the open, axial, and selective coding procedures.

Ethical Considerations

Ethical considerations were upheld during this study. Data was collected for this study with the permission of the Institutional Review Board of Carson-Newman University. The appropriate permissions were obtained from each participant of the study by informed consent. The interviews were recorded with the express consent of each participant. There are no identifiers on the survey and the identities of the interviewees are coded with numbers. Rotsaert, Panadero, and Schellens (2018) described the importance of anonymity in acquiring genuine student perceptions of phenomenon. In some instances, students mentioned specific names during the interviews and focus group, but those names are not included in this study. In order to remain objective, self-disclosure was employed to be aware of any opinion that would affect or influence the outcome.

Data Analysis Procedures

Data in this study were collected from a Likert survey and individual interviews. The Likert survey contained a list of skills associated with college-readiness and other skills needed for success in college outside the classroom, such as technology usage and social interactions. The Likert survey included a scale of 1-5; with 1 being least prepared and 5 being most prepared. There was also an option to indicate neutrality. This allowed for the possibility that some students may not hold either positive or negative beliefs regarding a particular skill. Ozudogru and Ozudogru (2019) discussed the reliability of using a Likert scale in gathering data. The totals for each skill were calculated to determine the skills students considered to be most and least prepared.

Six students were chosen based on emergent themes from the survey to participate in a follow-up interview in which they expounded upon the answers given on the survey, specifically

related to why different skills were deemed as being developed or not developed in the Dual Enrollment courses. Comert (2018) reported the importance of interviews in studying teacher perceptions of in-service training. Subsequently, a focus group was convened in which participants interacted with one another to further explore beliefs and reasons behind their preparedness for college from high school. Rivaz, Shokrollahi, and Ebadi (2019) discussed the role of focus group discussions regarding improving qualitative research reliability. Data was analyzed and coded to reflect the theoretical framework and the list of essential college skills of this study. Students were also asked about the classes they enrolled in during their 1st semester of college.

To create an audit trail, raw data responses to the survey, individual interviews, and focus group questions will be kept for 7-10 years following the study. During data collection, reflexivity was applied in the form of memo writing to record the thoughts and reactions to the data being collected. The memo writing assisted in the construction of questions for the individual interviews and focus group base questions. Memo writing was also used during the interviews to create new questions according to participant responses.

The recorded interviews and memos were used in an open coding scheme to organize data by identifying distinct sections. Inductive analysis was used to reduce the data into themes and patterns. These sections were coded into categories and subcategories of each skill regarding student perception of Dual Enrollment's effect. Transcripts and memos were then reexamined to determine any relationships that exist between the categories and themes. Then, selective coding was used to organize the data into a fundamental category from which a narrative or overarching theme emerged.

Member checks were conducted during and after the interviews to ensure reliability. Feedback from participants assisted in determining the accuracy of the interpretations of the data. Since the interview sample size was small, all six interviewees were involved in member checks.

Lastly, a professional colleague not involved in the study was consulted in peer debriefing to confirm if the results and themes developed from the data collection are accurate and reasonable (Franks, 2019).

Summary

This qualitative study used a case study approach to collect and analyze the identifiable constructs that affect the perceptions of students that took at least one Dual Enrollment course in high school regarding their college-readiness. A five-point Likert survey was administered to students who are currently enrolled at an academic institution of higher education. Follow-up interviews of six students further explored these perceptions with in-depth questions. The Likert data were analyzed to determine the student perceptions of the skills they believed most and least prepared for college from their Dual Enrollment courses, as taken from the GRE Board Research Report (Oliveri, Lawless, & Molloy, 2017). The student interview data were then coded in categories of patterns and themes. Ethical considerations were observed to ensure anonymity and reliability. Lastly, member checks and peer review ensured accuracy and credibility.

Chapter 4: Presentation of the Findings

Introduction

This study sought to determine the influencing factors regarding perceptions of students' of Dual Enrollment courses and college-readiness. In order to understand student viewpoints of Dual Enrollment, the study was constructed to highlight and allow for discussion of common skills associated with college-readiness, such as reading, writing, and technological awareness. The research was completed during the evenings and weekends because the participants are high school graduates and are attending various colleges and universities throughout the area that are close to the high school. A Likert survey, located in Appendix A, was delivered to the personal emails of the graduates of the class of 2019 that completed at least one Dual Enrollment course and are pursuing higher education at a college or university. The Likert survey was on a Google Form. The interviews and focus group were recorded and transcribed using the iPhone application RevRecorder. One research question directed this study:

1. What are the identifiable constructs that affect student perceptions of Dual Enrollment regarding college-readiness?

Description of Participants

This study used human subjects as participants from a private, faith-based school in East Tennessee. The participants were graduates of the class of 2019, completed at least one Dual Enrollment course while in high school, and were attending a college or university during the scope of this study. The private, faith-based school is a day and boarding school that enrolls approximately 500 students within the Pre-K-12th grade span. The class of 2019 had approximately 50 graduates. Of these students, 18 students participated in the Dual Enrollment program. Those 18 students were evenly divided along gender categories, with 9 males and 9

females. Of the 18 students, 15 students responded to the survey, with those being categorized by gender as eight males and seven females. From these 15, six students were selected based upon equity regarding the emergent themes of positive and negative perceptions toward Dual Enrollment. Of these six students, four were selected to participate in a focus group based upon a combination of positive and negative perceptions.

Table 4.1

Categorization of Participants by Gender

Gender	Number of Participants
Male	**8**
Female	**7**

Data Collection Process

A survey was disbursed to each participant using Google Forms, an online application. The students voluntarily participated with the understanding their responses would remain confidential, and they understood no reward of any kind would be given to them for their participation. An informed consent document was attached to the email that included the survey. A total of 15 students answered and returned the online survey. Table 4.1 displays the number of participants in the survey categorized by gender. The purpose of the survey was to determine the constructs that affected student perceptions of Dual Enrollment regarding college-readiness. This was primarily achieved by providing an option for neutrality for each response, as well as a place at the end for students to write a free response based upon their perception.

Among these 15 students, six were chosen based upon equity regarding the emergent themes of positivity and negativity toward Dual Enrollment and their college-readiness. During

the interview portion of the study, students were asked to discuss, explain, and clarify their responses to the Likert survey they answered using the online Google Form. The interviews were audio-recorded, and transcription occurred afterward in order to code the data successfully. The transcripts were coded based upon constructs that affect student perceptions of Dual Enrollment regarding college-readiness. The research question was featured prominently throughout the interviews, with each interview question related to the research question.

From the six students who agreed to participate in interviews, four were chosen based upon positive and negative perceptions to create a focus group to discuss their perceptions of Dual Enrollment and college-readiness. The focus group consisted of two males and two females. There was also a mixture of positive and negative perceptions among the focus group members. During the focus group, students were asked questions, which consisted of having each participant respond. Thus, each student had an opportunity to share perceptions. However, students would frequently respond to each other, thus creating a conversation-type atmosphere. The focus group members also discussed significant similarities and differences between their Dual Enrollment courses and the college-classes they are currently attending. The focus group was audio-recorded and transcribed for coding purposes.

Description of the Survey

To attempt to discover the identifiable constructs that affect student perceptions of Dual Enrollment regarding college-readiness, data were collected with an online Likert survey. The Likert survey was sent to students who graduated high school in 2019 who enrolled in at least one Dual Enrollment course while in high school, and these students were also enrolled at a postsecondary institution. The Likert scale statements were formulated on a 1-5 scale, with 1 being not prepared at all for college from Dual Enrollment courses and 5 being completely

prepared for college from Dual Enrollment courses. Each Likert statement had an option for neutrality where students could respond with a 3. In addition to the Likert scale statements, participants were also asked how many college credits they earned in their Dual Enrollment courses while in high school, they were asked whether their high school Grade Point Average (GPA) was higher or lower than a 4.0, and they were asked to identify themselves with the assumption their results will remain confidential. They were asked identification questions in order to choose participants for interviews. The survey, prior to being disseminated to the population of the study, was validated through a pilot study.

The Likert scale statements included:

1. Dual Enrollment courses prepared me to ask questions for clarification and better understanding effectively in college.
2. Dual Enrollment courses prepared me to write clearly and effectively in college.
3. Dual Enrollment courses prepared me to monitor my academic performance successfully in college.
4. Dual Enrollment courses prepared me to overcome obstacles/setbacks effectively in college.
5. Dual Enrollment courses prepared me to interpret and analyze texts effectively in college.
6. Dual Enrollment courses prepared me to have an open mind (willing to consider diverse opinions) effectively in college.
7. Dual Enrollment courses prepared me to use technology for success in college.
8. Dual Enrollment courses prepared me to adapt to new technology in college.
9. Dual Enrollment courses prepared me to work with others successfully in college.

10. Dual Enrollment courses prepared me for the rigors of a college course workload.

The open-ended question to conclude the survey:

11. Are there any other factors from Dual Enrollment that influenced your college performance? If so, please explain.

Survey Findings

After the survey response deadline elapsed, a meticulous analysis was utilized to identify the constructs that affect student perceptions of Dual Enrollment. Students with higher GPA's in high school indicated a more positive perception of Dual Enrollment preparing them for college than students with a lower high school GPA. Students with a high school GPA or 4.0 or higher reported an average of all Likert statements of 4.03, and students with a high school GPA of 3.99 or lower reported an average of 3.74. Students that enrolled in more Dual Enrollment courses, particularly students that earned 13 or more credits from Dual Enrollment, indicated a more negative perception of Dual Enrollment compared with students that only earned 3-6 credits from Dual Enrollment. The students that earned 13 or more credits from Dual Enrollment had a total average from all Likert scale statements of 3.6, and students with 3-6 credits reported an average of 4.0. Table 4.2 details the responses for each Likert scale statement, with 1 being not prepared, 3 for neutrality, and 5 being completely prepared.

Table 4.2

Student Perceptions of Dual Enrollment regarding College-Readiness Preparation

Likert Choices	1	2	3	4	5
1. Ask Questions	0	1	3	10	1
2. Write Clearly	0	0	2	3	10
3. Self-Monitoring	2	0	1	7	5
4. Overcome Setbacks	1	0	4	4	6
5. Analyze Texts	0	1	0	6	8
6. Open Mind	1	0	5	3	6
7. Use Technology	2	3	4	4	2
8. Adapt to Technology	2	2	5	4	2
9. Work with Others	0	1	1	7	6
10. College Workload	1	1	0	6	7

As Table 4.2 indicates, on all statements other than Statement 5 and Statement 10, at least one student indicated neutrality. Statement 5 addressed interpreting and analyzing texts, and Statement 10 asked about the rigors of a college course workload. Statements 5 and 10 reveal students believed Dual Enrollment influenced them positively for success in college. However, Statement 6 and Statement 8 indicated that one-third of the participants were neutral. Statement 6 focused on having an open mind and being willing to consider diverse opinions, and Statement 8 surveyed adaptation to new technologies in college. All statements have more positive college preparation perceptions than negative on the Likert scale, with Statement 5, interpreting and

analyzing texts effectively in college, reporting 14 of 15 participants indicating positive perceptions.

Additionally, Statement 2 had the most participants who indicated a 5 regarding their perception. Statement 2 addressed writing ability in terms of being able to write clearly and effectively in college. Statement 2 was also the only question that did not receive a single negative marking from any participant, but this question received two neutrality markings. However, Statement 7, regarding using technology, received negative markings from one-third of the study population. Statement 7 asked students about being prepared to use technology for success in college. Statement 7 received as many 1 markings as it did 5 markings, thus revealing an equal number of students perceived as not being prepared for college as those that believe they were prepared for college.

The survey statements incorporated categories from the literature review. The categories include academic skills, social interactions, and technological understanding. All three of these categories, as detailed in the literature review, are essential components of the college experience. Table 4.3 indicates the categories and the response average, based in the literature review, which created the survey statements.

Table 4.3

The Survey Categories in the Formation of the Likert Statements and Responses

Categories	Survey Statements	Survey Average
Academics	1, 2, 3, 5, 10	4.1
Social	4, 6, 9	3.9
Technological	7, 8	3.1

Survey Open-Ended Question Eleven

Question 11 asked, "Are there other factors from dual enrollment that influenced your college performance? If so, please explain." Not every participant who submitted a survey response chose to answer the open-ended question; however, eight of the 15 participants chose to submit an open-ended response to this question. The open-ended responses assisted, along with the Likert scale questions, in the construction of the interview questions. A common theme emerged from the open-ended response regarding importance, academic rigor, and familiar course structure, and these themes indicated the perceptions of college-readiness from the participants.

Familiar formatting between Dual Enrollment and college classes was reported as influencing perceptions regarding college-readiness. One participant wrote, "While dual enrollment classes are extremely beneficial, they lack a true college mindset and workload. However, the material covered in my dual enrollment classes prepared me for the material covered in college." Other students noted the similar academic content as well. Two participants noted how academic language from Dual Enrollment helped prepare them for college success: "The terminology I used in my history dual enrollment course is very similar to what I'm seeing in college. Not just terminology in regards to history, but also terminology in regards to how to complete the assignments given as well" and "Idents helped me prepare for my first college exam."

Students reported that Dual Enrollment is viewed as important because it is a college course. One participant noted, "I believe that just knowing it was a college class I was in helped to prepare me. That with the heavier workload." Another participant stated, "4 semesters of Chinese which would have finished my credits for a language in college was not accepted by my

university…I could've taken different duel enrollment courses." The students reported they valued Dual Enrollment and wanted those credits to transfer to their higher education institution.

Lastly, academic rigor was highlighted as an important construct that influenced student perception of Dual Enrollment in relation to college-readiness. One student wrote about the similarity of examinations between Dual Enrollment and traditional college courses by stating that, "From my experience thus far, duel enrollment exams are similar to the ones I have received during my first semester at college." Another participant noted how individual thinking changed as a result of Dual Enrollment. This participant stated, "the dual enrollment course that I took helped me to be more open to diversity."

Interview and Focus Group Findings

After the survey was completed, interviews and a focus group were conducted for triangulation purposes within qualitative research. The interviews and focus group data were organized through open, axial, and selective coding. Using the transcript data from the interviews and focus group, as well as data from the survey, common themes were arranged in categories that showcase clear identifiable constructs that affect student perceptions of Dual Enrollment regarding college-readiness. The initial open and axial coding revealed emergent themes that support the categories and constructs that answer the research question. Selective coding filtered the data into specifically addressing the research question.

Analysis of Participant Interview Data

Interviews were completed individually with six participants who were chosen based upon a combination of positive and negative perceptions indicated on the survey. Random numbers were assigned to the participants to ensure confidentiality in the analysis of the data. The students were asked to reflect upon their past experience with Dual Enrollment and compare

it with their current experience at a college or university. There were common interview questions with all six interviews that are located in Appendix B; however, each interview prompted unique questions based upon the survey results. The majority of the time spent during the interviews was allotted to the common questions. At the conclusion of each interview, member checks were incorporated to ensure the interviewer properly understood the interviewee, with the interviewee's thoughts and ideas accurately recorded. Each interview was recorded, and then all audio files were transcribed for coding and analysis. The questions asked in the interview were clarifying questions based on the survey in order to understand the reasoning behind the survey responses. The participants were asked to compare Dual Enrollment and traditional college courses.

The interviews occurred on an individual basis with six students who are currently enrolled in a college or university who experienced at least one Dual Enrollment course in high school. The participants were chosen based upon the emergent themes of positive and negative perceptions. These interviews occurred in a variety of settings, both public and private. The focus group occurred with four students who were previously interviewed in order to facilitate an atmosphere that prompted more conversation. In the focus group, students clarified one another and sometimes contradicted one another. A professional colleague, who did not participate in the study, reviewed the raw data, along with interpretation of the data, for clarity and intention. The data from these interviews and focus group, in addition to the survey, indicated four constructs that significantly impacted student perceptions of Dual Enrollment regarding college-readiness: academic rigor, independence, inclusivity, and technological awareness. Table 4.4 details the interview respondents' GPA, the amount of Dual Enrollment courses, and survey average score.

Table 4.4

Data Regarding Interview Participants

Participant	GPA	Dual Enrollment Credits	Survey Average
Participant 1	4.0 or higher	13 or more	2.8
Participant 2	3.99 or lower	13 or more	3.2
Participant 3	4.0 or higher	3 – 6	4.3
Participant 4	4.0 or higher	13 or more	4.2
Participant 5	3.99 or lower	3 – 6	4.5
Participant 6	3.99 or lower	3 – 6	4.2

Academic rigor.

All interview and focus group participants stated how academic rigor is a major construct that affected their perceptions of Dual Enrollment and college-readiness. These participants perceived that academics in Dual Enrollment and academics in college courses are similar in rigor.

Participant 1 stated Dual Enrollment resulted in improved writing ability, the teaching style in between Dual Enrollment and traditional college courses are similar, and the library visits that occurred in Dual Enrollment helped in preparation for college. “I can write faster I guess and write what’s meaningful and keep out what’s not. And then also just the grammar, punctuation also help the essays I wrote now.” “I would say for teaching style is kind of the same,” and “the library visits helped a lot.”

Participant 2 stated the similarity of teaching style, improved writing ability, and the transition from the academics of Dual Enrollment to traditional college classes was manageable.

"The teaching style is similar, more lecture focused it felt like." Regarding writing, this participant said, "I feel like I was prepared for that. Just a lot of essays in Dual Enrollment, and the grading rubrics were pretty similar at the college, the ones that I've had so far." Furthermore, "I feel like I was mostly helped just by the amount of writing that I had to do as opposed to a normal high school course." Lastly, regarding the academic transition from Dual Enrollment to college courses, Participant 2 said, "if we're just talking about class-wise then that transition hasn't been hard."

Participant 3 stated the similarity in the academic content between Dual Enrollment and college courses, and the amount of reading in Dual Enrollment was more than non-Dual Enrollment courses. "I would say the material is about the same to like have the same I guess in difficulty. Not like was not super harder than or harder than the other one." Regarding reading, Participant 3 said, "I feel like with my Dual Enrollment classes I had to read more than my non-Dual Enrollment classes," "so just being able to read and increasing the speed at which I read and also trying to remember the materials that was in the piece that we needed to read was helpful."

Participant 4 stated the similar workload between Dual Enrollment and traditional college courses, increased information in Dual Enrollment courses compared with on-level high school courses, and increased writing speed prepared him or her for college success. "I'd say the course load itself is the same level of work." Regarding increased information, this participant said, "with Dual Enrollment there's just a lot of information that I have to take in." Regarding writing speed, Participant 4 said, "I think history taught me how to put my thoughts down faster and not get so bogged down because I was prone to do that. And then English just improved the quality of my writing."

Participant 5 stated the similarity in writing prompts, the quality of essay writing between Dual Enrollment and college courses, and the ability related to analyzing texts were similar between Dual Enrollment and college courses. Regarding the writing difficulty level, Participant 5 said, "they do a lot of the same type of writing type of prompts and stuff and the course load is pretty similar." Regarding essay writing in general, this participant stated, "that's the biggest thing I felt prepared for." Relative to text analysis, this participant said, "I've noticed myself being able to process texts and analyze it a little bit quicker than those around me."

Participant 6 noted the examinations between Dual Enrollment and traditional college courses are similar in difficulty.

Independence.

Participants frequently noted independence as a construct. All six interviewees suggested that being independent is a key skill for success in college. Participants noted significant differences between Dual Enrollment and traditional college courses.

Participant 1 stated, "the teachers help you a lot more in Dual Enrollment." When describing college professors, this participant said, "certain teachers have office hours but still they don't help you as much as like you'd get help normally."

Participant 2 detailed how the class size difference and the amount of time in class between Dual Enrollment and college courses was significant. "The biggest difference would probably have been meeting every day and the class size, obviously will run smaller with the Dual Enrollment." This participant also said the "workload of the three Dual Enrollments at the same time prepared me for what it was like to have a college workload and manage my time."

Participant 3 stipulated college courses required more independence than Dual Enrollment courses. "Dual Enrollment classes here were a little bit more handholding because

with my college classes they say, 'here's your syllabus and you look on that for your homework.'" This participant also said that going to college was "a culture shock to me because I was kind of expecting it more to be like a Dual Enrollment…where it's like, 'hey you have this due…' and not just, 'oh by the way, here's your syllabus and good luck.'"

Participant 4 detailed the differences in scheduling between Dual Enrollment and college classes. Regarding the Dual Enrollment class schedule, "we had it every day for 45 minutes or an hour I guess…and then in college it's just like it's more segmented into specific days where you go to specific classes and stuff like that."

Participant 5 noted how the class size in Dual Enrollment allowed for more opportunity with the teacher, and college professors are not as concerned with student learning. "I think the class sizes are smaller and so there was more one on one time rather in college they're more teaching at you rather than going through it with you."

Participant 6 suggested that the college professors are not as nurturing as the Dual Enrollment teachers. "There's a lot more assignments in my Dual Enrollment class. There's not as much in college, you just have big assignments and the teachers never remind you about them. You're expected to just know when they are due. In high school, you throw away your syllabus. In college you have to have it everyday to look at it and write down in your planner."

Inclusivity.

Four of the six interview participants identified open-mindedness and diversity, within the larger framework of inclusivity, as a major component of being prepared for college success.

Participant 2 stated that Dual Enrollment challenged people's preconceived notions, and that students experienced intellectual growth as a result of Dual Enrollment. The participant said, "Dual Enrollment courses changed a lot of people's opinion."

Participant 3 detailed the challenge of considering the perspective of others, including the intellectual value others may possess. “So the Dual Enrollment has helped me gain knowledge but also allowed me to see other people’s knowledge and kind of explore that.”

Participant 5 noted the importance of appreciating diverse perspectives, including in relation to success in college. “I did hear other people’s opinions even though I necessarily didn’t agree with them, but it helped me understand more of how other people think and how there isn’t just one perspective.” Regarding diverse perspectives, this participant said, “that’s something that you really get a lot in college is obviously there’s a bunch of people there…they obviously think different than you.”

Participant 6 indicated a personal opinion change, including being more open to setbacks. “Dual Enrollment made me okay with not getting an A.” Also, Participant 6 discussed the transformation to becoming a more open-minded person. Regarding Dual Enrollment, Participant 6 said, “it helped me be more open-minded to other people’s ideas and stuff and working with them.”

Technological awareness.

All six interview participants noted technology is an integral part of the collegiate experience, ranging from teacher-created notes being online to taking online quizzes and other major assessments. The perceptions regarding whether Dual Enrollment prepared them for the technology used on college campuses were positive, neutral, and negative.

Participant 1 stated that Apple computers are used as the primary means of technology at the collegiate level, and these were not used in Dual Enrollment courses. “The Chromebooks we used in English class are completely different from the Macbooks they give you.” According to

Participant 1, although both pieces of technology are mobile computers, the differences between the two outweigh any similarities.

Participant 2 stated the prominence of online assessments at college or university; however, Dual Enrollment courses did not provide as many opportunities to use online platforms for assessments. “In college, though, there’s more online exams, so I feel like that may be the only real differences.”

Participant 3 stated researching using online platforms from Dual Enrollment courses is similar to those used in college classes. “Google Scholar, I use for difference papers that I had to write and what we use is our College Database. And so it’s kind of like Google Scholar only a little bit more structured and easier to search through.” However, this participant also described new technology used in college that had no similar platform from a Dual Enrollment course. When describing the thermal equilibrium of water, “we had to open up the computer, open up the app, get this older little calculator looking thing that they didn’t tell us the name of…and I’ve never worked with that before. So it was kind of a new experience.”

Participant 4 described the important role technology plays with college students; however, this participant also did not believe Dual Enrollment should be responsible for preparing students for the technology used in college classes. “I don’t feel there’s really a way that it could have necessarily prepared me, but it didn’t really need to because there are certain technology that I’m just learning how to use.” The participant also said, “But it’s more specific to each class and I feel it would be difference at different colleges too.”

Participant 5 detailed the stark contrast between the amount of physical papers given out between Dual Enrollment courses and traditional college classes. “I think I’ve gotten maybe a total of three handouts of all my courses just because everything is online.” This participant also

suggested the lack of physical copies of papers made the transition from high school to college difficult, “so it was very difficult going from constantly having physical papers and binders and notebooks to having everything just go through my laptop.”

Participant 6 discussed how the Dual Enrollment courses used a physical textbook, but in college, the focus is more on electronic platforms and the Internet. Regarding Dual Enrollment, “we didn’t use online stuff a bunch.” Regarding general technology use between college classes and Dual Enrollment, “the technology in college is a lot different, like all the websites and programs that you use.”

Analysis of Focus Group Data

The focus group included four students that were previously interviewed, and the focus group occurred in a private location. The questions asked during the focus group addressed similar constructs to the interview questions, such as academic rigor, independence, inclusivity, and technological awareness. The focus group allowed for more conversation and in-depth explanations within the group setting. Each participant participated equally, and each participant respectfully listened to each other’s responses and perceptions. The same two professional colleagues who reviewed the raw data and the interpretation of the data, reviewed the interview questions for misunderstandings and reviewed the focus group questions, and these colleagues were not connected with the study beyond those contributions. The focus group participants reinforced the four significant constructs that affect student perceptions of Dual Enrollment regarding college-readiness: academic rigor, independence, inclusivity, and technological awareness. The focus group was audio-recorded and later transcribed for coding and analysis purposes.

Academic rigor.

The academic content and material, interpreting data, researching, using a college library, writing essays, reading, and exams are all components of academic rigor that surfaced during the focus group. One focus group participant noted how the structure of exams, categorized in specific units, prepared this participant for college course structure. Participant A said, "I feel like the one thing that Dual Enrollment did better than other high school classes is like making sure there was a large distinction between units." Specifically regarding academic rigor, Participant C said, "I feel like the content, at least for me, was pretty much the same."

Independence.

The focus group members noted how Dual Enrollment courses required more independence than other high school classes, Participant B said, "it was more hands off than other high school courses." Additionally, studying for exams independently emerged as a trait of Dual Enrollment. Participant A said, "I think Dual Enrollment taught me how to study for exams more efficiently." However, the independence needed for success between Dual Enrollment and college classes is different. Participant A also said, "the teachers of Dual Enrollment would have kind of given you whatever or tried to at least. But the professors are just like, they're too busy." Regarding asking questions for clarification, Participant D said, "I think going to my professor in college is my last resort rather than in Dual Enrollment, I would go straight to my teacher if I had a question."

Inclusivity.

Participants reported exposure to different perspectives and beliefs as important contributions Dual Enrollment made in preparing them for college expectations. Participant D said, "I think those classes made me more like aware of…I don't know, different concepts that I hadn't been like exposed to before and different types of people. I'll literally have to write a

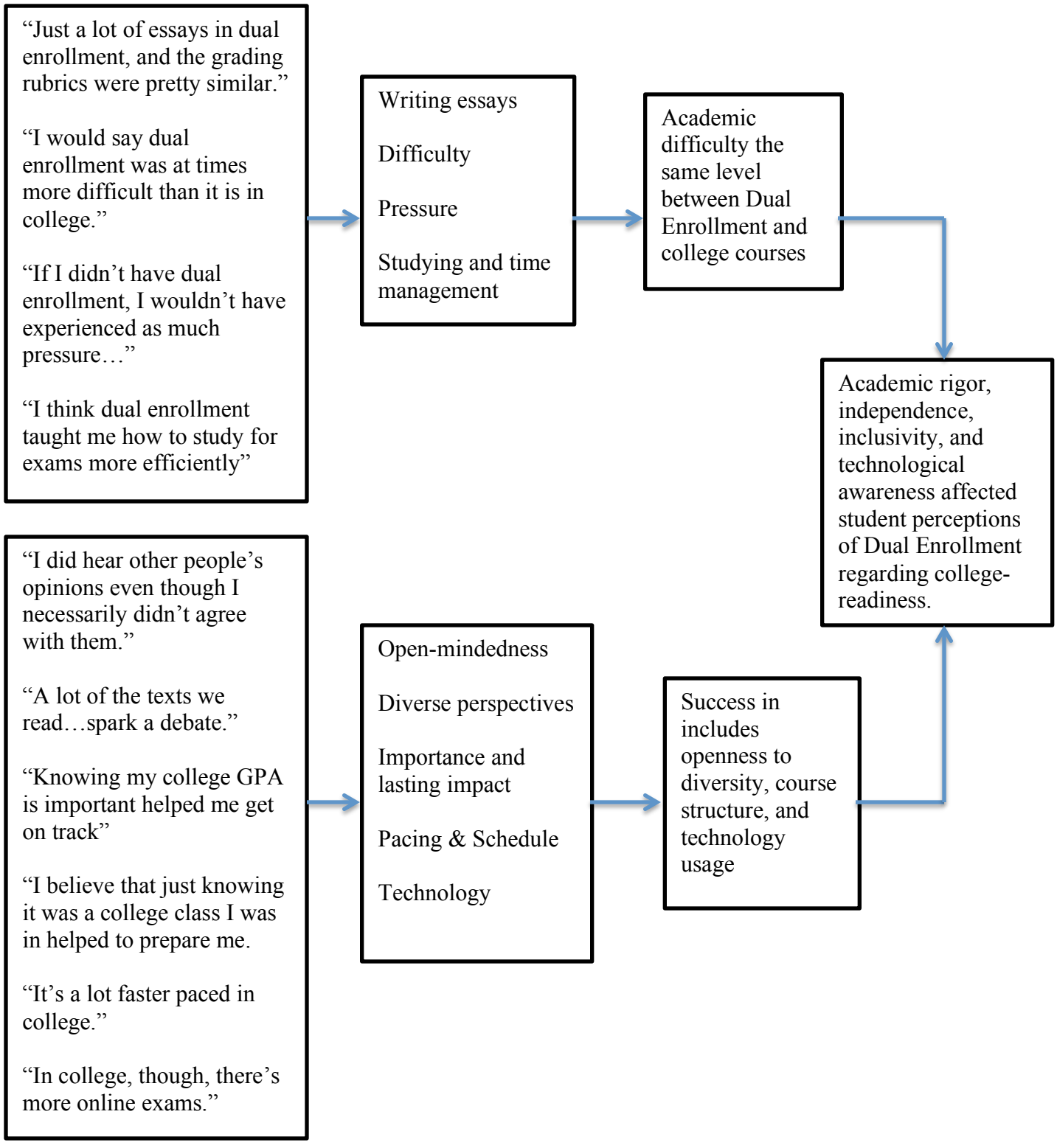
paper on atheism and I'll have to write how people think that's true. And obviously I don't agree with that…" Some participants stated that reading sources from diverse authors contributed to more open-mindedness. Participant B stated, "in Dual Enrollment English, that like a lot of the texts we read and stuff we discussed in class were kind of like meant to kind of spark a debate."

Technological awareness.

Focus group participants stated a technological chasm exists between Dual Enrollment courses and traditional college classes, and it even caused negative impact on college grades. Regarding Dual Enrollment, Participant D said, "the only thing I wish that we would've had more was more technology based things because we have a lot of online courses and stuff to do online that I don't really feel like I'm prepared for." Participant A said, "when I look at a screen, I'm not thinking homework." Participant D said, "the professors are just check online and you'll see all your assignments…I forget to go check those things because I think I don't have anything physically handed to me so I think I don't have homework." Table 4.5 illustrates the level of coding for the study, involving all three types of data: survey, interviews, and focus group.

Table 4.5
Data sorted in Levels of Coding for the Research Question: What are the identifiable constructs that affect student perceptions of Dual Enrollment regarding college-readiness?

Raw Data	Open Coding	Axial Coding	Selective Coding



Summary

Chapter 4 analyzed the points of data found in a survey, individual interviews, and a focus group. The purpose of this study was to discover the constructs that affect student perceptions of Dual Enrollment regarding college-readiness, both positively and negatively. Analysis of the data collected occurred to assist in answering the following research question:

1. What are the identifiable constructs that affect student perceptions of Dual Enrollment regarding college-readiness?

In order to achieve triangulation and improve the reliability of the study, three types of data were collected. Data were gathered using an online survey, semi-structured interviews, and a focus group. The data were analyzed to reveal four significant constructs that affect student perceptions of Dual Enrollment regarding college-readiness: academic rigor, independence, inclusivity, and technological awareness. These constructs emerged from all three data sources. Chapter 5 details the qualitative research findings, conclusions, and inferences from these data, including recommendations for future research.

Chapter 5: Conclusions, Implications, and Recommendations

The fifth chapter examines the findings of this qualitative study. This chapter is divided into four sections: summary of the study, analysis or conclusion of the findings, implications of the study, and recommendations for future research regarding student perceptions of Dual Enrollment and college-readiness. The conclusion section discusses the meaning of the study and how it relates to the theoretical framework and previous studies. The implications section involves how others could use this study in the field of education. The recommendations section describes the delimitations to this study and how future researchers can expand the body of knowledge regarding Dual Enrollment and college-readiness.

Summary of the Study

Dual Enrollment is a well-researched topic. Many studies have examined Dual Enrollment and how it impacts college-readiness. However, most studies related to Dual Enrollment are quantitative. Those studies investigated college GPA or retention rates from students that enrolled in Dual Enrollment courses in high school. Qualitative studies regarding Dual Enrollment and college-readiness are virtually unknown, and this is likely due to the difficulty in contacting, scheduling, and interviewing first-year college students. Once students graduate from high school, more often than not, they do not come into contact with high school personnel again.

Therefore, the purpose of this qualitative study was to understand the constructs that affect student perceptions of Dual Enrollment regarding college-readiness. This study included recognizing both the positive and negative student perceptions of those constructs in relation to Dual Enrollment. The qualitative study consisted of data from an online survey that utilized a Likert scale, semi-structured interviews, and a focus group. Fifteen students that experienced at

least one Dual Enrollment course responded to the Google Form survey. Six students were interviewed based upon emergent themes of positivity and negativity toward the value of Dual Enrollment from the survey. A focus group consisting of four students occurred after the completion of the interviews. The analysis of the data from this study suggests explicit constructs that affect student perceptions of Dual Enrollment and college-readiness. The following research question guided this qualitative study:

1. What are the identifiable constructs that affect student perceptions of Dual Enrollment regarding college-readiness?

Conclusions

All study participants attended a post-secondary educational institution at either a college or university in East Tennessee during the scope of this study, and they also all attended a private, faith-based high school in East Tennessee until their graduation in 2019. A comprehensive analysis of the data gathered from the online survey, interviews, and focus group answered the research question. Triangulation from those three separates sources of data formed the conclusions of this study. In addition to triangulation, to increase the credibility of this study, member checks and peer debriefing were utilized during the research collection. The constructs identified as affecting student perceptions of Dual Enrollment regarding college-readiness are academic rigor, independence, inclusivity, and technological awareness. These constructs reinforce previous studies regarding Dual Enrollment and college-readiness, as well as the theoretical foundation for this study.

Sternberg (2005) defined the Theory of Successful Intelligence in terms of application, meaning a person, in order to be classified as intelligent, applies intellectual capacity to completing a task. This theory avoids labeling people as intelligent that do not use their

intellectual capacity toward completing a goal. Dual Enrollment students are applying their intellectual capacity to early graduation from college and saving money on college tuition. These are some of the reasons why students participate in Dual Enrollment. Additionally, Taylor, Borden, and Park (2015) discussed academic rigor as an essential component of Dual Enrollment and preparing students for success in college.

This qualitative study fits within the Theory of Successful Intelligence by gaining understanding from students that would be deemed intelligent under that model. These students are cognizant of their limitations and the need to adapt to the challenges of college. Likewise, previous studies noted academic rigor as an impact of Dual Enrollment, but previous studies detailed in the second chapter of this study did not address inclusivity or independence as significant factors influencing Dual Enrollment students. However, it is understandable that those are constructs because Dual Enrollment courses in the humanities, similar to their college course equivalent, incorporate texts from diverse authors and their perspectives. The exposure to reading texts, whether in English or history courses, that include minorities, different religions, and opposing viewpoints, broadens the perspective of the reader. As study participants noted, diverse viewpoints emerge on college campuses. The different viewpoints students encounter on a college campus and how that is interwoven with specific course assignments would not be revealed through examining GPA or retention rates.

The construct of independence frequently emerged across all three data sources: survey, interviews, and focus group. Consistently, participants noted how Dual Enrollment teachers were more nurturing than college professors. This perception of Dual Enrollment teachers could be due to a variety of reasons. First, the schedule is different between high schools and colleges. In East Tennessee, usually the high school semester is 18 weeks and the college semester is 16

weeks. Not only are there two more weeks in the high school semester, but Dual Enrollment courses meet five days a week, but college courses would only meet two or three times a week. This time difference likely accounts for the perception that Dual Enrollment teachers are more nurturing than college professors, and thus college professors require more independence from the student. Consequently, this also means the college course must move at a faster pace in order to cover all the necessary material, which also factors into reasons behind viewing college courses as requiring more independence on the part of the student because these students must learn and study more outside of class.

Additionally, college students are older and more mature socially and emotionally than high school students. In college, some students are living on their own and away from parental support for the first time. That context alone requires some level of independence. Third, this study used students that experienced Dual Enrollment from high school teachers at a high school campus. Although these Dual Enrollment teachers possess the necessary graduate credit hours to teach their respective college courses, they also teach regular high school classes. Thus, those teachers have to guide and direct students more, and that nurturing mindset likely carried over into the Dual Enrollment courses.

Regarding academic rigor, students were overwhelmingly positive about Dual Enrollment preparing them for success in college. Students mostly reported essay writing as the main factor that promoted their academic success; however, responding to setbacks also emerged since Dual Enrollment was one of the more academically challenging courses these students experienced in high school. This increased academic rigor coincides with previous studies regarding Dual Enrollment as improving college GPA and graduation rates. Several students reported Dual Enrollment, including examinations, as similar in rigor to the college courses they are currently

experiencing. One student noted that Dual Enrollment was more academically challenging than some current courses. Another student noted that the structure of the Dual Enrollment course via a clear division between units is similar to the college course in having exams over significant amounts of information. The similarity in format, with units and exams over large amounts of information, helped in the transition from high school to college because the students experienced the exams in Dual Enrollment frequently before graduating high school. These elements help explain the reason for improved GPA and retention rates that previous studies discovered.

Technology is a crucial component of the college experience, with colleges increasingly using technology for assessment, delivery of instruction, and researching (Aines, 2012). Study participants discussed using technology for online quizzes, organization of course materials, and not using physical papers in classes. Several students also reported frustration in not knowing how some technologies operated. Technological awareness is a construct that affects student perceptions of Dual Enrollment, and this is because of the growing trend toward a more technologically driven society. For these study participants, the faith-based, private high school they attended was not a 1:1 institution; thus, that likely explains the negative perception regarding Dual Enrollment.

The survey revealed that negative perceptions grew along with the number of Dual Enrollment courses a student passed, and students with only one or two Dual Enrollment courses reported a more positive perception. This contrast may be the result of students that experienced more Dual Enrollment classes are currently enrolled in upper-level or major-specific courses at their college or university, and those students with only one or two Dual Enrollment classes are currently enrolled in more general education courses not connected with a specific major. This

perception could also be explained because students enrolled in Dual Enrollment courses in which they believed they could succeed, and saved the more demanding courses for college. For example, one participant reported taking English, history, and Spanish for Dual Enrollment, but is currently enrolled in primarily science classes. This correlation between Dual Enrollment courses and student perceptions would reinforce the Theory of Successful Intelligence by recognizing individual strengths and weaknesses within oneself and taking necessary steps in adaptation toward success.

Positive and negative perceptions.

Although students identified academic rigor, independence, inclusivity, and technological awareness as the significant constructs that affect their perceptions of Dual Enrollment regarding college-readiness, they were not neutral in their attitude toward each of those constructs. This authenticity improves the reliability of the study in determining the truthfulness of responses because the participants did not just discuss the positive aspects of Dual Enrollment. By including negative aspects of Dual Enrollment, it makes their responses seem trustworthy. The students perceived academic rigor and inclusivity as having been prepared for college from their Dual Enrollment courses. The students did not feel prepared for college regarding independence and technological awareness from their Dual Enrollment courses despite those constructs being viewed as essential.

Implications

The students reiterated multiple times specific constructs that are required for success in college, and their Dual Enrollment courses prepared them for some of those constructs. However, students also reported Dual Enrollment did not prepare them for college in other constructs. From these findings, four constructs were identified as affecting student perceptions

of Dual Enrollment regarding college-readiness: academic rigor, independence, inclusivity, and technological awareness. Academic rigor and inclusivity, according to the students, are already present in the Dual Enrollment courses. However, independence and technological awareness are lacking.

Therefore, this research can be used by other faith-based, private high schools that offer Dual Enrollment courses in properly establishing those programs. Additionally, since Dual Enrollment students reported being academically prepared for college classes, this research should also promote debate within high schools and school systems in general regarding offering Advanced Placement or Dual Enrollment classes. Reversing the negative perception of independence probably should not occur because Dual Enrollment offers the necessary guidance those students need, thus school systems should not seek to reduce class time for Dual Enrollment students to better match with traditional college courses. For the construct of technological awareness, Dual Enrollment classes should be extremely technologically based, with online quizzes, use of databases for research, and a reduced amount of physical papers in exchange for placing papers in an online learning management system.

Recommendations

Student loan debt in the United States keeps rising, and colleges and universities continue to increase tuition rates. Thus, Dual Enrollment could potentially offer a solution to reducing student loan debt. This study focused on seeking to identify the constructs that affected student perceptions of Dual Enrollment regarding college-readiness, including whether those perceptions were positive or negative. Future recommendations for research include studying Dual Enrollment student perception at a public high school or across an entire public school system. Future research could also include understanding the perceptions of Dual Enrollment students

that took their Dual Enrollment courses at the college campus instead of a high school campus. This study consisted of one private, faith-based high school in East Tennessee.

Future studies that include different geographic regions would provide opportunities for more diverse perspectives. Also, studies with a larger sample size would assist in the credibility of the research. Completing these additional research studies would make the answer to the research question in this study more reliable, or it could show the identifiable constructs from this study are only for private, faith-based institutions in East Tennessee. It could also be beneficial to research the student perceptions of Advanced Placement regarding college-readiness. That would provide an opportunity to compare and contrast Dual Enrollment and Advanced Placement perceptions among university or college students.

Summary

The purpose of this qualitative study was to identify the constructs that affect student perceptions of Dual Enrollment regarding college-readiness. Through an online survey, interviews, and a focus group, student participants discussed various skills, such as writing, reading, overcoming setbacks, managing a college workload, using technology, and interacting with other students, related to college success. Utilizing open, axial, and selective coding, the study revealed four significant constructs that affect student perceptions of Dual Enrollment regarding college-readiness: academic rigor, independence, inclusivity, and technological awareness. The reliability of the results were ensured through member checks and peer debriefing. The information acquired from this study will assist school districts in determining the college-level courses for their gifted and talented students and will help schools already using Dual Enrollment to improve in specific areas in order to align the program more with college classes. This study will also contribute to the nationwide debate between Advanced Placement

and Dual Enrollment, with students perceiving Dual Enrollment as academically rigorous. Overwhelmingly, students reported Dual Enrollment prepared them for the academic rigors of college.

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Appendix A

1. What is your name? (Remember: this will remain confidential and your name will appear nowhere in the research)

2. How many college credits did you earn from your dual enrollment courses while in high school?

A. 3-6
B. 7-9
C. 10-12
D. 13 or more

3. What was your high school GPA?

A. 4.0 or higher
B. 3.99 or lower

4. Dual enrollment courses prepared me to ask questions for clarification and better understanding effectively in college. Mark 3 for neutrality.

1 to 5

5. Dual enrollment courses prepared me to write clearly and effectively in college. Mark 3 for neutrality.

1 to 5

6 Dual enrollment courses prepared me to monitor my academic performance successfully in college. Mark 3 for neutrality.

1 to 5

7. Dual enrollment courses prepared me to overcome obstacles/setbacks effectively in college. Mark 3 for neutrality.

1 to 5

8. Dual enrollment courses prepared me to interpret and analyze texts effectively in college. Mark 3 for neutrality.

1 to 5

9. Dual enrollment courses prepared me to have an open mind (willing to consider diverse opinions) effectively in college. Mark 3 for neutrality.

1 to 5

10. Dual enrollment courses prepared me to use technology for success in college. Mark 3 for neutrality.

1 to 5

11. Dual enrollment courses prepared me to adapt to new technology in college. Mark 3 for neutrality

1 to 5

12. Dual enrollment courses prepared me to work with others successfully in college. Mark 3 for neutrality.

1 to 5

13. Dual enrollment courses prepared me for the rigors of a college course workload. Mark 3 for neutrality.

1 to 5

14. Are there other factors from dual enrollment that influenced your college performance? If so, please explain.

Appendix B

Common Interview Questions

1. What classes do you have in your first college semester? Do you have any classes specific to your major?
2. What are the major differences between your Dual Enrollment classes and traditional college courses? Similarities?
3. Did you feel prepared for college in regard to:
    - Asking questions?
    - Writing essays?
    - Monitoring your academic performance?
    - Overcoming adversity?
    - Analyzing texts?
    - Having an open mind?
    - Working with others?
    - Managing a college workload?
    - Using technology in College?
    - Interacting with others?
4. Was the transition from high school to college difficult?
5. Overall, do you believe Dual Enrollment prepared you to be successful in college?
6. Is there anything else you'd like to mention about whether Dual Enrollment prepared you for college or not?
7. Here are my notes. Does this adequately represent your thoughts on the subject?

Appendix C

Focus Group Questions

1. What occurred in your Dual Enrollment courses that prepared you to be successful in college? What should have occurred in your Dual Enrollment courses to better prepare you for college?
2. How have you adapted or struggled to adapt to the more technologically driven nature of college campuses?
3. How has Dual Enrollment helped you or not helped you in being able to research for papers, projects, or other significant assessments in college?
4. In terms of academic rigor, why or why not did Dual Enrollment prepare you for a college workload?
5. How did Dual Enrollment challenge you to be more open minded? Is having an open-mind important for success in college?
6. How do you interact with others in order to succeed in your classes?
7. Overall, why do you believe Dual Enrollment prepared you or not prepared you for success in college?
8. Is there anything else you'd like to say regarding Dual Enrollment and whether you felt prepared for college or not?