

**A Descriptive Study of Dual Enrollment in Alabama**

by

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## Abstract

The purpose of this study was to examine the use of dual enrollment programs in the State of Alabama. Dual enrollment programs allow high school students to enroll in college courses for college credit prior to high school graduation. Advocates consider dual enrollment as a way to transition high school students into college, and they further claim that these programs benefit students from low socioeconomic status. With no statewide dual enrollment policy in Alabama, program participation varies among high schools in the state. This descriptive study focused on the characteristics of enrolled students, the impact of scholarships on student participation, and the trend of student participation over a five-year period. The findings from this research identified several differences among dual enrollment programs throughout the state. Differences included tuition responsibility, types of courses offered, advisement and program support, and methods of delivery. The results of this study are important to Alabama educators and policymakers. Research has shown that dual enrolled students are more likely to earn a degree and become contributing members of society. The educational institutions should ensure student access, increase college readiness and college enrollment, and increase degree and certificate attainment. The future of Alabama and its economy depends on educating its workforce in a timely and affordable manner to be able to compete globally.

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## List of Abbreviations

AACC	American Association of Community Colleges
AP	Advanced Placement
ASA	Alabama Supercomputer Authority
CLEP	College Level Placement Program
CTE	Career and Technical Program
CUNY	City University of New York
DAX	Data Access and Exchange
DE	Dual Enrollment
ECHS	Early College High School
ECO	Expanding College Opportunities
ECS	Education Commission of the States
ESSA	Every Student Succeeds Act
FTIC	First-time-in-college students
GPA	Grade Point Average
LC	Library of Congress
MCS	Memphis City School
NSC	National Student Clearinghouse
PSEO	Ohio Postsecondary Enrollment Opportunities
SES	Socioeconomic Status

## Chapter I: Introduction

The opportunity to attend college is not equal for all students. Students from low socioeconomic backgrounds and minorities often face difficult challenges in trying to obtain a college education (Rawls, 1971). The National Center for Public Policy on Higher Education [NCPPE] (2008) reported that while the number of students entering college has been consistent over the past decade, the number of students earning a degree has not kept pace. The NCPPE (2010) reported that 60% of first year college students are not college ready because these students must take non-credit remedial courses before they are able to take courses for credit. This often leaves students discouraged and more prone to drop out before degree attainment; it also lengthens the time it takes to earn a degree (An, 2013). Reindl (2007) found that the United States is falling behind its top competitors in degree attainment. The NCPPE (2008) reported in 2008, that the United States ranked 15<sup>th</sup> out of the 29 countries studied. Hoyle and Kutka (2008) reported that a lack of degreeed workers may result in a decrease in per capita income reducing the standard of living for all Americans. A shortfall of three million college educated workers will be needed in the workforce by 2018 (Carnevale, Smith, & Strohl, 2010). To help alleviate this shortfall, states need to increase the education of “all students” (Callan, Finney, Kirst, Usdan & Venezia, 2006, p. 3) including students from low income households and minorities. Failure to increase the education and degree attainment of the country’s workforce will compromise the United States’ ability to compete globally (Hoyle & Kutka, 2008).

Pathways from high school to college are needed for all students, including low income students, minorities, first generation college students, and students that are mid-performing (Callan et al., 2006). In the past decade, several pathways and initiatives have been implemented to address issues related to college readiness and degree attainment. Expanding College Opportunity (ECO) was initiated by the Obama Administration in a report from the Executive Office of the President (Pretlow & Wathinton, 2014). This project focused on increasing college opportunities for all students, targeting those from low income households. The 21<sup>st</sup> Century Commission of Future Community Colleges and the American Association of Community Colleges [AACC] (AACC, 2014) called for a 50% increase in college completion rates by 2020. President Obama signed *The Every Student Succeeds Act* (ESSA) in 2015; this act supports dual enrollment as a college readiness strategy. This strategy is to prepare high school students for college (Lowe, 2015). The act focuses on increasing graduation rates and college readiness while closing the achievement gap among minorities and low performing students. Kuntz, Gildersleeve, and Pasque (2011) emphasized two benefits of dual enrollment programs: 1) assist students with the transition to college and 2) increase college graduation rates.

Hoyle and Kutka (2008) supported the notion that students, employers, and society benefit from programs that increase college enrollment, college readiness, and student success. One pathway to increase college readiness, college access, and persistence is dual enrollment (An, 2011; Karp, Calcagno, Hughes, Jeong, & Bailey, 2007; Kim & Bragg, 2008). According to the Education Commission of the States (ECS) 2015, forty-seven states have dual enrollment policies. Hans Andrews (2001) described dual-credit as a “significant new dimension to school reform” (p. 4). High schools may partner with 2-year and 4-year colleges and universities to offer dual enrollment courses. Concurrent enrollment, dual credit, and joint credit are different

terms that are used to describe dual enrollment. Not only do the terms vary from state to state, but the laws, policies, and procedures also vary. Dual enrollment courses may be offered in the high school or on the college campus. High school faculty, with approval from the college, or college faculty may teach the courses. Some states offer free or reduced tuition while others have no reduction in tuition (Fincher-Ford, 1997). All 50 states have been identified by Andrews (2001), as having postsecondary options available for students.

According to Puyer (2001), Osborn developed the concept of allowing high school students to earn high school and college credit simultaneously in 1928. Bailey et al. (2002) stated that the program was initially implemented to give the above average students more challenging coursework. However, dual enrollment students are currently from all levels of intellect and background; dual enrollment courses are no longer just for the academically achieving students. (Hughes, 2010). Dual enrollment is a credit-based transition program that allows high school students to earn college credit while still in high school. Dual enrollment programs prepare students for postsecondary work while providing a pathway to college for many students. High school students are provided an opportunity to experience college level work and expectations while still in high school. The classes are taught by approved college faculty using the college class syllabus. If the classes are taken on the college campus, the high school students sit in class along with the traditional college students. Students that are dually enrolled can potentially shorten the time to degree- saving money and time (Karp, 2012; Martin, 2013). Adelman (2006) found that by reducing time to degree completion, dual enrollment participation reduces the amount of funding required for post-secondary education for parents, students, and the federal government.

The Carnegie Commission on Higher Education in 1971, focused on pedagogy and curriculum reform because the rate of student failure in high schools was escalating (McCormick & Zhao, 2005). Students were bored and turned off due to repetition in curriculum content, poor teaching, and redundancy (Andrews & Davis, 2003). In 1972, Syracuse University began a program called Project Advance, where a university was partnered with local high schools (Wilbur & Chapman, 1978). College courses were taught on the high school campuses by high school faculty, who also held positions as university faculty. This program was the first of its kind. This experiment was successful, and the dual enrollment program began (Gaines & Wilbur, 1985; Smith, 2003; Wilbur & Chapman, 1978). Kleiner and Lewis (2005) define dual enrollment programs as collaborative efforts that allow high school students to enroll in college courses while still in high school. Students are often allowed to count credits earned in these courses toward high school graduation; this program is referred to as *dual credit* (Fincher-Ford, 1997). In other cases, students only earn college credit for the courses that are taken although they are *dually enrolled* at the high school and college at the same time; *concurrent enrollment* is another term used to describe these high school students (Andrews, 2001). Dual enrolled students take college course with college syllabi and college textbooks. To be eligible to enroll as a dual or concurrently enrolled student, the student must have approval from the high school principal or another designated school official. In addition, the student must meet the entrance requirements of the college or university. These requirements are formulated in the articulation agreement between the educational institutions. State boards of education and accrediting agencies regulate the implementation of dual credit and concurrent enrollment programs (Fincher-Ford, 1997).

Dual enrollment courses are not the same as advanced placement courses. Advanced placement (AP) courses provide educational opportunities for high achieving or gifted students. The College Board develops standardized AP course curriculum. High school faculty teach AP courses in the high school. Students take a standardized fee-based AP exam at the end of the course. A passing grade on an AP exam is 3 or better, and the college credit awarded by the college is granted on a per case basis by the individual college (Klopfenstein & Lively, 2012).

Many stakeholders including students and parents, high schools, and colleges are benefactors of dual enrollment (Allen & Dadgar, 2012; An, 2013; Hoffman, 2003; Hoffman & Voloch, 2012; Pretlow & Wathington, 2014; Swanson, 2008). For high schools, dual enrollment increases graduation rates (Fowler & Luna, 2009). Students become disengaged during the final years of high school; Andrews and Davis (2003) use the term senioritis to describe this phenomenon of student disengagement that leads to increased dropout rates. For colleges, dual enrollment increases college retention (Hoffman & Voloch, 2012). Pretlow and Wathington (2014) found that dually enrolled students are more likely to enroll and persist in college than nondual students. Studies also show that dual enrollment participants have a higher first semester grade point average than nonparticipants (Allen & Dadgar, 2012; An 2013; Swanson, 2008). Dual enrollment increases college readiness and decreases the need for remediation for the high school student (Hoffman, 2003).

The Education Commission of the States (2015) reported that forty-seven states have specific legislation or statewide dual enrollment policies that govern dual enrollment participation. The dual enrollment program is part of the answer to the critics of secondary school education. It is a program that offers students challenging courses during the final years of high school. It also provides outlets for those students interested in the more technical education

fields. Another positive outcome of dual enrollment is answering some concerns of legislators and educational leaders relative to the cost and time to a baccalaureate degree. Many states have increased dual enrollment participation. Dual enrollment programs increased the number of career-and technical and vocational dual enrollment courses to appeal to a broader range of students in Utah (Pretlow & Wathington, 2014). Oklahoma tripled dual enrollment participation among low socioeconomic and minority students (Vargas, Roach, & David, 2013). After a statewide policy change to increase dual enrollment participation and course offerings, Virginia experienced an increase among Black (25.6%) and Hispanic student (56.3%) participation (Pretlow & Wathington, 2014). According to Hoffman (2003), future research needs to address the effective approaches for encouraging first generation, low income, and students of color to participate in and benefit from college access. Additional research should focus on gaps in programs provided and determining the barriers for underrepresented students and how they can be overcome. Adelman (2008), views dual enrollment as a bridge to the gap between education on the secondary and post-secondary level, addressing issues such as untrained individuals without work, uneducated individuals entering the workforce, and reduction in unpaid student loan rates.

In 1973, 28% of all jobs required postsecondary education or training. It is predicted that by 2020, that 65% of all jobs will require postsecondary education or training (Lockard & Wolf, 2012). Overall employment is expected to increase to 164.6 million by 2020 which is an increase from 140.6 million in 2010. This does not include the 30.8 million replacement jobs that will become available due to retirements and individuals leaving the labor force (Lockard & Wolf, 2012). More students need to earn a college degree, including minorities, students of color, and low-income students (Callan, et.al., 2006; Reindl, 2007). Not producing a greater number of

college educated and degreed workers will compromise the country's ability to compete in the global economy (Hoyle & Kutka, 2008; Reindl, 2007). In addition, qualified and educated workers are needed to fill vacancies created as the baby boomers retire. It is important that students graduate from high school prepared to succeed and persist in college (Hoyle & Kutka, 2008). However, many students require noncredit remedial courses before progressing to courses for credit. This lengthens the time required to earn a degree, leaving the student discouraged and more likely to drop out of college before completing a degree (An, 2013). Students are leaving college without a degree but with massive amounts of student loans (Osher, Amos, & Gonsoulin, 2012). Hughes (2010) maintains dual enrollment programs should reduce the amount of money students and their parents spend on remedial and repeated course while pursuing a degree. The economy will need three million more college educated workers than will be available by 2018 (Carnevale, Smith, & Strohl, 2010). Dual enrollment is one way to promote success in college and increase college readiness among high school graduates (Blume & Zumeta, 2013; McMahon, 2009; Reindl, 2007).

Higher education is considered one of the main paths leading to opportunity, social mobility, and economic progress in the United States. Those of low-socioeconomic background and minorities face challenges every step along this path (Hoyle & Kutka, 2008). In addition to socioeconomic issues, inadequate academic preparation, encouragement from family and peers as well as a lack of available information are roadblocks that are faced daily while striving to navigate this path (Carey, 2004). Hoffman (2003) suggested that the dual enrollment program presents students the opportunity to build a college transcript with coursework that challenges and stimulates, saves students and their family's money, and creates partnerships between high schools and colleges. The opportunity to attend college is not equal for all students (Rawls,



1971). Krueger (2006) contended that there is a perception that the targeted population for dual enrollment programs is not low-income and other underrepresented students, but students who are academically successful. Kazis (2004) also stated, “that the fastest growing segment of most states’ population – in school and in the workforce – are those groups that have the greatest academic disadvantages: minorities, new immigrants, and youth from low-income families” (p. 5). Kazis (2004) further concluded,

The high school graduation rates of the fastest growing population groups lag significantly. While more than three out of four white and Asian American youth graduated from high school after four years, the graduation rate for African-Americans is only 55 percent and for Hispanics, only 53 percent. (p. 5)

Krueger (2006) also found that states that are inclined to create dual enrollment programs are “fostering relationships between high school and colleges, enhancing the efficiency of K-12 and postsecondary systems; implementing a rigorous college-prep curriculum for all; increasing postsecondary attainment rates; reducing the number of students in remediation” (p. 3). Krueger further concluded “there is evidence that dual enrollment increases academic performance and educational attainment” (p. 2). Smith (2003) found that after participating in a dual enrollment program, students are more academically and socially prepared for the transition to and the rigors of college life.

Another significant advantage to students and parents is the savings in the cost of college tuition. College credits earned through the dual enrollment program can be transferred to postsecondary colleges and universities that have an articulation agreement with participating high schools (Boswell, 2001; Hoffman & Robbins, 2005). A national study found that students who earned college credits in dual enrollment programs completed their degree in 4.25 years compared to 4.64 years for students with no previous credit (Adelman, 2008). Another study

found that students save 1.2 semesters during their baccalaureate program because of their participation in dual enrollment (Spurling & Gabriner, 2004). Boswell (2001) reported that these savings can add up to thousands of dollars for most families. One study estimated savings of \$5,000 to \$24,000 for each full year of dual enrollment participation (Spurling & Gabriner, 2004).

Alabama does not have a statewide dual enrollment policy; dual enrollment programs vary among schools throughout the state. Each high school is responsible for decisions regarding the offering and implementation of a dual enrollment program. Differences in dual enrollment policies, practices, and offerings may lead to gaps in student participation in a dual enrollment program (ECS, 2015). The research will review dual enrollment programs in high schools in Alabama. The review will provide empirical data for policymakers on dual enrollment. The research will be conducted using a descriptive study that explores the current state of dual enrollment. A descriptive, or observational, study is one in which information is collected without changing the environment. Descriptive studies demonstrate associations or relationships between things in the world as it exists. Descriptive studies are aimed at finding out "what is," so observational and survey methods are frequently used to collect descriptive data (Borg & Gall, 1989).

Higher education is considered one of the main paths leading to opportunity, social mobility and economic progress in the United States (Hoyle & Kutka, 2008). Those of low socioeconomic background and minorities face challenges every step along this path. In addition to socioeconomic issues, inadequate academic preparation, encouragement from family and peers as well as a lack of available information are roadblocks that are faced daily by students as they strive to navigate this path (Carey, 2004). Rawls (1971), maintained that education is a

valuable asset and as such, resources should be allocated to improve the education of the least advantaged. St. John (2007), also applied a social justice framework to education policy arguing that individuals have a fundamental right to education. Both Rawls and St. John support equal opportunity and favoring the disadvantaged. Providing college access to minorities, students from low income households, and low to mid-performing students should be a priority of education policy. Increasing college access may help close the gap between socioeconomic groups (Hoyle & Kutka, 2008). Dual enrollment programs increase college access for low socioeconomic students (An, 2013). When funds were reallocated to recruit minorities, midrange performing, and low socioeconomic students, there was an increase in dual student participation (Kim, 2012). According to Hoffman (2003), the dual enrollment program presents students the opportunity to build a college transcript with coursework that challenges and stimulates, saves students and their family's money and creates partnerships between high schools and colleges.

Increasing college access to previously underserved students is necessary to provide the workforce that is faced with the demand for more educated workers (Reindl, 2007). Rose (2013) found workers with college degrees have lower unemployment rates than those with less education. College graduates are more likely to contribute to society, pay taxes, and vote in elections and are less likely to require welfare, commit crimes, or be incarcerated (Barnett & Stramm, 2010). Roderick (2008) reported that more than 5 million students will drop out of school within the next 10 years, costing the U.S. over a trillion dollars in unemployment compensation, healthcare, food, and housing subsidy programs. Researchers Winters and Greene (2012) reported that college dropouts are more likely put a serious drain on the economy based on the way high school dropouts have in previous generations. Research supports that increasing

college access to more individuals will provide more skilled and educated workers which benefit the individual and society (Barnett & Stramm, 2010; McMahon, 2009).

Educators have created a variety of programs to assist students with this transition including several acceleration options. The dual education program is an accelerated option program designated to bridge the gap between high school and college. Research shows that postsecondary success is predicated on both rigorous academic preparation in addition to a clear understanding of the expectations of college. Windham (1997) contended, “The dual enrollment option was established to enrich the course opportunities for outstanding high school students and to provide an acceleration mechanism that would move students through the baccalaureate process quicker” (p. 9). Dual enrollment programs allow high school students to enroll in college courses and earn college and high school credit simultaneously, thereby exposing them to the academic and social demands of postsecondary education.

Adelman (2006), maintains that students participating in dual enrollment enter higher education with a minimum of 6 credits are better adapted in the critical first year. All fifty states have implemented a variety of programs including dual enrollment programs to assist students with this transition (Andrews, 2001). The standard definition of a dual enrollment or concurrent enrollment is defined as a high school student enrolled in a postsecondary institution while in high school (Allen, 2010). Policymakers see the motivation for earning college credit while still in high school as a driving force of the dual enrollment program (Schworm, 2008). Educators view the shortened time to degree completion and the reduced education expense as other motivators for students to participate in dual enrollment programs (Plucker, Chien, & Zaman, 2006).

Alabama does not have a statewide policy for dual enrollment. Differences in program offerings, accessibility, and practices may create gaps in student participation (ECS, 2015).

### **Purpose of the Study**

The purpose of this study was to examine the use of dual enrollment programs in the State of Alabama. Dual enrollment programs allow high school students to enroll in college courses for college credit prior to high school graduation. Advocates consider dual enrollment as a way to transition high school students into college, and they further claim that these programs benefit students from low socioeconomic status. With no statewide dual enrollment policy in Alabama, program participation varies among high schools in the state. This descriptive study focused on the characteristics of enrolled students, the impact of scholarships on student participation, and the trend of student participation over a five-year period

### **Research Questions**

The following research questions were used in this study:

1. What are the characteristics of dual enrolled students?
2. How does the number of students who receive scholarships impact the enrollment number of dual student participation?
3. What is the trend of student participation in dual enrollment programs over a five-year period?

### **Significance of the Study**

Research has indicated that the majority of students dropping out of high school come from underrepresented populations, students of color, students whose first language is not English, and students from low-income families (Kazis, 2004). Students seem to be bored and disengaged, mainly in the eleventh and twelfth grades due to repetition of coursework, poor curriculum design, watered down courses, and lack of connectivity with faculty (Andrews &

Davis, 2003). While dual enrollment programs are a proven vehicle for increasing student high school completion among minority and low-income populations, scholars are still uncertain about the effects of dual enrollment on college readiness. Karp and Hughes (2007) stated the examination of the reasons, needs, and benefits of dual enrollment becomes more important as dual enrollment programs gain popularity among students.

Obtaining college credits while in high school saves on college tuition; students are able to finish an undergraduate degree faster and with less indebtedness. Studies show that students who participated in dual enrollment are more successful academically in college than those who did not participate in these programs. Dual enrollment programs give students first-hand exposure to the requirements of college-level work and what is expected from the college instructor; this provides a foundation for academic success in college (Jordan, Cavalluzzo, & Corallo, 2006; Kleiner & Lewis, 2005; Roderick, 2008; Smith, 2007; Swanson, 2008; Waits, Setzer, & Lewis, 2005). Dual enrollment participation provides students with essential tools for college readiness (Wise, 2008). Researchers find that participation in dual enrollment is positively related to GPA (grade point average), persistence and degree attainment (Allen & Dadgar, 2012; Karp et al. 2007; Swanson 2008). Another benefit of dual enrollment participation reported by Wise (2008), is the decrease in reduction in time to degree completion. Wise (2010) claims that student loan debt has increased over the last decade. Denhart (2013), reported that nearly 10% of the nation's debt is in student loans. Increased levels of college readiness will ultimately lead to on-time graduation or possibly early college graduation.

An additional benefit of dual enrollment is that participants have the opportunity to replace their vague notions of college with a more realistic set of experiences and expectations.

A qualitative study of 12 urban minority dual enrolled students reported they believed their participation in dual enrollment had a significant impact on their decision to pursue a specific major of interest in college (Medvide & Blustein, 2010). Interview findings revealed their perceptions of obstacles that might have prevented them from pursuing postsecondary education had been dispelled by their participation in the dual enrollment program. They had a positive outlook about college due to the skills they had developed in time management, organization, along with a better understanding of the expectations of college professors (Medvide & Blustein, 2010). Dual enrollees are able to judge the extent they are able to handle college coursework. Students further realize that, as college students, they are treated differently than they were as high school students. Dual enrollees tend to view their high school teachers as “parental figures” where, by contrast, college instructors tend to focus more on specific learning areas (Huntley & Schuh, 2002-2003).

While there are many reasons why dual enrollment programs are beneficial, certain groups are underrepresented in the program. For first generation college students, Adelman (2006) stated that the first year of college is critical. Dual enrollment programs provide students with a roadmap of how to navigate throughout the collegiate system. The library, labs, tutors, and counselors are some of the resources available to dual enrollment and traditional students (Adelman, 2006). Dual enrollment programs offer benefits to at-risk students. At-risk students are classified as students who are at risk of failing (Adelman, 2008). The gap between low-income students and students of more affluent communities can be bridged by dual enrollment opportunities (Adelman, 2008).

## **Limitations of the Study**

There are noted limitations to this study. The collected data was limited to 5 years. Demographic information such as race/ethnicity and gender have been collected and made available for research on a limited basis. Basic information on Dual Enrollment participation in the State of Alabama was not available. Academic information on dual enrollment participants' GPA and standardized test scores would have been beneficial. Pre-existing student characteristics such as career goals, academic motivation, differences in instructional methods, and family support and encouragement were not considered.

## **Definitions of Terms**

In 2003, Kim, Barnett, and Bragg conducted a survey in response to the need to clarify dual credit definitions and prioritize issues in Illinois. The researchers had two meetings with a panel of experts consisting of secondary and postsecondary personnel and state representatives in Illinois. Definitions agreed upon by a majority of panel members were as follows:

- Advanced placement – a college-level course taught in the high school by high school faculty; the curriculum is administered by the College Board. The students must pass a standardized exam to earn college credit (Klopfenstein & Lively, 2012).
- Articulated credit – articulated credit programs align secondary and postsecondary courses in order to allow students who successfully complete courses to obtain college credit upon course completion (Fincher-Ford, 1997).
- At-Risk student – students who are at risk of failing (Adelman, 2008).
- Career and technical education (CTE) – technical or vocational courses – metal works, aviation repair, food service, health sciences, etc. (Abbott, 2014).



- Continuum of education – a seamless approach to education that allows students access to different levels of study based on the academic preparedness and readiness (Fincher-Ford, 1997).
- Dual Enrollment – this term refers to a partnership between high schools and colleges that allows high school students to enroll in college courses while concurrently enrolled in high school. Students receive credit toward a high school diploma and a college degree for dual enrollment courses as provided in the institutions’ articulation agreement (Herbert, 2001).
- Early College High School Programs – Early College high schools are small schools in which students earn both a high school diploma and two years of college credit in four or five years. Typically, these schools are located on or near college campuses. The campus location facilitates student access to the range of opportunities on campus, increases student motivation and allows students to accelerate their education. The college schedule allows teachers to utilize innovative instructional approaches. The Bill and Melinda Gates Foundation has supported the Early College Initiative with various grants (Early College High School Initiative [ECHSI], 2010; Lerner & Brand, 2006; Weiss, 2005).
- Low to mid-performing students – students earning a grade below a “B”, also referred to as low to mid-achieving students and low to mid-range students (U.S. Department of Health and Human Services [USDHHS], 2008).
- Low-income – this term refers to an individual whose family’s taxable income for the preceding year did not exceed 150 percent of the poverty level amount. The poverty

level is equal to \$31,800 per annum for a family unit of four, in Contiguous States, excluding Alaska and Hawaii (USDHHS, 2008).

- Standard Dual/Concurrent Enrollment Programs – allow high school students to enroll in postsecondary courses usually for credit. Generally, students are taught by college faculty, either at the college or high school or through distance education (Andrews, 2001).
- Selma Early College High School – a program developed with the assistance of the Knowledge Works foundation and the Bill and Melinda Gates Foundation led to the formation of a unique partnership between Wallace Community College Selma and Selma Early College High School (ECHS). Students at the innovative high school and college classes. These students earned a high school diploma and an associate degree concurrently. This program was the first of its kind on an Alabama College Campus (ECHSI, 2010).
- Senioritis – this term refers to a period in high school when students become bored or disengaged because they feel they are not challenged enough (Andrews & Davis, 2003).
- Underrepresented students – this term refers to students of color, first-generation college goers and students whose first language is not English (Kazis, 2004).

### **Chapter Summary**

Dual enrollment is an inexpensive way for students to earn college credit –and participation is free in some states (Hoffman & Vargas, 2005). Because dual enrollees are exposed to college materials, some policy makers and social scientists consider dual enrollment as a way to better prepare students for the rigors of college coursework. Hughes (2010) found

that dual enrollment was positively related to students' obtaining a high school diploma, enrolling in college, maintaining a higher GPA, and completing a degree. Dual enrollment proponents further advocate that increasing program participation would reduce socioeconomic status (SES) gaps in academic performance (Hoyle & Kutka, 2008; Lerner & Brand, 2006).

Krueger (2006) contends that there is a perception that the targeted population for dual enrollment programs is not low-income and other underrepresented students but students who are academically successful. Kazis (2004), also stated, "That the fastest growing segments of most states' populations- in school and in the work force- are those groups that have the greatest academic disadvantages: minorities, new immigrants and youth from low-income families" (p. 5). Kazis (2004) concluded that the high school graduation rates of the fastest growing population groups lag significantly. While more than three out of four white and Asian American youth graduated from high school after four years, the graduation rate for African Americans is only 55 percent and for Hispanics, 53 percent.

Chapter II presents a Review of the Literature regarding dual enrollment participation in the United States. Efforts and initiatives to increase access to underrepresented populations including mid-achieving students, minorities, and students of low-socioeconomic status are reviewed. Chapter III, discusses the methodology, research context, and research participants. Findings and results are reported in Chapter IV. In Chapter V, the implications and recommendations from the findings are presented.

## **Chapter II: Literature Review**

This review of literature will present studies related to dual enrollment including the impact of participation on grade point average, college readiness, remediation, and persistence in college. Studies examining initiatives and efforts to increase access to a broad range of students will also be examined. This includes mid-achieving students, minorities, and students of low socioeconomic status. While there are documented benefits to dual enrollment programs there are challenges when implementing these programs. These challenges will be examined in the review of literature. Initiatives and efforts to increase access to a broader range of students through the impact of technical, vocational, and career-and technical education dual enrollment courses will also be examined.

### **Purpose of the Study**

The purpose of this study was to examine the use of dual enrollment programs in the State of Alabama. Dual enrollment programs allow high school students to enroll in college courses for college credit prior to high school graduation. Advocates consider dual enrollment as a way to transition high school students into college, and they further claim that these programs benefit students from low socioeconomic status. With no statewide dual enrollment policy in Alabama, program participation varies among high schools in the state. This descriptive study focused on the characteristics of enrolled students, the impact of scholarships on student participation, and the trend of student participation over a five-year period

## **Research Questions**

The following research questions were used in this study:

1. What are the characteristics of dual enrolled students?
2. How does the number of students who receive scholarships impact the enrollment number of dual student participation?
3. What is the trend of student participation in dual enrollment programs over a five-year period?

## **Overview of Dual Enrollment**

According to the Alabama Poverty Data Sheet 2016, Alabama is the fourth poorest state in the United States. More than one in six Alabamians currently live below the federal poverty line, which means they live on less than \$31,800.00 for a family of four. In the United States, 86.3% of people 25 and older have a high school diploma or higher compared to 83.7% in Alabama. In Alabama, 23.1% of those 25 and older have a bachelor's degree or higher while the national average is 29.3%. Dual enrollment programs increase college access for low socioeconomic students according to An, 2011. Research by Kim (2012) showed an increase in dual enrollment participation among previously underserved students when funds were reallocated to recruit low socioeconomic students.

Many stakeholders, including high school students and parents, the high school itself, and colleges and universities are benefactors of dual enrollment (Allen & Dadgar, 2012; An, 2013; Hoffman, 2003; Hoffman & Voloch, 2012; Pretlow & Wathington, 2014; Swanson, 2008). For high schools, dual enrollment increases graduation rates (Fowler & Luna, 2009). For colleges, dual enrollment increases college retention (Hoffman & Volock, 2012). Pretlow and Wathington (2014) found that dually enrolled students are more likely to enroll and persist in college than nondual students. Studies also show that dual enrollment participants have a higher first

semester grade point average than nonparticipants (Allen & Dadgar, 2012; An, 2013; Swanson, 2008). Dual enrollment increases college readiness and decreases the need for remediation for the high school student (Hoffman, 2003).

Many states have increased dual enrollment participation. Dual enrollment programs increased the number of career, technical, and vocational dual enrollment courses to appeal to a broader range of students in Utah (Pretlow & Wathington, 2013). Oklahoma tripled dual enrollment participation among low socioeconomic and minority students (Vargas, Roach, & David, 2013). After a statewide policy change to increase dual enrollment participation and course offerings, Virginia experienced an increasing among Black (25.6%) and Hispanic students (56.3% participation (Pretlow & Wathington, 2014).

More than half of the job growth in the United States in the next decade will require postsecondary education (Reindl, 2007). Increasing the number of college educated citizens helps prepare the workforce to compete globally and benefits society (Barnett & Stramm, 2010; Hoyle & Kutka, 2008). College graduates are less likely to require welfare, commit crimes, or be incarcerated but are more likely to contribute to society, pay taxes, and vote in elections (Barnett & Stramm, 2010). Research supports that increasing college access to more individuals will provide more skilled and educated workers which benefit the individual and society (Barnett & Stramm, 2010; McMahon, 2009).

While many high school students are not college ready and require noncredit remediation courses in college, dual enrollment is a pathway shown to increase college readiness and college access for all students (Hoffman, 2003; Pretlow & Washington, 2013). Research has indicated that the majority of students dropping out of high school come from underrepresented populations, students of color, students whose first language is not English, and students from

low-income families (Kazis, 2004). Students seem to be bored and disengaged, mainly in the eleventh and twelfth grades due to repetition of coursework, poor curriculum design, watered down courses, and lack of connectivity with faculty (Andrews & Davis, 2003). Dual enrollment programs are a proven vehicle for increasing student high school completion among minority and low-income populations. Obtaining college credits while in high school also saves on college tuition; students are able to finish an undergraduate degree faster and with less indebtedness. Studies show that students who participated in dual enrollment are more successful academically in college than those who did not participate in these programs. Researchers find that participation in dual enrollment is positively related to GPA (grade point average), persistence and degree attainment (Allen & Dadgar, 2012; Karp et al. 2007; Swanson 2008).

Fink, Jenkins, and Yanagiura (2017) tracked more than 200,000 high school students who first took a community college course in the fall 2010 for six years through summer 2016. Within five years, eighty-eight percent of these students continued in college after high school, and most earned a certificate or degree or transferred to a four-year college. Using student enrollment and degree records from the National Student Clearinghouse (NSC), they examined who enrolls in community college dual enrollment courses and what happens to them after high school (Fink et al., 2017). Nationally, 15% of fall 2010 community college entrants were high school dual enrollment students; Alabama had 10% dual enrollment participation while Kentucky had a 34% (Fink et al., 2017). Fifty-eight percent of the dual enrolled high school students were female, and 37% had a lower house hold median income according to researchers Fink et al. (2017).

All states offer some form of postsecondary access; the lack of a statewide policy leads to differences in dual enrollment programs creating participation gaps among students (Andrews, 2001). There is little research on dual enrollment programs in Alabama. A descriptive study will gather information on existing dual enrollment programs as well as trends in participation.

The benefits of a college education have become more evident in the 20<sup>th</sup> and 21<sup>st</sup> century. Research has shown that individuals with a college education have the potential to earn more money over a life time than those with only a high school diploma (Carnevale, Rose, & Cheah, 2010; Baum, 2014). College graduates will often earn higher wages doing the same job as an individual with no degree (Carnevale, Smith, & Strohl, 2010). Rose (2013) acknowledged that workers with a college degree have lower unemployment rates than those with less education. Increasing college access to previously underserved students is necessary to provide the workforce that is faced with the demand for more educated workers (Reindl, 2007). Roderick (2008) reported that more than 5 million students will drop out of school within the next 10 years, costing the U.S. over a trillion dollars in unemployment compensation, healthcare, food, and housing subsidy programs. Researchers Winters and Greene (2012) reported that college dropouts are more likely to put a serious drain on the economy based on the way high school dropouts have in previous generations. Research supports that increasing college access to more individuals will provide more skilled and educated workers which benefit the individual and society (Barnett & Stramm, 2010; McMahon, 2009).

Barnett and Stramm (2010) showed that college graduates are more likely to contribute to society, pay taxes, and vote in elections; they are less likely to require welfare, commit crimes, or be incarcerated. Hoyle and Kutka (2008) noted that achieving higher levels of education benefits society and potentially raises the quality of life for all citizens. Greater health and wellness as



well as a longer life expectancy are other benefits pointed out by McMahon (2009). Lockard and Wolf (2012) pointed out that 65% of all jobs will require postsecondary education or training by 2020. To meet this demand, more students including minorities, students of color, and low-income students need to earn a college degree (Callan, et al., 2006; Reindl, 2007). The country's ability to compete in the global economy may be compromised if there is a failure to produce a greater number of college educated and degreed workers (Hoyle & Kutka, 2008; Reindl, 2007).

Dual enrollment is a credit-based transition allowing high school students to earn college credit while still in high school (Hebert, 2001). Dual enrollment programs prepare students for postsecondary work while providing a pathway to college for many students. High school students experience the rigors of college level work and learn about what is expected of a college student. Students that are dually enrolled can potentially save time and money and shorten the time to degree (Karp, 2012; Martin, 2013). Another positive outcome of dual enrollment is answering some concerns of legislators and educational leaders relative to the cost and time to a baccalaureate degree (ECS, 2015). Because there is no statewide policy concerning dual enrollment, each high school in Alabama is responsible for decisions regarding implement of the dual enrollment if they choose to participate (ECS, 2015). Differences in policies, practices, and course offerings may lead to gaps in student participation and opportunity (Andrews, 2001).

Many stakeholders including students and parents, high schools, and colleges are benefactors of dual enrollment (Allen & Dadgar, 2012; An, 2013; Hoffman, 2003; Hoffman & Voloch, 2012; Pretlow & Wathington, 2014; Swanson, 2008). For high schools, dual enrollment increases graduation rates (Fowler & Luna, 2009). Students become disengaged during the final years of high school; Andrews and Davis (2003) use the term senioritis to describe this phenomenon of student disengagement that leads to increased dropout rates. Karp and Hughes

(2007) report motivated students are more academically competent than their cohorts who have little or no interest in school. Karp and Hughes (2007), found that first-time college students (FTIC) will be capable of withstanding the academic rigor of postsecondary education after DE participation. A reduction in the cost of a college education because of the decrease in the amount of time to degree was stated as another benefit of dual enrollment participation by Wise (2010). Wise (2010) claims a significant increase in student loan debt over the last decade. Denhart (2013), stated “Student loan debt counts for nearly 10% of the U.S. nation’s debt” (p.23). For colleges, dual enrollment increases college retention (Hoffman & Voloch, 2012). Pretlow and Wathington (2014) found that dually enrolled students are more likely to enroll and persist in college than nondual students. Studies also show that dual enrollment participants have a higher first semester grade point average than nonparticipants (Allen & Dadgar, 2012; Allen 2013; Swanson, 2008). Dual enrollment increases college readiness and decreases the need for remediation for the high school student (Hoffman, 2003). Better prepared college students could shorten the time to degree which could even equate to a reduction in student loan debt; dual enrollment participation provides students with essential tools for college readiness which lessens the need for remediation leading to on-time or possibly early graduation from college (Wise, 2010).

The United States is being outpaced in degree attainment by its competitors Reindl (2007) has also reported. As the United States continues to fall behind its competitors, the standard of living for all Americans is being reduced (Hoyle & Kutka, 2008). Minority groups and low socioeconomic students need to increase degree attainment at least to the level of white and Asian American students to provide the needed college educated workforce that is required in the 20<sup>th</sup> and 21<sup>st</sup> century. Over 23% of white students earn an associate’s degree within 3 years

of entering college compared to 9% of African Americans and 10% of Hispanic- Latinos (Callan, et. al., 2006). All students desiring a college education should have access to college. Education is a valuable asset and resources should be allocated to provide and improve the education for the least advantaged (Rawls, 1971). Rawls (1971) along with St. John (2007) supported equal educational opportunity and access to minorities, students from low income households, and low to mid-performing students. Hoyle and Kutka (2008) ascertained that increasing college access to these groups may help to close the socioeconomic gap that exists. Kim (2012) showed that dual enrollment participation increased when funds were reallocated to recruit minorities, mid-range performing students, and those from low socioeconomic status.

Providing a pathway to college and increasing college readiness and persistence are two important benefits of dual enrollment programs (Kuntz et al., 2011). The underserved populations are missing many benefits of dual enrollment and college access (Rawls, 1971). Lockard and Wolf (2012) point out that 65% of all jobs will require postsecondary education or training by 2020. To meet the demand, more students including minorities, students of color, and low-income students need to earn a college degree (Callan, et al., 2006; Reindl, 2007). There are states where the dual enrollment programs are not supported as well as other as defined by state policy, making participation rates very low according to Krueger (2006). States where DE participation is high are areas of the state where dual enrollment is promoted and demonstrated as a true benefit for all students to enhance their futures (Karp et al., 2007). Innovative ways to attract more high school seniors to college as well as ways to help students acclimate to a postsecondary educational environment are important to education stakeholders (Camblin, 2003). According to Adelman (2006), dual enrollment has been proven as an effective tool in cultivating higher levels of college preparedness among high school students. As stated by

Andrews (2001), all high school students should be prepared for the transition to college by the time they graduate from high school regardless of their locale. Policymakers are looking for more effective ways for DE programs and other similarly designed programs to assist with increasing college attendance and graduation rates (Karp & Hughes, 2008). The country's ability to compete in the global economy may be compromised if there is a failure to produce a greater number of college educated and degreed workers (Hoyle & Kutka, 2008; Reindl, 2007).

Dual enrollment programs are viewed as a practical effort to better prepare high school students for college-level work as well as the workforce (Conley, 2007). Dual enrollment has also been viewed as a key component to improving graduation rates according to Adelman (2006). It was reported by Adelman (2006), that dual enrollment benefits are not limited to just the academic world but also provide valuable career technical education benefits. Career technical education prepares students with the skills that are essential to enter various areas of the workforce (Wise, 2008). Another possible benefit of dual enrollment programs is the opportunity to have early entry into the workforce with the latest proven techniques of performance (Harnish & Lynch, 2005). As Adelman (2006), the most resilient and innovative leaders of tomorrow are today's students. Hughes (2010), supports dual enrollment as a solution to many of the deficiencies throughout the educational system in the U.S.

### **Dual Enrollment Promotes College Access for Underserved Students**

In the 1950s, the College Board first established early college admissions programs. The Advanced Placement (AP) and College Level Examination Program (CLEP) were part of the initial programs that were used to encourage educational acceleration (Boswell, 2001). Dual enrollment courses are offered to a much broader range of students unlike other accelerated learning programs such as AP and CLEP, which target academically gifted students (Venezia,

Kirst, & Antonio, 2003). Researchers Gehring (2001) and Vargas (2004), made the distinction that dual enrollment attracts a more diverse student population than the AP program. It has been noted by researchers and policymakers that low-income and low achieving high school students are not always included in dual enrollment programs (Hughes, Karp, Fermin, & Bailey, 2005). Dual enrollment is a credit based transition program that allows high school students to earn college credit while still in high school. Dual enrollment programs prepare students for postsecondary work while providing a pathway to college for many students. High school students are provided an opportunity to experience college level work and expectations while still in high school (Fincher-Ford, 1997). Students that are dually enrolled can potentially shorten the time to degree- saving money and time (Karp, 2012; Martin, 2013). Adelman (2006), found that by reducing time to degree completion, dual enrollment participation reduces the amount of funding required for post-secondary education for parents, students, and the federal government. Dual enrollment provides high school students the opportunity to take postsecondary courses in public and private two-and four-year institutions (Andrews, 2001; Kleiner & Lewis, 2005; Marshall & Andrews, 2002; Robertson, Chapman, & Gasken, 2001). In the 2002-2003 academic year, 5 percent (813,000) of high school students took college-level courses in post-secondary institutions (Kleiner & Lewis, 2005). Research indicates that dual enrollment programs are beneficial to students, parents, high schools and postsecondary institutions (Andrews, 2001; Boswell, 2001; Bailey et al., 2002; Girardi & Stein, 2001). McMahon (2009) proposed that for students and society to reap the benefits of dual enrollment programs, they must be accessible to a wide range of students.

There is a college attendance and degree attainment gap between white and minority students dropping out of college before degree attainment. It was found that white, high income

students have higher degree completion rates than low income, minority students (AACC, 2012). Over 23% of white students earn an associate's degree within three years of enrolling in college, compared to 9% of African Americans and 10% of Hispanic-Latinos (Callan et. al., 2006). Researchers Hoffman and Vargas (2005) reported, "For low-income youth, first generation college goers, and students of color, unfilled aspirations to attend college can lead to dashed dreams" (p. 3). McDonough (2004) pointed out that most first-generation college students are from low-socioeconomic backgrounds. In 2008, 50% of high school graduates came from households making less than \$50,000 per year and an additional 16% came from households with a yearly income of less than \$20,000. If these first-generation students lose the ability to maximize their earning potential and to improve their current living conditions, they will not be able to move up the economic ladder as jobs requiring higher skill levels are growing in the United States workforce (Carnevale, Rose, & Cheah, 2010). Barriers such as tuition and out-of-pocket fee requirements, lack of transportation, and exclusion because of past academic performance still present obstacles for racial/ethnic minorities and low-income youth (Hoffman, 2003).

Wise (2008) acknowledges that some research has shown that dual enrollment participation may lead to an increase in enrollment and college completion among minorities as well as students from lower income levels. Hoffman (2003) concluded that, "dual enrollment is a promising 'next best thing' for states wishing to increase the number of underrepresented students gaining a postsecondary credential" (p. 3). In addition to socioeconomic issues, inadequate academic preparation, encouragement from family and peers as well as a lack of available information are roadblocks that are faced daily by students as they strive to navigate this path (Carey, 2004). Karp and Hughes (2007), found that a student's socioeconomic status

may affect the ability to learn when the financial resources are limited. Limited financial resources are very common among those with little or no educational success and among families in certain minority groups (Adelman, 2008). Basic school supplies and other academic material can be costly for students (Wise, 2010). Because they do not have the resources needed, students from families with low socioeconomic status sometimes struggle in school (Karp et al., 2007). Rawls (1971), maintained that education is a valuable asset and as such, resources should be allocated to improve the education of the least advantaged. St. John (2007), also applied a social justice framework to education policy arguing that individuals have a fundamental right to education. Both Rawls and St. John support equal opportunity and favoring the disadvantaged. Providing college access to minorities, students from low income households, and low to mid-performing students should be a priority of education policy. Increasing college access may help close the gap between socioeconomic groups (Hoyle & Kutka, 2008). Dual enrollment programs increase college access for low socioeconomic students (An, 2013). According to Hoffman (2003), the dual enrollment program presents students the opportunity to build a college transcript with coursework that challenges and stimulates, saves students and their family's money and creates partnerships between high schools and colleges. When funds were reallocated to recruit minorities, midrange performing, and low socioeconomic students, there was an increase in dual student participation (Kim, 2012).

Dual enrollment has been shown to increase the likelihood that traditionally underserved students will succeed in college (Karp & Hughes, 2007). According to Wise (2010), underserved students are labelled as those less likely to finish high school based on socioeconomic levels, parents' level of education, and academic standing in comparison to their cohorts. DE also holds the potential to offer a pathway to postsecondary success for traditionally underserved students

(Karp & Hughes, 2007). Karp and Hughes (2008) added that dual enrollment participants who were classified as traditionally underserved when entering college after graduation from high school were between 16%-21% more likely to earn a bachelor's degree than nonparticipants. The effects of dual enrollment are evident when students enter college based on the students' level of preparedness from dual enrollment programs for the academic rigor of college (Dougherty & Reid, 2007). Adelman (2008) asserted that dual enrollment is an opportunity for the schools to encourage students to pursue higher education through motivation and encouragement. Dual enrollment is an academic pathway to college success for its participants according to Adelman (2006).

All fifty states now have some form of dual enrollment programs for high school students. These dual enrollment partnerships began in the late 1970s and have grown rapidly in the last two decades (Herbert, 2001). This rapid growth and participation in dual enrollment programs is, to some degree, the result of the rising costs of education. Research has indicated that the majority of students dropping out of high school come from underrepresented populations because these students seem to be bored and disengaged. This is seen mainly in the eleventh and twelfth grades due to repetition of coursework, poor curriculum design, watered down courses, and lack of connectivity with faculty (Andrews & Davis, 2003). The dual enrollment program is part of the answer to the critics of secondary school education. It is a program that offers students challenging courses during the final years of high school (Hoffman, 2003). It also provides outlets for those students interested in the more technical education fields. Dual enrollment programs increased the number of career-and technical and vocational dual enrollment courses to appeal to a broader range of students in Utah (Pretlow & Wathington, 2014). Oklahoma tripled dual enrollment participation among low socioeconomic and minority



students (Vargas et al., 2013). After a statewide policy change to increase dual enrollment participation and course offerings, Virginia experienced an increase among Black (25.6%) and Hispanic student (56.3%) participation (Pretlow & Wathington, 2014). According to Hoffman (2003), future research needs to address the effective approaches for encouraging first generation, low income, and students of color to participate in and benefit from college access. Additional research should focus on gaps in programs provided and determining the barriers for underrepresented students and how they can be overcome. Adelman (2008), views dual enrollment as a bridge to the gap between education on the secondary and post-secondary level, addressing issues such as untrained individuals without work, uneducated individuals entering the workforce, and reduction in unpaid student loan rates.

Research further suggest that dual enrollment can improve the potential for preparation for college by setting up an alert system “to signal whether students are prepared for college; and it can acclimate students to a college environment while they are still in high school” (Bailey et al., 2003, p. 3). For students taking full academic loads early in high school, many meet the graduation requirements well before the end of their senior year in high school. Dual enrollment programs provide an opportunity, especially for rural students, to try out the transition into college (Bailey et al., 2003). Dual enrollment programs give students first-hand exposure to the requirements of college-level work and what is expected from the college instructor; this provides a foundation for academic success in college (Jordan et al., 2006; Kleiner & Lewis, 2005; Roderick, 2008; Smith, 2007; Swanson, 2008; Waits et al., 2005). Dual enrollment participation provides students with essential tools for college readiness (Wise, 2008). Researchers find that participation in dual enrollment is positively related to GPA (grade point average), persistence and degree attainment (Allen & Dadgar, 2012; Karp et al. 2007; Swanson

2008). Dual enrollment programs may need to remove barriers to guarantee a broader range of student participation (An, 2013).

Kim (2012) conducted a quantitative, descriptive analysis of dual enrollment in the Bronx and Manhattan between 2006 and 2011. Students were identified and recruited for College Now courses. During this time, administrators made a concerted effort to recruit minority students. These students had previously been identified as underserved students, midrange students, and those earning a grade below a B. This effort attempted to increase access by specifically targeting previously underserved students. A 27 percent increase in participation among Black and Hispanic students was reported (Kim, 2012).

Vargas et al. (2013) examined an initiative to increase dual enrollment participation among low socioeconomic and ethnic students in the Tulsa and Union Public Schools. This 2-year pilot program in Oklahoma sought to recruit and support previously underserved students by removing fees and broadening admission requirements. 1,618 students participated in dual enrollment courses during the pilot program with a significant increase in African American and Hispanic student participation (Vargas et al., 2013).

An evaluation of dual enrollment participation in Memphis, Tennessee, was conducted by Barnett and Kim (2014). The Memphis City School (MCS) student body is 83% African American and 72 % are eligible for free or reduced lunch (Barnett & Kim, 2014). From 2008 to 2012, MCS experienced a 45% increase in dual enrollment participation. The MCS administration partnered with college administrators to expand high school and college partnerships to benefit underserved students. Counselors worked with all students to inform them of dual enrollment offerings by meeting with students, parents, and community outreach offices. Students were provided information about dual enrollment opportunities, available to them as

juniors and seniors, as early as their freshmen year. Scholarships and college waivers covered part of the tuition. Required textbooks were purchased by the districts; the students and parents incurred no costs when taking the dual enrollment courses. Barnett and Kim (2014) showed that the dual enrollment in MCS expanded to improve the educational level of the underserved students in the district.

In 2008, Hughes, Rodriguez, Edwards, and Belfield (2012) tracked approximately 3,000 students over a 3-year period. Ten colleges and 21 high schools participated in this initiative funded by the James Irvine Foundation. The participants were 60% students of color and 40% were from non-English speaking homes. Through this initiative dual enrollment courses were expanded to appeal to low income and underrepresented students (Hughes et al., 2012). The researchers found that dual enrollment participants were more likely to continue to a postsecondary institution and less likely to require remediation than non-participants (Hughes et al., 2012).

Many states have increased dual enrollment participation. Dual enrollment programs increased the number of career, technical, and vocational dual enrollment courses to appeal to a broader range of students in Utah (Pretlow & Wathington, 2013). Oklahoma tripled dual enrollment participation among low socioeconomic and minority students (Vargas et al., 2013). After a statewide policy change to increase dual enrollment participation and course offerings, Virginia experienced an increasing among Black (25.6%) and Hispanic students (56.3% participation (Pretlow & Wathington, 2014). Wozniak and Palmer (2013) reported that students must pass proficiency exams before participating in dual enrollment programs in Michigan. This study demonstrated that broad range participation is not guaranteed because a dual enrollment

program is offered. Dual enrollment programs may need to remove barriers to provide access to a distribution of students including low and midrange students (Wozniak & Palmer, 2013).

### **Career, Technical, And Vocational Dual Enrollment Students**

Vocational dual enrollment and career technical education (CTE) are new initiatives that provide a pathway to college. While being new pathways, several studies to specifically consider the benefits of technical dual enrollment programs have been examined (Ganzert, 2014; Harnish & Lynch, 2005; Karp et.al., 2007; Lynch & Hill 2008). Barnett and Kim (2014) found that technical and vocational courses appeal to students who do not meet the college eligibility for traditional enrollment courses- the low and mid-performing students. Lynch and Hill (2008) further showed, students may opt for technical dual enrollment if they are insecure about their ability to perform college level coursework. Hull and Parnell (1991) spearheaded the efforts of the tech prep movement as a viable option to college prep. Dual enrollment and tech prep educational programs provide opportunities for students to be well trained for the workforce. Students benefit from general academic courses and workplace readiness skills and competencies (Fincher-Ford, 1997).

Three technical dual enrollment partnerships in Georgia were examined by Harnish and Lynch (2005). They used a non-random, purposive sample from three selected sites in a qualitative, exploratory, descriptive case study. Two high schools partnered with a technical college in each of the test sites. Data was collected from interviews and focus groups with administrators, instructors, and forty-three dual enrollment students. The 17-question survey included questions regarding dual enrollment motivation, promotion, expectation, college or career path, and challenges. While the data showed that some students reported the benefits of experiencing college level work and the value of completing college requirements while still in

high school, the most noted motivators were receiving college credit and increasing earning potential (Harnish & Lynch, 2005).

The survey results pointed out that students, who did not transition to postsecondary education, reported the benefit of gaining employment skills from the dual enrollment technical courses. In the past dual enrollment courses were viewed only as a pathway to postsecondary education. Harnish and Lynch (2005) have showed that the benefits and education from dual enrollment courses can impact students that do not continue beyond high school. Students that were offered technical dual enrollment courses containing employment ready skills reported feeling better prepared to get a job after participating in the dual technical enrollment program (Harnish & Lynch, 2005). A broader range of students can accumulate college credit, can save money and time, and can prepare for the workforce when offered the opportunity to participate in dual enrollment programs that offer traditional, technical, and vocational courses. The lack of dual enrollment programs and participation impact the students and society (Harnish & Lynch, 2005).

Findings similar to Harnish and Lynch (2005) have been reported by Karp et al. (2007) and Lynch and Hill (2008). From 2003 to 2006, 17, 442 Georgia technical dual enrollment students were tracked as they articulated from high school to college. Lynch and Hill (2008), reported these technical college dual enrollment students were prepared to continue postsecondary education or gain immediate employment in the field. Over 54% of these high school students enrolled in a Georgia technical college or a college or university in the University System of Georgia. The number of dual enrollment students who enrolled in colleges or universities outside the state of Georgia were not included in this quantitative data. Research has shown an increased access to low income groups and low to mid-range students have been

provided by technical college and career and technical dual enrollment partnerships in Georgia. Low to midrange students reported more confidence to complete technical dual enrollment courses than math or science courses (Lynch & Hill, 2008).

A quantitative study of career and technical education (CTE) dual enrollment programs was conducted by Karp et. al. (2007). The dataset in Florida consisted of 299,685 students who graduated from 2001 and 2002. A total of 34,273 dual enrollment students and CTE dual enrollment students were included. Students taking technical, communication, business, or health care dual credit courses were identified as CTE students. Non-experimental methods including logistic regressions were utilized by the researchers. Control variables including gender, race, free or reduced lunch, disability, and English proficiency were applied to isolate the influence of dual enrollment.

Two studies reported the valued of technical dual enrollment courses in addition to traditional academic courses. Karp et.al. (2007) found traditional dual enrollment students in Florida were 10.95% Black and 23% free and reduced lunch recipients while CTE students were 13.95% Black and 29.87% free and reduced lunch. Participation among minorities and low-income students increased when CTE dual enrollment courses were offered. Ganzert (2014) examined the effects of both traditional and vocational dual enrollment in a casual-comparative study in North Carolina. Technical and vocational dual enrollment courses exposed the students to various trades and careers; this encouraged student commitment to continued credit accumulation toward a degree or certification (Ganzert, 2014). A positive relationship between CTE dual enrollment participation and college persistence was shown from this study. Students who earned college credit in technical dual enrollment courses were more likely to enroll in college than nondual enrollment students. In addition, CTE dual enrolled students were more

likely to pursue a bachelor's degree than nondual enrollment students (Karp et.al., 2007). Many students, who were otherwise less likely to attend college, were offered a path to postsecondary education through CTE dual enrollment courses. The grade point average (GPA) for traditional dual enrollment programs was 3.0 while the CTE dual enrollment courses was 2.0. According to Karp et. al. (2007) many of the CTE dual enrollment students were not eligible for advanced placement (AP) courses. Mid-performing students are given a chance to earn college credits and experience college level work through technical dual enrollment courses (Karp, et al., 2007).

Career and technical and vocational dual enrollment courses have been proven to be an effective way to allow students of various backgrounds and academic standing to experience the benefits of dual enrollment programs. Dual enrollment courses that appeal to diverse students and needs must be extended to provide benefits to low income students, minorities, first generation college students, as well as mid-performing students (Callan et. al, 2006). Career and technical and vocational dual enrollment courses have proven to be an effective way to allow diverse student populations to experience the benefits of dual enrollment programs while promoting social justice. These students are gaining skills to increase their market value and societal contribution (Lynch & Hill, 2008).

### **Dual Enrollment Impact on College Readiness and Remediation**

Students are considered college ready when they do not require remediation in college (Hoffman, 2003) while Martin (2013) defines college readiness as earning a C or better in college level courses. In 2010, the National Center for Public Policy on Higher Education reported that 60% of first year college students are not college ready. Many students require developmental courses or non-credit remedial courses before progressing to credit bearing courses in college. Taking remedial courses lengthens the time it takes to earn a degree, and

students must pay for the courses even though they earn no credit for the course. Many students become discouraged and drop out before degree completion (An, 2013). The National Center for Education Statistics in January 2013 acknowledged, 19.9% of White students, 30.2% of Black students, and 29% of Hispanic students reported taking remedial courses in 2007-08 as first year college students enrolled in public institutions. Community colleges spend approximately \$4 billion per year on remediation (Scott-Clayton & Rodriguez, 2015). It has been shown that college readiness increases and need for remediation is reduced through participation in dual enrollment programs (An, 2013; Hoffman, 2003; Lynch & Hill, 2008).

An (2013) using data collected from the Beginning Postsecondary Students Longitudinal Study (BPS:04/09), questioned if dual enrollment participation influenced college readiness. Data on 14,090 college freshmen or first semester students was examined by An (2013) to determine the influence of dual enrollment participation and the need for remediation. To measure dual enrollment influence on college readiness and need for remediation, An (2013) used propensity score matching models. To eliminate the possibility of hidden bias, An (2013) conducted sensitivity analyses to ascertain the effect of hidden bias on the study. Dual enrollment students were more college ready and less likely to require remediation in college than nondual enrollment students. An (2013) reported nondual enrollment students were 13% more likely to require remedial work than dual enrollment students. Remediation is costly to the institution and student. Students do not earn credit for remedial courses- making the time to degree longer. Students become discouraged and dropout. Students who drop out before completing a degree may be unable to reap the full benefits of a college degree (An, 2013).

In 2008, Kim and Bragg studied a sample of 1,141 students from Florida, Ohio, Oregon, and Texas to determine the impact of technical dual enrollment courses focusing on college



readiness and dual enrollment participation. Dual enrollment participation was the independent variable, and college readiness was the dependent variable. Kim and Bragg (2008), sought to determine the relationship among tech prep dual enrollment course participation and college readiness. Participants in technical dual enrollment courses experienced greater college readiness and less need for remediation in college than the nondual enrollment students (Kim & Bragg, 2008).

Similarly, Kanny (2015) conducted semi-structured interviews with dual enrollment participants. In one-on-one interviews with five dual enrollment participants, Kanny sought to gain information on dual enrollment from the student's perspective. Four of the participants were females and one male. The five students attended a Los Angeles charter school in a low-income area where 100% of the students were eligible for free and reduced lunch (Kanny, 2015). 90% of the school's 520 students were Latino. Three positive themes were identified from the interviews that were transcribed verbatim, analyzed, and coded: exposure to college level work, ability to learn skills needed to succeed in college, and independence and freedom. Kanny (2015) pointed out that students felt prepared for the academic demands of college and believed they could be successful. Karp (2012) contends dual enrollment is a way to prepare students to succeed in postsecondary education.

Krueger (2006) also found that states that are inclined to create dual enrollment programs are "fostering relationships between high school and colleges, enhancing the efficiency of K-12 and postsecondary systems; implementing a rigorous college-prep curriculum for all; increasing postsecondary attainment rates; reducing the number of students in remediation" (p. 3). Krueger further concluded "there is evidence that dual enrollment increases academic performance and educational attainment" (p. 2). Smith (2003) found that after participating in a dual enrollment

program, students are more academically and socially prepared for the transition to and the rigors of college life.

Crouse and Allen (2014) conducted a study of dual enrollment students in Iowa to determine if they were better prepared than traditional students for later coursework. The researchers compared outcomes between students who took a dual enrollment course and went on to the sequential course in the same content area when they enrolled in college and nondual enrollment students who took the sequences of courses in college. 186,823 students from 14 community colleges in Iowa were included in the multiyear study. The findings support that courses offered in dual enrollment programs are as effective or more effective in preparing students for future coursework as traditional college courses (Crouse & Allen, 2014). The nonminority participation rate in this study was 45% while the minority participation was approximately 23%. Crouse and Allen (2014) recommended to avoid an educational disadvantage among minorities that minority students should be targeted for dual enrollment participation.

### **Dual Enrollment Impact on Grade Point Average and Persistence**

Allen and Dadgar (2012) and Swanson (2008) conducted studies to survey the effects of various dual enrollment programs. In a quasi-experimental study of the City University of New York's (CUNY) dual enrollment program, Allen and Dadgar (2012) explored the impact of dual enrollment participation on grade point average (GPA), credit accumulation, and retention. The sample contained 22,962 freshmen who enrolled in CUNY within 15 months of high school graduation from a New York high school. Regression adjusted estimates were used to account for differences including race, gender, socioeconomic status, free and reduced lunch status, and minority language status. Dual enrollment has a positive effect on grade point average (GPA),

number of credits earned during the first, and persistence to the third semester (Allen & Dadgar, 2012).

Swanson (2008) used a casual model and inferential statistics in his study using 213,000 students who graduated in 1992. According to Swanson (2008), dual enrollment students were 12% more likely to enroll in college and 11 % more likely to persist to the next semester than nondual enrollment students. These findings showed that dual enrollment students were enrolling in college within 7 months of high school graduation and were more likely to earn a bachelor's degree than nondual enrollment students; dual enrollment participation had a statistically noteworthy impact on persistence and continuation in postsecondary education; in addition, dual enrollment improves persistence rates among minority groups. Swanson (2008) contended that dual enrollment credits serve as a motivator for students to continue to postsecondary education.

Struhl and Vargas (2012) reported that dual enrollment students were more likely to earn a degree than the nondual enrollment students, According to Struhl and Vargas (2012), 47.2% of the students in the dual enrollment treatment group earned a bachelor's degree compared to 30.2% of the students in the control group. This study involved 32,908 Texas students who graduated in 2004. Struhl and Vargas (2012) used propensity score modeling to construct similar demographic and academic control and treatment groups of 16, 454 students. By controlling for preprogram differences, the researchers could examine the impact of dual enrollment on success in college. Factors including race, low income students, average standardized math scores, and limited English proficiency were comparable in both groups. The study found that the dual enrollment treatment group was more likely to enroll in college and persist than the nondual enrollment control group.

Fink et al. (2017) tracked more than 200,000 high school students who first took a community college course in the fall 2010 for six years through summer 2016. Within five years, 88% of these students continued in college after high school, and most earned a certificate or degree or transferred to a four-year college. Using student enrollment and degree records from the National Student Clearinghouse (NSC), they examined who enrolls in community college dual enrollment courses and what happens to them after high school (Fink et al., 2017). Nationally, 15% of fall 2010 community college entrants were high school dual enrollment students; Alabama had ten percent dual enrollment participation while Kentucky had a thirty-four percent (Fink et al., 2017). Fifty-eight percent of the dual enrolled high school students were female, and 37% had a lower house hold median income according to researchers Fink et al. (2017).

Research demonstrates the benefits of dual enrollment on student success in postsecondary education. However, having a dual enrollment program does not guarantee positive outcomes and student success. There are additional factors that can impact the success of a dual enrollment program.

### **Dual Enrollment Programs Advisement and Support**

A dual enrollment program at Kennesaw University in Georgia by Kinnick (2012) revealed highlights and challenges. The focus of the study was on the impact of the dual enrollment program on the college. The researcher included both quantitative analysis and qualitative interviews. In a Georgia survey, 31% of the high performing students stated that their participation in dual enrollment classes had been discouraged by their high school counselors; they had been advised to take AP courses (Kinnick, 2012). This limits the range of student eligibility to experience college level work and earn college credits while still in high school.

Karp and Hughes (2008) and Khazem and Khazem (2012) conducted five qualitative case studies researching the role of advisement and support in successful dual enrollment programs. Schools in Michigan, California, Iowa, and Texas were included in the study. Karp and Hughes (2008) conducted 61 classroom observations and 100 interviews at various sites with faculty, staff, and students. The value of guidance from high school counselors was emphasized by Tinto (1987). Tinto's theory identified the leading causes of dropout in learning institutions as academic and social issues. According to Astin (2012), a students' tenacity is fueled by involvement and sense of belonging. Dual enrollment programs require more guidance from high school counselors, and students receive the assistance to persevere through common education related obstacles (Bailey et al., 2003).

It is not enough to offer credit based on transition programs like dual enrollment to low and mid-range students. It is important to offer support and additional preparation is needed for these students. Additional information, support, and counseling may be required for these students to understand the mechanics and benefits of dual enrollment. Students may not fully grasp the benefits of dual credit courses and support from guidance counselors and advisors is critical (Khazem & Khazem, 2012). An (2013) acknowledged, based on previous research, that low socioeconomic students often lack parental input and knowledge regarding pursuing postsecondary education. These parents lack experiences and expertise with educational matters but are committed to their child's success. Parents rely on guidance counselors and teachers to inform and direct students. Additional effort to guide low socioeconomic parents and students may be necessary to ensure all students have access to dual enrollment benefits and to promote social justice (Rawls, 1971; St. John, 2007).

## **Funding Issues**

Dual enrollment funding varies throughout the United States. According to the ECS (2016), 13 states including Alabama report that it is a local decision to determine who is responsible for paying dual enrollment tuition. The state government pays the tuition in 5 states; 12 states report that it varies by program; students' families pay in 9 states. Florida and 3 other states use funding from the student's school district. Four states use a combination of the district or state's funding along with a contribution from the student's family. Nebraska, New Jersey, and Rhode Island have no set policy in place. States, colleges, high schools, and students may be burdened with covering tuition costs, books, lab fees, and employing a coordinator or liaison (Hoffman, Vargas, & Santos, 2009; Hoffman, Vargas, & Santos., 2008).

According to Wozniak and Palmer (2013), in the Michigan study, 83% of the survey respondents admitted funding to be a serious barrier to expanding dual enrollment programs. Hunt (2007), cites that funding deficits may result in additional fees for dual enrollment participants. These fees will influence participation in dual enrollment courses, particularly for students that are unable to pay. Funding issues may create unequal access to dual enrollment for low income students, leaving them at a disadvantage. More funding for dual enrollment programs as an effort to provide the opportunity of higher education at an affordable rate to all students will continue to be proposed by proponents of dual enrollment (Boswell, 2001). Dual enrollment programs are supported by legislators as an effort to improve college access as well as increase academic and career success in the U.S. (Krueger, 2006). Hunt and Carroll (2006) stated, "Dual enrollment courses have been viewed as a mechanism through which to address a wide number of state priorities" (p. 46). Kleiner and Lewis (2005) found most programs are funded and governed completely by local or state governments.

An analysis of dual enrollment programs across the U.S. was conducted by Dougherty and Reid (2007). Common components for each state's dual enrollment program were identified. Program basics were identified: dual enrollment governing policy, objectives of the program, location of courses, number of credit hours to be earned, developmental or remedial course options, and any unique characteristic (Dougherty & Reid, 2007). In addition, Dougherty and Reid (2007) identified access, program quality and transferability of courses, and where the financial resources originated as other components considered. Dougherty and Reid (2007) asserted that in Alabama the program's quality is pivotal to the overall effectiveness of the DE. In Alabama, course delivery is usually determined by the local district as well as the federal program funding contributions; in some districts students are fully responsible for tuition for the college-level courses (Dougherty & Reid, (2007). Enrollment rates in dual enrollment programs maybe lower in areas when students are responsible for tuition and fees for dual enrollment participation (Karp et al., 2007). As stated by Wise (2008), low-income students often regard dual enrollment as an educational opportunity that is missed unless an alternative funding resource is made available to them. Workforce Development grants provide alternative funding in addition to institutional scholarship funding (Wise, 2008).

The state of Alabama's Dual Enrollment program was designed to meet the state's workforce demands. In Alabama all eligible high school students are allowed to take college level courses in high school through most of Alabama's community colleges. In the state of Alabama, the Dual Enrollment program is governed by The State Board of Education Policies, The Department of Postsecondary Education Guidelines for policy, and the State Board of Education Administrative Code. Alabama's Dual Enrollment programs have strong state policies to guarantee the credibility of the program. The state makes certain that all Dual Enrollment courses offered on the high school campus are parallel to courses offered on a college campus. An Alabama high school teacher, teaching a Dual Enrollment course must meet the hiring standards of an adjunct faculty

member in the state college system. The college is responsible for overseeing the practices of the high school Dual Enrollment teachers. The courses taught by the high school Dual Enrollment teachers afford students with an opportunity to earn both high school and college credit simultaneously without leaving the high school campus. Student eligibility for Dual Enrollment in Alabama is based on an amalgamation of student academic performance (to demonstrate student's capability), teacher recommendation, and the ability to meet state system institution standards. State institution standards are based on ACT/SAT scores and high school GPA of a 3.0 minimum. Both the Alabama Community Colleges and district boards of education mutually corroborate the standards. Although the Alabama Community Colleges set the standards for Dual Enrollment in the state, there is not a "required annual reporting" for this program as it pertains to student participation, achievement, and demographics. Alabama does not require annual reporting on any acceleration program and is one of only three states that have not sought federal funding for statewide longitudinal data systems. Dual Enrollees in Alabama do not have an in-house liaison to provide any needed support while in the program through their high school. However, the state does require high schools and colleges to delineate how students will be supported when there is a need. I Alabama students' financial need is not a deterring factor for participants of the Dual Enrollment program. Funding is derived from state and local funding for Dual Enrollment with the exception of textbooks and other class material. Students are responsible for textbooks and other associated material cost for the Dual Enrollment course. However, there is often additional local or institutional funding to absorb those cost as well. (Dougherty & Reid, 2007, p. 12)

In 2014, Alabama lawmakers passed a tax credit bill to increase DE funding (Adams, 2014). The funds would be derived from businesses and individuals looking for tax credits and could generate up to \$10 million each year. The individuals and businesses were encouraged to contribute up to \$500,000; a maximum of 50% of that would be returned to the individual in the form of a tax credit. The funds would be used to cover the total cost for students participating in dual enrollment programs (Adams, 2014).



Increased funding and accessibility of dual enrollment programs will provide the pillar most students need in order to excel in higher education (Karp et al., 2007). According to social justice, unequal access to dual enrollment based on funding issues is unjust (St. John, 2007).

### **Chapter Summary**

Dual enrollment is viewed by many as a practical effort to better prepare high school students for college-level work as well as the work force (Conley, 2007). Hughes (2010) supports dual enrollment as a solution to many of the deficiencies throughout the United States educational system. States need to increase the education of all students to meet the future labor demands (Callan et. al., 2006). There are documented benefits of increasing the education level of minorities, low income students and low to mid-performing students. According to Barnett and Stramm (2010), McMahon (2009), and Rose (2013), increasing the education level of the labor force include the following benefits: college graduates are more likely to contribute to society, pay taxes, earn greater income than high school graduates; they are less likely to require welfare, commit crimes, or be incarcerated. Society will benefit as the number of college graduates increases. Dual enrollment programs offer a pathway to postsecondary education, increase college readiness, and increase persistence in college (An, 2013; Fowler & Luna, 2009; Ganzert, 2014; Hoffman, 2003; Hoffman & Voloch, 2012; Karp et. al., 2007; Pretlow & Wathington, 2014).

The main road to opportunity, social mobility, and economic progress in the United States is higher education. Reindl (2007) showed that increasing college access to previously underserved students is necessary to provide the workforce that is faced with the demand for more educated workers. Dual enrollment participation is also viable for the current workforce. Dual enrollment programs provide valuable career technical education as well as making

academia stronger (Adelman, 2006). CTE dual enrollment courses provide college access to many students who may not otherwise be able to attend college (Allen & Dadgar, 2012; An, 2013; Hoffman & Voloch, 2012). Wise (2008) contends that career technical education prepares students with the skills essential to enter various areas of the workforce. The gap between high and low socioeconomic groups may be narrowed by increasing college access (An, 2013; Hoyle & Kutka, 2008). As accessibility of dual enrollment participation increases for all students, Krueger (2006), found the rates of college attendance and completion will also increase for all students. Karp and Hughes (2007), reported that dual enrollment programs hold the potential to offer a pathway to postsecondary success for traditionally underserved students.

### **Chapter III: Methods**

Carnevale, Rose, and Cheah (2010) concluded that individuals with a college education have the potential to earn more money over a life time than those with only a high school diploma. Workers with a college degree have lower unemployment rates than the less educated (Rose, 2013). College graduates are more likely to contribute to society, vote in elections, pay taxes, and are less likely to be incarcerated, commit crimes, or require welfare (Barnett & Stramm, 2010).

The National Center for Public Policy on Higher Education (2010) reported that 60% of first year college students are not college ready and require remediation. This lengthens the time to degree; many students become discouraged and may drop out before completing a degree (An, 2013). Dual enrollment can reduce the need for remediation and increase college readiness. Dual enrollment programs provide students a head start on accumulating college credit, the experience of college level work, and a financial saving by shortening the time to degree (Hoyle & Kutka, 2008).

While forty-seven states have dual enrollment policies and legislation (ECS, 2015), Alabama has no statewide policy which has led to differences in dual enrollment programs offered, in student participation, and access to those programs. This chapter will identify the methods that were used to answer the research questions.

#### **Purpose of the Study**

The purpose of this study was to examine the use of dual enrollment programs in the State of Alabama. Dual enrollment programs allow high school students to enroll in college

courses for college credit prior to high school graduation. Advocates consider dual enrollment as a way to transition high school students into college, and they further claim that these programs benefit students from low socioeconomic status. With no statewide dual enrollment policy in Alabama, program participation varies among high schools in the state. This descriptive study focused on the characteristics of enrolled students, the impact of scholarships on student participation, and the trend of student participation over a five-year period

### **Research Questions**

The following research questions were used in this study:

1. What are the characteristics of dual enrolled students?
2. How does the number of students who receive scholarships impact the enrollment number of dual student participation?
3. What is the trend of student participation in dual enrollment programs over a five-year period?

### **Research Design**

This study examined dual enrollment program participation in the State of Alabama. There is no statewide policy on reporting dual enrollment participation and the initial request for data through the Alabama Community College System's Data Access and Exchange (DAX) was not granted. Therefore, data were collected using other de-identified, existing, and publicly available data.

This study was conducted using a quantitative, descriptive design. Quantitative research is conducted to determine relationships, effects, and causes (Wiersma & Jurs, 2009). It consists of collecting numeric data that can be analyzed with mathematical methods to explain a topic (Muijs, 2004). Descriptive research is used to describe the characteristics of a topic or subject. Data collected in this research increases knowledge about the topic or subject studied (Joyner,

Rouse, & Glatthorn, 2013). The purpose for descriptive research is “to describe systemically the facts and characteristics of a given population or area of interest factually and accurately” (Issac & Michael, 1972, p. 46). Recommendations for improvement may be made using the data collected in descriptive research (Glass & Hopkins, 1984).

This study used descriptive data to analyze dual enrollment in the State of Alabama. Available information on current dual enrollment programs during the 2011-2017 time period were gathered. Descriptive analysis was used to analyze the first research question. Pearson correlations were used to analyze the impact of scholarships on student participation; and time series analysis was used to respond to the third research question.

### **Procedures for Data Collection and Analysis**

The research questions were answered using data that were collected using de-identified, existing, and publicly available data. The specific websites and links that were used to answer each research question are as follows:

#### **Research Question 1 – What are the characteristics of dual enrolled students?**

The data were gathered and compiled from enrollment numbers from the ALSDE- Alabama State Department of Education Public Data Reports to include gender, race, ethnicity, student enrollment, and financial scholarship.

1. Gender, race, and ethnicity of student enrollment in Grades 9-12 (2011-2017) were gathered from the Alabama State Department of Education statewide student database:

<http://web.alsde.edu/PublicDataReports/Default.aspx>

Select a Report > Enrollment by Ethnicity and Gender (State Level) > Years

2011-2012 through 2016-2017 > View Report >

2. Student and dual enrollment participation data were gathered from the following sources from each of the 24 community colleges that were identified through the Alabama

Community College System:

<https://www.accs.cc/index.cfm/students/>

Colleges and Organizations >

Bevill State  
Bishop State  
Calhoun  
Chattahoochee State  
Central Alabama  
Coastal Alabama  
Drake State  
Enterprise State  
Jefferson State  
Gadsden State  
Ingram State  
Lawson State  
Lurleen B. Wallace  
Marion Military  
Northeast Alabama  
Northwest Shoals  
Reid State  
Shelton State  
Snead State  
Southern Union  
Trenholm State  
Wallace-Dothan  
Wallace-Hanceville  
Wallace-Selma

3. Student and dual enrollment participation data were gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college:

<https://nces.ed.gov/globallocator/index.asp?search=1&State=AL&zipcode=35578&miles=50&sortby=name&College=1&Records=1&CS=CDF6D534>

Search for Schools and Colleges > State of Alabama > Enrollment >

4. Student financial aid data were gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college:

<https://nces.ed.gov/collegenavigator/?id=102429#finaid>

College Navigator / Search for School > Colleges > Financial Aid

**Research Question 2 – How does the number of students who receive scholarships impact the enrollment number of dual student participation?**

1. Student and dual enrollment participation data were gathered from the following sources from each of the 24 community colleges that were identified through the Alabama Community College System:

<https://www.accs.cc/index.cfm/students/>

Colleges and Organizations >

Bevill State  
Bishop State  
Calhoun  
Chattahoochee State  
Central Alabama  
Coastal Alabama  
Drake State  
Enterprise State  
Jefferson State  
Gadsden State  
Ingram State  
Lawson State  
Lurleen B. Wallace  
Marion Military  
Northeast Alabama  
Northwest Shoals  
Reid State  
Shelton State  
Snead State  
Southern Union

Trenholm State  
Wallace-Dothan  
Wallace-Hanceville  
Wallace-Selma

2. Student and dual enrollment participation data were gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college:

<https://nces.ed.gov/globallocator/index.asp?search=1&State=AL&zipcode=35578&miles=50&sortby=name&College=1&Records=1&CS=CDF6D534>

Search for Schools and Colleges > State of Alabama > Enrollment >

3. Student financial aid data were gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college:

<https://nces.ed.gov/collegenavigator/?id=102429#finaid>

College Navigator / Search for School > Colleges > Financial Aid

### **Research Question 3 – What is the trend of student participation in dual enrollment programs over a five-year period?**

1. Student and dual enrollment participation data were gathered from the following sources from each of the 24 community colleges that were identified through the Alabama Community College System:

<https://www.accs.cc/index.cfm/students/>

Colleges and Organizations >

Bevill State  
Bishop State  
Calhoun  
Chattahoochee State  
Central Alabama  
Coastal Alabama  
Drake State  
Enterprise State  
Jefferson State



Gadsden State  
Ingram State  
Lawson State  
Lurleen B. Wallace  
Marion Military  
Northeast Alabama  
Northwest Shoals  
Reid State  
Shelton State  
Snead State  
Southern Union  
Trenholm State  
Wallace-Dothan  
Wallace-Hanceville  
Wallace-Selma

2. Student and dual enrollment participation data were gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college:

<https://nces.ed.gov/globallocator/index.asp?search=1&State=AL&zipcode=35578&miles=50&sortby=name&College=1&Records=1&CS=CDF6D534>

Search for Schools and Colleges > State of Alabama > Enrollment >

3. Student financial aid data were gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college:

<https://nces.ed.gov/collegenavigator/?id=102429#finaid>

College Navigator / Search for School > Colleges > Financial Aid

## **Data Analysis**

Both descriptive and inferential statistics were used to analyze the results. The descriptive statistics described the gender, race, ethnicity, and student enrollment data for this population.

The financial scholarship impact was analyzed using a Pearson Correlation. Time series

analyses were applied to examine the trend of student participation in dual enrollment over the time period.

## **Chapter IV: Results**

Walthers and Robinson (2006), stated, “Preparing students for the transition from the high school environment to the college campus is becoming an increasingly important goal of policy makers and educators” (p. 2). Educators have created a variety of programs to assist students with this transition including several acceleration options. The dual education program is an accelerated option program designated to bridge the gap between high school and college. Research shows that postsecondary success is predicated on both rigorous academic preparation in addition to a clear understanding of the expectations of college. Windham (1997) contended, “The dual enrollment option was established to enrich the course opportunities for outstanding high school students and to provide an acceleration mechanism that would move students through the baccalaureate process quicker” (p. 9). Dual enrollment programs allow high school students to enroll in college courses and earn college and high school credit simultaneously, thereby exposing them to the academic and social demands of postsecondary education.

This chapter contains the results of the data analyses. An analysis for each research question follows.

### **Purpose of the Study**

The purpose of this study was to examine the use of dual enrollment programs in the State of Alabama. Dual enrollment programs allow high school students to enroll in college courses for college credit prior to high school graduation. Advocates consider dual enrollment as a way to transition high school students into college, and they further claim that these programs benefit students from low socioeconomic status. With no statewide dual enrollment policy in

Alabama, program participation varies among high schools in the state. This descriptive study focused on the characteristics of enrolled students, the impact of scholarships on student participation, and the trend of student participation over a five-year period

### **Research Questions**

The following research questions were used in this study:

1. What are the characteristics of dual enrolled students?
2. How does the number of students who receive scholarships impact the enrollment number of dual student participation?
3. What is the trend of student participation in dual enrollment programs over a five-year period?

### **Results Based on Research Questions**

Research Question 1: What are the characteristics of dual enrolled students?

This study examined dual enrollment program participation in the State of Alabama and identified student enrollment based on gender, race, and ethnicity for students in grades 9-12 (2011-2017) in the state of Alabama.

Table 1 shows the gender, race, and ethnicity of students enrolled in grades 9-12 in the State of Alabama. The majority of student were white male and white females followed by black male and black females. Table 2 shows that statewide dual enrollment participation rates increase as total student enrollment increase. Throughout the timeframe of 2011-2017, dual enrollments programs have seen an increase in participation. However, the total number of students participating in dual enrollment programs compared to the total student population ranged from 6-12%.

Table 1

*Gender, Race, and Ethnicity of Student Enrolled in Grades 9-12 (2011-2017)*

Academic Year	2011- 2012	2012- 2013	2013- 2014	2014- 2015	2015- 2016	2016- 2017
Minority Female	6,088	6,644	7,380	8,597	7,574	8,176
Minority Male	8,701	7,029	7,611	8,835	9,601	10,050
Black Female	38,643	38,109	38,063	37,875	37,765	38,020
Black Male	38,282	37,965	37,949	37,792	37,763	38,004
White Female	61,974	61,915	62,154	62,441	61,973	62,228
White Male	64,372	55,524	65,519	64,528	65,130	65,371
	218,060	207,186	218,676	220,068	219,806	221,849
*Black/White Female					255	250
*Black/White Male					241	260

Table 2

*Number and Percentage of Dual Enrollment Participation*

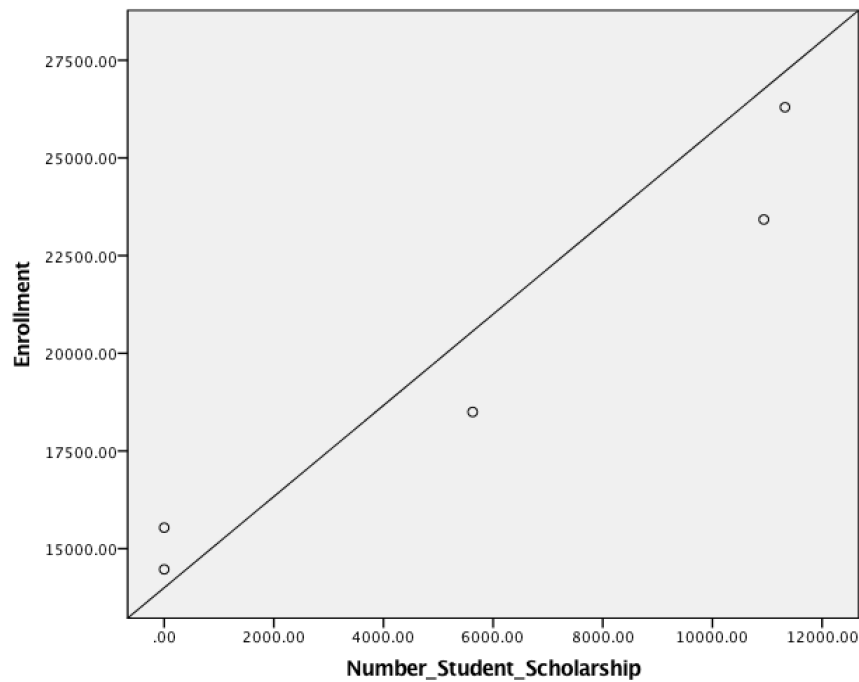
Academic Year	Total Students Enrolled (9-12)	Number of Non- Participants	Number of Dual Enrolled Participants	Percentage of Dual Enrolled Participants
2011-2012	218,060	204,335	13,725	6%
2012-2013	207,186	192,716	14,470	6%
2013-2014	218,676	203,138	15,538	7%
2014-2015	220,068	201,569	18,499	8%
2015-2016	219,806	196,382	23,424	10%
2016-2017	221,849	195,552	26,297	12%

Research Question 2: How does the number of students who receive scholarships impact the enrollment number of dual student participation?

Student and dual enrollment participation data were gathered from each of the 24 community colleges that were identified through the Alabama Community College System. Student and dual enrollment participation data were also gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college.

Student financial aid data were gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college.

Results showed that the number of student enrollments and number of students receiving scholarships have a strong positive correlation ( $r = .975$ ,  $p < .001$ ), indicating that these two variables have a good linear relationship. As student enrollment increased, so did the number of students who participated in dual enrollment programs. The correlation revealed that when one variable increased, the other variable increased as well.



*Figure 1.* Correlation of dual enrolled students and scholarships awarded

Table 3

*Correlation of Dual Enrollment Participation and Scholarship Funding (2013-2017)*

Measure	1	2
Number of Student Enrollments		
Number of Students receiving Scholarships	0.975**	

Note \* p<.05, \*\*p<.01

Based on the information in Figure 1 and Table 3, dual enrollment participation increased as the funding for scholarships increased. There was a strong positive correlation between the number of scholarships and the number of students enrolled ( $r=.975$ ,  $p=.005$ ), indicating that the increasing the number of scholarships had a positive effect on student enrollment.

Research Question 3: What is the trend of student participation in the dual enrollment programs over a five-year period?

A time series analyses was applied to explore the trend of student participation over a five-year period from 2011-2017. Student and dual enrollment participation data were gathered from each of the 24 community colleges that were identified through the Alabama Community College System. Student and dual enrollment participation data were also gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college. Student financial aid data were gathered from the Institute of Education Sciences (IES) / National Center for Education Statistics (NCES) for each community college.

The regression model that was used to answer this question used the number of total student enrollment =  $-869 + 4320 \cdot \text{year}$ . The results of the regression indicated that the number of total student enrollment will increase by 4320 as the year increase by one unit ( $p = .006$ ).

Moreover, 98.23% of the number of total student enrollment was explained by this regression

model ( $r^2 = .9823$ ). The trend for students to participate in dual enrollment programs has increased during the 2013-2017 time period. Data was reported if it was available; however, during the years 2013 and 2014, there was no reported data for students who were participating in dual enrollment programs and who were receiving scholarships. Those participating in dual enrollment programs who received scholarships ranged from 30-43% of the total number of dual enrolled students. The majority of students who are participating in dual enrollment programs were not receiving scholarships (see Table 4).

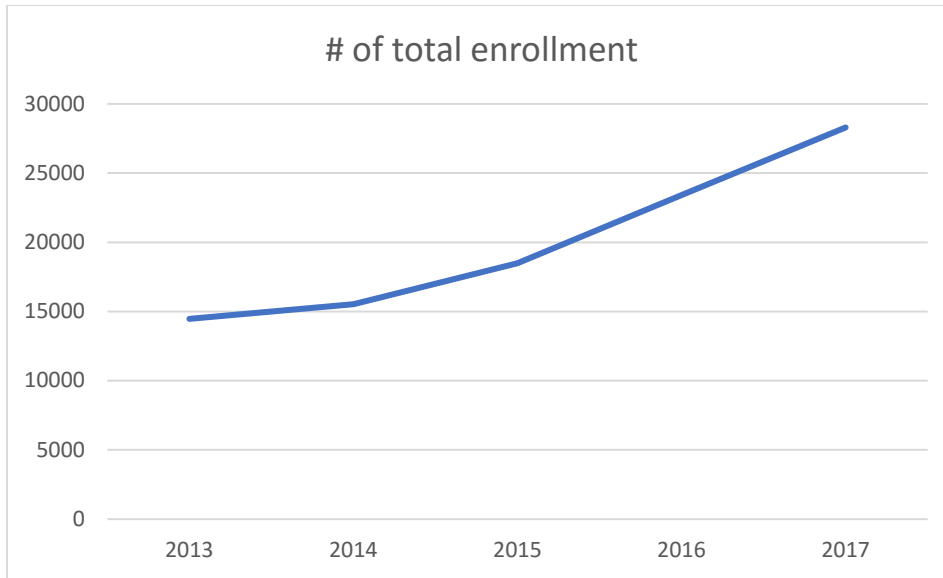
Table 4

*Trend of Student Participation in Dual Enrollment Program*

<b>Year</b>	<b># of Total Enrollment</b>	<b># of Scholarship</b>	<b># of Non-Scholarship</b>
2013	14470	0	14470
2014	15538	0	15538
2015	18499	5627	12872
2016	23424	10938	12486
2017	26297	11323	14974

Throughout the time period of 2013-2017, there has been an increase in the number of students participating in dual enrollment programs (see Figure 2). The number of students participating in dual enrollment programs has doubled during this period.

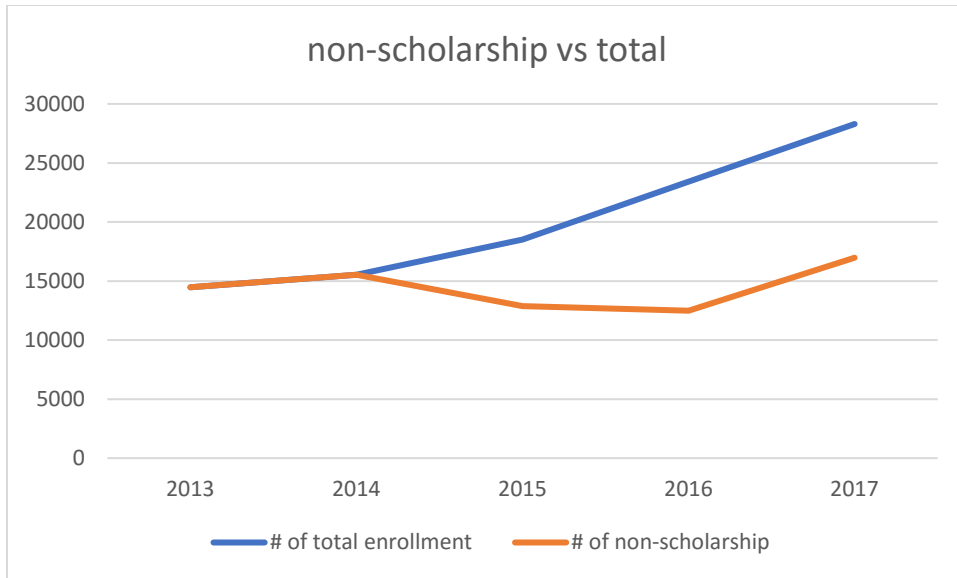




*Figure 2.* Regression model of dual enrollment participation (2013-2017)

A regression model was used to examine the number of students participating in dual enrollment programs and who were not receiving scholarships. The regression model used the following formula: number of non-scholarship =  $-379666 + 196 \cdot \text{year}$ . Based on the results, the p-value ( $p=.79$ ) indicated that the coefficient of the slope had no significant difference.

Additionally, the R square results indicated that only 2.75% of the number of student who were participating in dual enrollment programs and were not receiving a scholarship were explained by this regression model. Throughout the time period of 2013-2017, the number of students who were participating in dual enrollment programs increased; however, the number of students that were not receiving scholarships remained static throughout this period (see Figure 3). Therefore, a time series analysis was used ( $r^2=.0275$ ).



*Figure 3. Regression model of non-scholarship dual enrollment participation (2013-2017)*

As part of the time series analysis, a moving average method was used. The mean absolute percentage error was 19, mean absolute deviation was 2715, and the mean squared deviation was 8649137. Based on this model, the forecast for the next period (2018) for the number of students who were designated as non-scholarship was 14730, with 95% Prediction Interval of (8965.86, 20494.1) (see Figure 4).

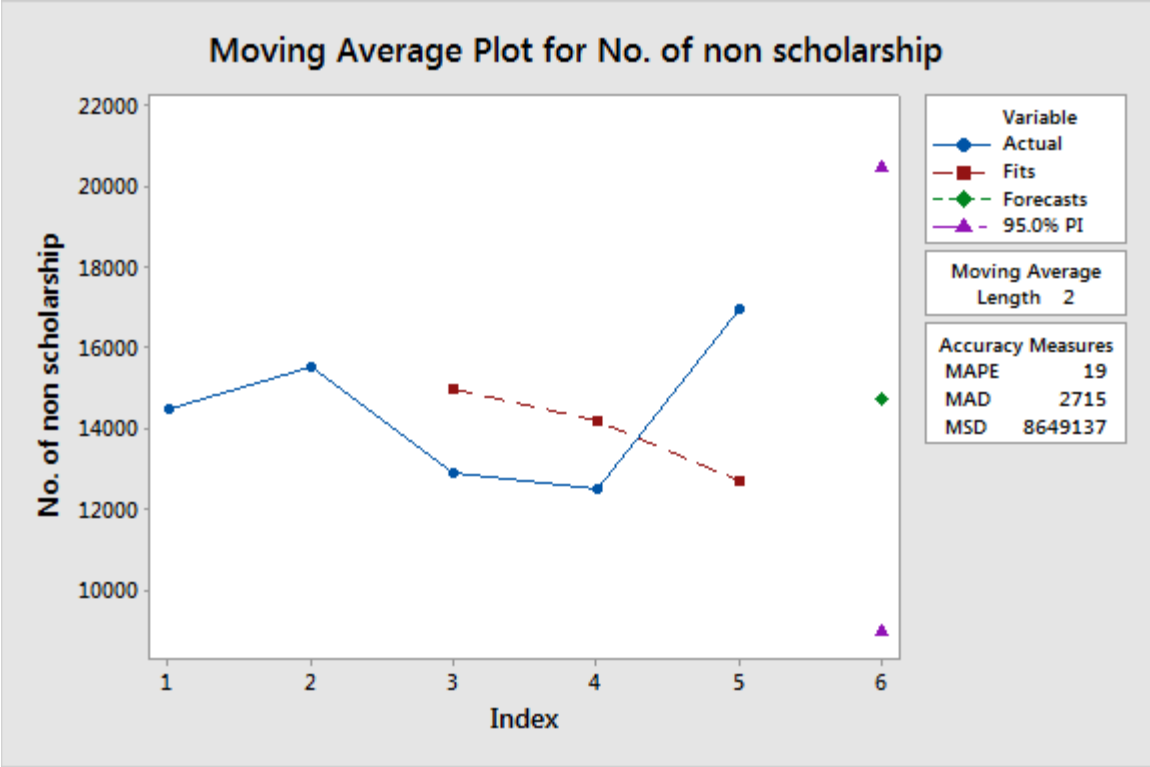


Figure 4. Moving average plot of non-scholarship dual enrollment participation (2013-2017)

In addition to moving average method, a single exponential smoothing was also used to test whether there was a better model for the Time Series analysis. The smoothing constant was set to 0.255079 by the Minitab software. The result showed that the mean absolute percentage error (MAPE) was 12, the mean absolute deviation (MAD) was 1759, and the mean squared deviation (MSD) was 3862790. Based on this model, the forecast for the next period (2018) for the number of students who were designated as non-scholarship was 14424.7, with 95% Prediction Interval of (10115.2, 18734.2) (see Figure 5).

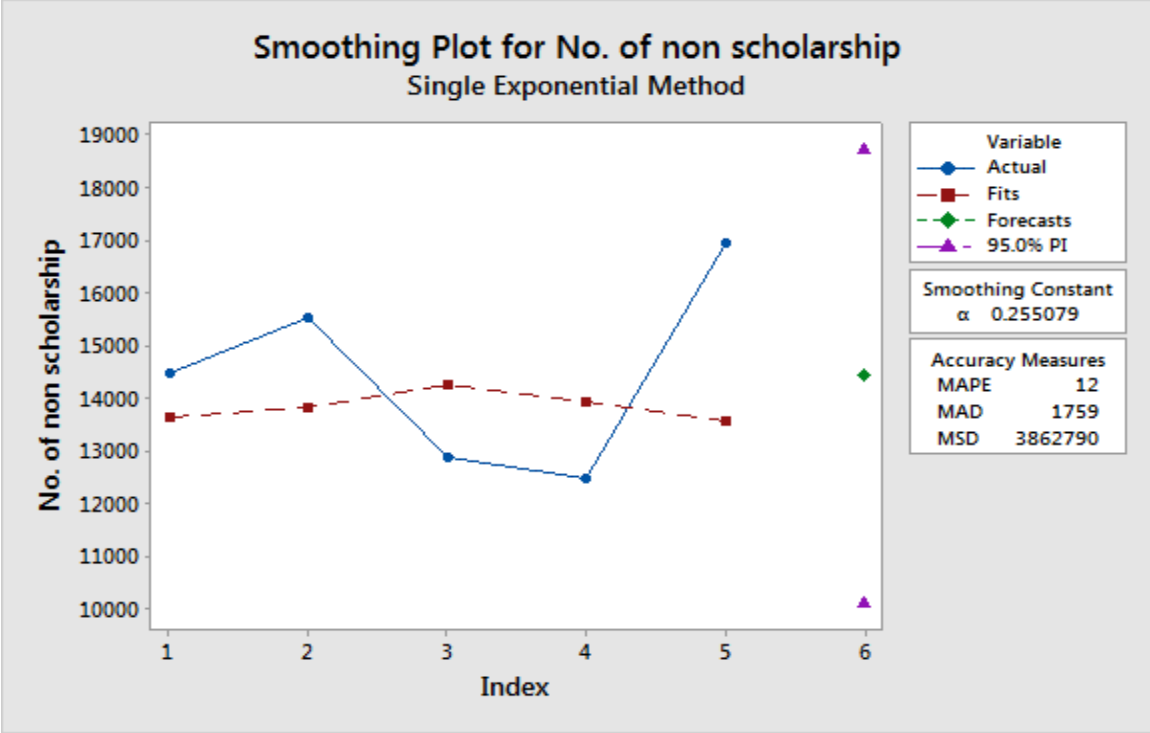


Figure 5. Smoothing plot of non-scholarship dual enrollment participation (2013-2017)

By comparing the moving average and the single exponential smoothing, the second model had a higher accuracy. Therefore, the second model was chosen to predict the non-scholarship enrollment of 2018, thus to calculate the number of scholarships (see Table 5).

Table 5

*Projected Dual Enrollment in 2018*

	Projected Total Enrollment	Projected Non-Scholarship	Projected Scholarship
2018	31836	14424	17412

**Summary of Results**

This chapter presented the data that was available regarding the demographics of dual enrollment students in the State of Alabama for the academic years 2011-2017. Pearson Correlation was used to analyze the correlation of student participation and number of students

receiving scholarships. A regression model and time series were used to predict the total number of enrolled students and the student participation of non-scholarship for the academic year of 2018. Chapter V will discuss the summary, conclusions, and recommendations.

## **Chapter V: Summary, Implications, Conclusions, and Recommendations**

This chapter presents a summary of findings, implications, limitations, and recommendations. The study examined dual enrollment participation in the State of Alabama. With no statewide dual enrollment policy in Alabama, program participation varies among high schools in the state. This study will discuss the trends of participation in the dual enrollment programs throughout Alabama.

### **Purpose of the Study**

The purpose of this study was to examine the use of dual enrollment programs in the State of Alabama. Dual enrollment programs allow high school students to enroll in college courses for college credit prior to high school graduation. Advocates consider dual enrollment as a way to transition high school students into college, and they further claim that these programs benefit students from low socioeconomic status. With no statewide dual enrollment policy in Alabama, program participation varies among high schools in the state. This descriptive study focused on the characteristics of enrolled students, the impact of scholarships on student participation, and the trend of student participation over a five-year period

### **Research Questions**

The following research questions were used in this study:

1. What are the characteristics of dual enrolled students?
2. How does the number of students who receive scholarships impact the enrollment number of dual student participation?
3. What is the trend of student participation in dual enrollment programs over a five-year period?

## Summary

Struhl and Vargas (2012) reported that dual enrollment students were more likely to earn a degree than the nondual enrollment students. According to Struhl and Vargas (2012), 47.2% of the students in the dual enrollment treatment group earned a bachelor's degree compared to 30.2% of the students in the control group. This study involved 32,908 Texas students who graduated in 2004. Struhl and Vargas (2012) used propensity score modeling to construct similar demographic and academic control and treatment groups of 16,454 students. By controlling for preprogram differences, the researchers could examine the impact of dual enrollment on success in college. Factors including race, low income students, average standardized math scores, and limited English proficiency were comparable in both groups. The study found that the dual enrollment treatment group was more likely to enroll in college and persist than the nondual enrollment control group. Alabama does not have data segmented to show degree attainment by dual enrolled students.

Swanson (2008) used a casual model and inferential statistics in his study using 213,000 students who graduated in 1992. According to Swanson (2008), dual enrollment students were 12% more likely to enroll in college and 11% more likely to persist to the next semester than nondual enrollment students. These findings showed that dual enrollment students were enrolling in college within 7 months of high school graduation and were more likely to earn a bachelor's degree than nondual enrollment students; dual enrollment participation had a statistically noteworthy impact on persistence and continuation in postsecondary education; in addition, dual enrollment improves persistence rates among minority groups. Swanson (2008) contended that dual enrollment credits serve as a motivator for students to continue to postsecondary education.

Fink et al. (2017) tracked more than 200,000 high school students who first took a community college course in the fall 2010 for six years through summer 2016. Within five years, eighty-eight percent of these students continued in college after high school, and most earned a certificate or degree or transferred to a four-year college. Using student enrollment and degree records from the National Student Clearinghouse, they examined who enrolls in community college dual enrollment courses and what happens to them after high school (Fink et al., 2017). Nationally, fifteen percent of fall 2010 community college entrants were high school dual enrollment students; Alabama had ten percent dual enrollment participation while Kentucky had a thirty-four percent (Fink et al. 2017). Fifty-eight percent of the dual enrolled high school students were female, and thirty-seven percent had a lower house hold median income according to researchers Fink et al. (2017).

There is a college attendance and degree attainment gap between white and minority students (AACC, 2012). It was found that white students from high income households have higher degree completion rates than low income minority students; over 23% of white students earn an associate degree within 3 years of enrolling in college compared to 10% Hispanic-Latinos and 9% of African American (Callan, et.al., 2006). Thirty-six percent of high income students complete degree or certification requirements within 6 years compared to 30% of low income students (AACC, 2012). Alabama does not have a standardized system to tract students using income.

To meet the needs of the 21<sup>st</sup> century workforce, three million college educated workers must enter the workforce (Carnevale, Smith, & Strohl, 2010). To help alleviate this shortfall, the education and degree attainment of students from low income households and minorities must be increased. Failure to increase an educated workforce will compromise the ability of the United



States to compete globally, creating a decrease in per capita income and reduced standard of living for all Americans (Hoyle & Kutka, 2008; Reindl, 2007). It is imperative that students graduate from high school prepared to succeed and persist in college. Research has shown that 60% of high school graduates are not prepared to succeed in college (NCPPE, 2010). Students dropping out of college before obtaining a degree is problematic for society (Hoyle & Kutka, 2008).

Hoffman and Vargas (2005) reported, “For low-income youth, first generation college goers, and students of color, unfilled aspirations to attend college can lead to dashed dreams” (p. 3). McDonough (2004) pointed out that most first-generation college students are from low-socioeconomic backgrounds. In 2008, 50% of high school graduates came from households making less than \$50,000 per year and an additional 16% came from households with a yearly income of less than \$20,000. If these first-generation students lose the ability to maximize their earning potential and to improve their current living conditions, they will not be able to move up the economic ladder as jobs requiring higher skill levels are growing in the United States workforce (Carnevale, Rose, et al. 2010). Barriers such as tuition and out-of-pocket fee requirements, lack of transportation, and exclusion because of past academic performance still present obstacles for racial/ethnic minorities and low-income youth (Hoffman, 2003). Wise (2008) acknowledge some research has shown that dual enrollment participation may lead to an increase in enrollment and college completion among minorities as well as students from lower income levels. Hoffman (2003) concluded that, “dual enrollment is a promising ‘next best thing’ for states wishing to increase the number of underrepresented students gaining a postsecondary credential” (p. 3). In addition to socioeconomic issues, inadequate academic preparation, encouragement from family and peers as well as a lack of available information are roadblocks

that are faced daily by students as they strive to navigate this path (Carey, 2004). Rawls (1971), maintained that education is a valuable asset and as such, resources should be allocated to improve the education of the least advantaged. St. John (2007), also applied a social justice framework to education policy arguing that individuals have a fundamental right to education. Both Rawls and St. John support equal opportunity and favoring the disadvantaged. Providing college access to minorities, students from low income households, and low to mid-performing students should be a priority of education policy. Increasing college access may help close the gap between socioeconomic groups (Hoyle & Kutka, 2008). Dual enrollment programs increase college access for low socioeconomic students (An, 2013). According to Hoffman (2003), the dual enrollment program presents students the opportunity to build a college transcript with coursework that challenges and stimulates, saves students and their family's money and creates partnerships between high schools and colleges. When funds were reallocated to recruit minorities, midrange performing, and low socioeconomic students, there was an increase in dual student participation (Kim, 2012).

### **Implications**

Findings from this study describe dual enrollment participants in Alabama high schools, grades 9-12. The findings revealed the following participation characteristics:

1. The total number of enrolled students vs. the number of students receiving scholarship have a positive relationship. Meaning that it is possible that when there are more opportunities to receive scholarships, more students may apply for the program.
2. The number of students participating in dual enrollment programs is increasing year by year.

3. To match the predicted total number of enrollment which is 31,836, schools may need to offer 17,412 scholarships. Otherwise the total number of enrollment will decrease.
4. Alabama must standardize the current dual enrollment programs to provide access for all Alabama high school students. High School liaisons must work with high school administration to provide information on program availability and support. This expanded outreach to underserved populations would help to assure that they are able to take advantage of dual enrollment programs.
5. Courses of Study for the senior year of high school should include dual enrollment and remedial courses to help prepare students for college.
6. Dual Enrollment should be integrated into high school CTE pathways and programs. This could positively impact college outcomes for CTE students.

## **Conclusions**

The opportunity to attend college is not equal for all students. Students from low socioeconomic backgrounds and minorities often face difficult challenges in trying to obtain a college education (Rawls, 1971). The National Center for Public Policy on Higher Education in 2008 reported that while the number of students entering college has been consistent over the past decade, the number of students earning a degree has not kept pace. Alabama is in line with the national trend and faces the same challenges. In 2010, the Center reported that 60% of first year college students are not college ready because these students must take non-credit remedial courses before they are able to take courses for cred. This often leaves students discouraged and more prone to drop out before degree attainment; it also lengthens the time it takes to earn a degree (An, 2013). Reindl (2007) found that the United States is falling behind its top competitors in degree attainment. The National Center for Public Policy on Higher Education

reported in 2008, that the United States ranked 15<sup>th</sup> out of the 29 countries studied. Hoyle and Kutka (2008) reported that a lack of degreed workers may result in a decrease in per capita income reducing the standard of living for all Americans. A shortfall of three million college educated workers will be needed in the workforce by 2018 (Carnevale, Smith, & Strohl, 2010). To help alleviate this shortfall, states need to increase the education of “all students” (Callan et al., 2006, p. 3) including students from low income households and minorities. Failure to increase the education and degree attainment of the country’s workforce will compromise the United States’ ability to compete globally (Hoyle & Kutka, 2008). Pathways from high school to college are needed for all students, including low income students, minorities, first generation college students, and students that are mid-performing (Callan et.al., 2006). In the past decade, several pathways and initiatives have been implemented to address issues related to college readiness and degree attainment. Expanding College Opportunity (ECO) was initiated by the Obama Administration in a report from the Executive Office of the President (2014). This project focused on increasing college opportunities for all students, targeting those from low income households.

The 21<sup>st</sup> Century Commission of Future Community Colleges and the American Association of Community Colleges (AACCC, 2014) called for a 50% increase in college completion rates by 2020. President Obama signed *Every Student Succeeds Act* (ESSA) in 2015; this act supports dual enrollment as a college readiness strategy. This strategy is to prepare high school students for college (Lowe, 2015). The act focuses on increasing graduation rates and college readiness while closing the achievement gap among minorities and low performing students. Kuntz et al. (2011) emphasized two benefits of dual enrollment programs: 1) assist students with the transition to college and 2) increase college graduation rates. Alabama must

implement a strong, vigorous dual enrollment program to decrease the transition between high school and college, which could possibly lead to more students receiving degrees or certificates.

Hoyle and Kutka (2008) support that students, employers, and society benefit from programs that increase college enrollment, college readiness, and student success. One pathway to increase college readiness, college access, and persistence is dual enrollment (An, 2011; Karp et al., 2007; Kim & Bragg, 2008). According to the Education Commission of the States (2015), 47 states have dual enrollment policies. Hans Andrews (2001), described dual-credit as a “significant new dimension to school reform” (p. 4). High schools may partner with 2-year and 4-year colleges and universities to offer dual enrollment courses. Concurrent enrollment, dual credit, and joint credit are different terms that are used to describe dual enrollment. Not only do the terms vary from state to state, but the laws, policies, and procedures also vary. Dual enrollment courses may be offered in the high school or on the college campus. High school faculty, with approval from the college, or college faculty may teach the courses. Some states offer free or reduced tuition while others have no reduction in tuition (Fincher-Ford, 1997). All 50 states have been identified by Andrews (2001), as having postsecondary options available for students.

Dual enrollment is viewed as a practical effort to better prepare high school students for college-level work as well as the work force (Conley, 2007). The benefits of Dual Enrollment programs to non-Dual Enrollment programs have been studied and compared; however, studies in Alabama were minimal. Hughes (2010) supports Dual Enrollment as a solution to many of the deficiencies throughout the educational system in the United States. While all states offer postsecondary options, the lack of statewide policies may lead to differences in dual enrollment programs and participation. It is not enough to just offer dual enrollment courses. School

administration, counselors, and teachers must work to communicate dual enrollment opportunities and benefits to parents and students. This information must be presented in a way to be understood and reached by the desired population. The lack of information and understanding can present a barrier to student participation. There is little research regarding dual enrollment programs and participation in Alabama.

The goal of this descriptive study was to collect information on the characteristics and trends of current dual enrollment programs in Alabama. The data collected provided a description of current dual enrollment programs and answered the question, “what is?” According to the data available, dual enrollment programs and participation vary throughout Alabama. Dual enrollment fees and tuition made participation impossible for some students.

The Dual Enrollment program has been viewed as a way to improving graduation rates (Adelman, 2006). The Dual Enrollment program benefits not only the academic world but also provides valuable career technical education, making it viable for the current U.S. workforce (Adelman, 2006). Career technical education prepares students with the skills essential to enter various areas of the workforce (Wise, 2008). All students need access to higher education. Equal access to education must be a priority of policymakers and administration. Providing college access to minorities, students from low-income households, and low to mid-performing students promotes social justice and impacts the future of Alabama and its economy.

## **Recommendations**

Increasing the educational level of Alabama’s population will benefit the individual, community, and state. For the United States to compete in the global economy, the labor force must increase in the number of college educated and degreed workers (Callan et al., 2006; Carnevale, Smith, & Strohl, 2010; Reindl, 2007). More students, including minorities, students

of color, and low-income students, need access to college (Callan et al., 2006; Reindl, 2007).

Demographic information such as race/ethnicity, free/reduced lunch eligibility, achievement data including GPA and results from standardized tests scores, along with dual courses taken and grades earned need to be collected and analyzed.

To provide greater access and participation among underserved students, a statewide policy including provisions to require schools to offer traditional, CTE, and vocational dual enrollment must be developed. Dual enrollment courses should be offered in all Alabama high schools and accessible to a broad range of students. A statewide policy should consider how dual enrollment tuition will be funded, outline the specific mandatory offerings, and standardized eligibility requirements. A statewide policy will provide uniform guidelines which will ensure greater consistency, ensure consistent implementation, and statewide compliance. Templates should be made available to assist schools and partnering colleges with uniform policies and procedures. A statewide method of reporting demographic data needs to be implemented.

A statewide dual enrollment program evaluation including a needs assessment would provide valuable data for stakeholders and policy makers. Future research should include data from colleges and universities to examine issues, challenges, and best practices from the secondary perspective. Additionally, the perspective of the students and families of dual enrollment participants as well as those who did not participate should be included in future studies.

Rawls (1971) found that education may help individuals acquire wealth, increase participation in society, and promote self-worth. Equal opportunity to education and college access to minorities, students from low-income households, and low to midrange performing students should be a priority of education policy.

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