

**INFLUENCE OF AGRICULTURAL DUAL CREDIT ON STUDENT COLLEGE  
READINESS SELF-EFFICACY**

A Record of Study

by

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## **ABSTRACT**

The purpose of this correlational and descriptive study was to examine the influence of an agricultural dual credit course curriculum on student self-efficacy of college readiness as students matriculate to post-secondary education. To evaluate the personal characteristics, postsecondary plans, program perceptions and college readiness self-efficacy, a quantitative survey and online instrument was used to gather data and analyze information on high school students enrolled in agricultural education in both dual credit and non-dual credit courses primarily in the Middle Tennessee Region. The target population ( $N = 543$ ) for this study was defined as students at 16 schools where the dual credit course was offered with the Middle Tennessee State University, School of Agribusiness and Agriscience in the 2011-2012 academic year. A total of 245 students from 16 secondary agricultural programs in seven different school districts across Tennessee, primarily in the Middle Tennessee region, participated in the study for a response rate of approximately 45%.

This study examined college readiness of student participation in an agricultural dual credit course and sought to determine the relationship between student participation in a dual credit course offering and college readiness self-efficacy as well as student perceptions of the course offering. Course self-efficacy was higher among dual credit participants versus non-dual credit participants. Social self-efficacy was also higher for dual credit participants. Females had higher Course self-efficacy, and there was a positive relationship between GPA and each construct of the college readiness self-efficacy inventory. Participant perceptions of the agricultural dual credit program were

also high. This study indicates that dual credit participants can confidently approach post-secondary options, and that they are more likely to be successful in college due to level of self-efficacy as they matriculate into college. Recommendations from the study include: Using the MTSU dual credit model in future dual credit course developments and collaborations; using findings as a basis for training future agricultural education teachers on how to improve CRSE; and additional and longitudinal studies to track dual credit students' success in college.

## **DEDICATION**

To my son John Buyrl

## ACKNOWLEDGEMENTS

There are so many people whom I owe this degree and it would take many pages for me to list them all. However, there are several people who have played a significant role in my educational journey.

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Jesus looked at them and said, "With man this is impossible, but with God all things are possible." Matthew 19:26

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# CHAPTER I

## INTRODUCTION

### **Background and Setting**

Dual enrollment programs have been offered for more than 100 years as an alternative for high school students to earn college credit (Heath, 2008). Nationally, the majority of postsecondary institutions have dual enrollment programs in various forms (Hoffman 2005; Kleiner & Lewis 2005). Dual enrollment programs are collaborative efforts between high schools and colleges in which high school students are given the opportunity to receive both high school and college credit simultaneously. Dual enrollment programs often are seen as a way to create an easier transition from high school to college, as well as provide more opportunities for student success.

According to the College Completion Act Agenda (2010), the United States needs to educate more of its citizens for an increasingly competitive and complex workplace. This need suggests more students should consider earning postsecondary degrees and credentials. The Completion Agenda states:

This increased focus on college completion (not simply college access) is reflected in, for example, President Obama's goal for the United States to be the world leader in the percentage of citizens who are college graduates by 2020. College graduates gain significant advantages in today's economy. They are more likely to have better career opportunities, earn higher salaries, and live healthier and longer lives (2010, p. 1).

Dual credit programs are often seen as a way to offer the level of academic intensity needed to ease transition from high school to college, increase college degree attainment, as well as provide more opportunities for student success.

Dual credit programs were once limited to college bound students only. Today, dual credit programs may be seen as a way to help students who may not have performed well in a traditional academic environment. Dual credit programs increase academic rigor in high school, help to prevent high school dropout by increasing student aspirations, and gives students the opportunity to acclimate to college life (Karp & Hughes, 2008). Dual credit programs are becoming more inclusive for a wider group of students. This group includes career and technical education students (CTE). According to Karp and Hughes:

CTE students are increasingly being offered the opportunity to take dual credit courses- often as explicit parts of their CTE programs. Including college courses helps CTE educators achieve a number of important goals. First, these courses can help to upgrade the CTE curriculum by providing students with access to rigorous coursework. As educators are increasingly aware, CTE students can no longer be prepared only to enter the workforce immediately after high school; they must also have academic skills to attend college (2008, p. 2).

Dual credit programs can be delivered different ways. This study focused on a specific dual credit program located in one state and provided by one academic college in one higher education institution.

## **Statement of the Problem**

There appears to be more students pursuing dual credit options in the secondary setting on a national scale. (Heath, 2008). An estimated 95% of colleges have programs designed to prepare students for college-level work, however retention rates have not improved in the past 20 years (Seidman, 2005). Beginning the transition to college in high school with dual enrollment programs offering postsecondary coursework can provide students a better chance of being successful with postsecondary education (Adelman, 2006). There appears to be a push for more postsecondary education by high school students. According to The American Diploma Project Network (ADP):

Nearly eight in ten future job openings in the next decade in the United States will require post secondary education or training. Forty-five percent will be in the “middle skill” occupations, which require at least some post secondary education and training, while 33% will be in high skilled occupations for which a Bachelors degree or more is required. Only 22% of future jobs will be “low skill” and accessible to those with a high school diploma or less (2005).

“While there is evidence that dual enrollment smoothes transition between high school and college and raises student achievement, the unknowns still outweigh the known when it comes to dual enrollment” (Krueger, 2006, p.6). Karp, Calcagno, Hughes, Jeong and Bailey (2007) further emphasize that despite dual enrollment popularity, research is lacking in dual enrollment efficacy.

This study was an attempt to describe how an agricultural dual credit course offered at Middle Tennessee State University (MTSU) in the School of Agribusiness and

Agriscience (ABAS) can be used as a means to improve student self-efficacy of college readiness, increase views of post-secondary education importance, as well as identify student perceptions of the program researched in this study.

### **Dual Credit**

There are differences between dual enrollment and dual credit. In this particular study, the term dual credit is used; however, the terms are very similar in structural design and effectiveness.

According to the American Association of State Colleges and Universities in 2002 (AASCU), dual enrollment dates back to the 1970's and did not gain popularity until the mid-1980's. Nationally, more than half of postsecondary institutions have dual enrollment programs (Kleiner & Lewis 2005; Waits, Setzer, & Lewis, 2005). According to Allen (2010) in a comprehensive literature review of dual enrollment, all but 12 states have policies directly addressing dual enrollment. Various forms of dual enrollment have been identified in all states (Andrews, 2004). High school students are permitted to enroll in college courses and earn college credit in most dual enrollment programs. Dual credit or concurrent enrollment allow students to earn high school and college credit simultaneously (Hughes, Karp, Bunting, & Friedel, 2005; Karp, et al., 2007). Dual enrollment refers to high school students taking college courses, either in the high school setting or on the college campus. Students, in most cases receive college credit once the course once the course is passed (Hoffman, Vargas & Santos, 2008; Karp & Jeong, 2008). Taking their various options for dual credit models into consideration, districts and schools often focus their efforts on the best option for their students in any given

school year (Klekotka, 2005). Typically, dual enrollment students are enrolled at the participating university, meaning they have met university admission requirements. This is the case for dual enrollment students in Tennessee. Dual credit students are not actually enrolled at the university; students are not required to meet the college admission requirements. Dual credit students are participants in the dual credit course seeking college credit. The goal of dual enrollment programs is to give high school students the chance to take college-level classes, and earn college credit. These classes give the student first-hand exposure to expectations of college academics. In most cases the students are exposed to the college campus environment by going to the campus and attending the classes with traditional college students. In other instances with dual enrollment, the student may take the class online or the college instructor will come to the high school. It is important to comprehend that dual enrollment is not always for credit both in the high school and college (Hughes, et al., 2005).

Kim, Barnett, and Bragg (2003) sought to clarify dual credit definitions and concluded upon a set of definitions important to understanding dual credit. The panel defined dual enrollment to be when students are taking college-level classes in high school and college simultaneously. The panel further defined dual credit to be when students receive both high school and college credit for a college-level class successfully completed.

Many researchers and administrators maintain there is an array of benefits to dual credit programs. These benefits include easing the transition between high school and postsecondary, preparing students for college work thus decreasing the need for remedial

coursework, raising the student's motivation and aspirations to attend college, introducing students to the college level work, developing relationships between colleges and communities, easing recruitment of students to college and fostering opportunities for undeserved student populations. (Bailey, Hughes & Karp, 2002; Blanco, Prescott & Taylor, 2007; Boswell, 2001; Clark, 2001; Conklin, 2005; Hoffman, 2005; Karp, et al., 2007; Johnstone & Del Genio, 2001; Kim, 2008; Kirst & Venezia, 2001).

There are also concerns associated with dual enrollment/credit (Andrews, 2001; Clark, 2001; Johnstone & Del Genio, 2001; Kim, 2008; Krueger, 2006; Lerner & Brand, 2006). Concerns include uncertain academic quality, limited academic rigor, high school teachers inability to teach college-level courses, credit transfer, funding uncertainty and participant cost, limited access for minorities, and a deficiency in solid quantitative data to support the numerous benefits.

### **Justification for the Study**

According to the Alliance for Excellence in Education Issue Brief (2006), many high school students are not gaining the basic skills needed to succeed in college. Dual credit type programs allow high school students to pursue college courses and earn college credit. They can provide students with an enlightening academic experience. Dual enrollment builds a strong base for future collaborations between high schools and colleges and improves student transition from high school to college (Clark 2001; Greenburg, 1988; Krueger, 2006). Karp, et al., (2007) noted that even though Career and Technical Education (CTE) programs are increasingly offering dual

credit/enrollment program offerings, more dual enrollment programs are needed to support the postsecondary preparation of average-achieving students.

Agricultural education is a large part of CTE in the state of Tennessee. In 2010-2011, there were 33,547 students in Tennessee enrolled in agricultural education courses, which make up 8.95% of CTE courses and a reported 13,558 of these students were FFA members (CTE Report Card, 2010). The Tennessee Department of Education Division of Career and Technical Education (2011), stated approximately 60% of the state's agricultural education students are male and 40% are female at any given time over the past five years. According to the latest data compiled by the Tennessee Career and Technical Education Department in 2009-2010, 5,554 CTE students in Tennessee were enrolled in college courses while still in high school. In 2010-2011, the number of CTE students enrolled in dual credit type courses increased to 9,165 students (Tennessee Career and Technical Education, 2011). According to these numbers, CTE students in Tennessee are taking advantage of opportunities to prepare themselves for college. Of the CTE students enrolled in 2010-2011, 69.81% identified themselves as Caucasian while 24.58% were African American.

Tennessee Higher Education Commission (THEC) and the development of the 2010-15 master plan for higher education comes at a time of unprecedented challenges in higher education. The Complete College Tennessee Act of 2010 (CCTA) is a significant public policy statement that establishes expectations for Tennessee's system of higher education. The policy addresses the state's need for greater educational attainment of its people and the role of higher education to accomplish that objective. A

recent study by Carnevale, Smith, and Strohl (2010) and the Georgetown University Center on Education and the Workforce underline THEC's 2010-15 Public Agenda for Higher Education urgency. The study reports that between 2008 and 2018, new jobs in Tennessee requiring postsecondary education and training will grow by 194,000, while jobs requiring a high school diploma or less will grow by only 145,000. The study adds that Tennessee will create 967,000 job vacancies between 2008 and 2018; 516,000 of these job vacancies will be for those with postsecondary credentials, 336,000 for high school graduates and 115,000 for high school dropouts. Fifty-four percent of all jobs in Tennessee (1.8 million) will require some postsecondary training in 2018 (Carnevale, Smith & Strohl, 2010). Tennessee currently ranks 46<sup>th</sup> nationally in the percentage of jobs projected to require training beyond high school. CCTA of 2010 identifies, even at that level, the need for Tennesseans with postsecondary credentials is great, and the state will need many more graduates if it hopes to compete in a cutting-edge economy like those of the highest-ranked states. The fact that over 9,000 Tennessee CTE students participated in dual credit courses in 2010-11, coupled with the need for postsecondary training, shows a need to continue dual credit programs with CTE students in Tennessee (Tennessee Career and Technical Education, 2011).

### **Middle Tennessee State University Dual Credit Program**

At the time of this study, Middle Tennessee State University's (MTSU) School of Agribusiness and Agriscience (ABAS) was offering three dual credit courses. In the implementation stages of the program MTSU saw the need for and hired an individual to serve as the dual credit coordinator for ABAS, as well as teach a multitude of classes



within the department. As the program grew and gained statewide attention, the need to begin researching the benefits of the program became evident by university officials. The lead researcher in this study has served in the position of the MTSU ABAS dual credit coordinator since the program's inception.

According to the Middle Tennessee State University dual credit coordinator, MTSU began its dual credit program after being awarded a Tennessee Department of Education Division of Career and Technical Education Perkins IV Reserve Fund Grant for the 2008-2009 school years in the amount of \$157,266.00. The grant allowed the MTSU School of Agribusiness and Agriscience (ABAS) to provide a three hour dual credit course offering. MTSU was the first four year university in Tennessee to offer this opportunity with a CTE course. The first course offering was ABAS 1101 Introduction to Ornamental Horticulture. This course was taken simultaneously with the high school course Greenhouse Management. A student would first enroll in the high school course taught by the high school teacher in the high school setting. The high school teacher would then use the MTSU provided curriculum to teach the course. The postsecondary curriculum was aligned to meet the high school standards. There were 13 schools in five counties named in the grant to pilot the ABAS 1101 course. Each school named in the grant received the necessary technology and equipment needed to participate in the dual credit offering, as well as the services of the dual credit coordinator. The three goals of the Perkins IV Reserve Fund grant written by Neely (2006) were as follows:

Goal 1- Students will enroll in Greenhouse Management in the agricultural education classroom. This will involve a curriculum that will provide students with an integrated authentic learning environment focused on rigor, relevance and relationships through dual credit with MTSU School of Agribusiness and Agriscience. Students will be directly exposed to college level material and have ongoing contact with the dual credit coordinator. This will allow students the opportunity to explore career paths in the field of agriculture and further focus their interests in relevant career decisions.

Goal 2- Students, through the leadership of the agricultural education teacher and the curriculum at the secondary level and the dual credit coordinator at the postsecondary level will be exposed to vital strategies and techniques of being successful in college. These will include: choosing the right courses and curriculum, coping with and excelling in large classes, becoming a savvy student, finding a tutor, choosing a study partner for every course, college friendly time management, efficient study habits, being successful and still having fun, maximizing exam performance and ensuring every instructor knows your name and/or face.

Goal 3- MTSU will provide professional development as an important part of the plan to implement dual credit into the targeted agricultural education programs. This will establish a stronger alliance between secondary and postsecondary Agricultural education programs across Tennessee by expanding services into the proposed targeting local education agencies. Secondary and postsecondary

representatives will work together to ensure the success of the dual credit offering. All stakeholders will be involved. The dual credit coordinator will make regular scheduled visits between participating students and teachers. These will be conducted to ensure program success and strong alliances (2006, p. 7).

All stakeholders in the grant were required to attend a series of meetings prior to the launch of the program. All participating teachers were required to attend a course training directed by the coordinator demonstrating the MTSU curriculum. The curriculum, accessible via the dual credit website included 12 chapters, Power Point presentations, and study questions. Each teacher was provided a preparatory exam for every three chapters covered. In essence, four preparatory exams were given by the high school teacher to participants. These exams were used as a way to better prepare students for the final exam which determined credit. The only exam which was a determinant for credit was the final exam administered through MTSU's online learning environment, Desire to Learn. The mandatory training provided insight into course delivery and MTSU policies and procedures. A dual credit handbook and website were created to be accessed by participants, as well as others interested in the course. According the MTSU policy (2008):

Students interested in receiving dual credit must complete an exam form for dual credit provided by MTSU. The form and a \$60.00 record fee are then mailed to the MTSU Business Office. The student will then be administered an exam by the faculty member in charge of the course. The faculty member grading the exam will provide Admissions with a grade of P for pass. The credit will be

posted as a P grade on the MTSU transcript which a student can access once he/she is admitted. Once the student completes a course at MTSU, he/she may request that a transcript be sent to another institution (2008, p. 3)

Following the pilot year of the initial grant funding, 133 students sought credit by taking the end of course exam to determine credit. Of the 133 students, 116 passed and earned course credit. This resulted in an 87.2 % success rate.

The ABAS department then decided to add a second course offering to their department for the 2009-2010 school years. The second course offering was ABAS 1201 Agribusiness: Fundamentals and Applications. The course was taken simultaneously with the high school course Agribusiness/Finance. The course curriculum followed the initial ABAS 1101 curriculum in structure. This allowed teachers and high schools to participate in two courses with the same curriculum design. The second year, with two dual credit course offerings, 139 students sought credit and 118 earned credits resulting in an 84.8% success rate. In third year of existence, ABAS decide to offer a third and final course offering, ABAS 1301 Introduction to Leadership. Middle Tennessee State University now offers three courses for dual credit. These courses are for three credit hours each.

Following the success of the initial grant funding, MTSU Agribusiness and Agriscience sought another Perkins IV Reserve Fund Grant for the 2011-12 school years. The grant was awarded to MTSU and the partnering LEA's in the amount of \$119,500.00. The grant allowed the MTSU School of Agribusiness and Agriscience

(ABAS) to provide five schools in five counties the necessary equipment and resources needed to participate in a choice of three, three hour dual credit course offerings.

### *Curriculum*

The curriculum for the three course offerings was consistent with each other in format. For each course there was one chosen textbook. Within each textbook, 12 chapters chosen by stakeholders were covered. Each chapter had an available power point presentation for use by the high school agriculture teacher. Each chapter also had an available set of study questions developed by the dual credit coordinator. The test questions were taken from the study questions. The curriculum was designed to cover one chapter each week. Once three chapters were covered by the high school teacher, there was an available exam the teacher could administer over those three chapters. In essence, the teacher was provided four exams covering three chapters each. At the end of the course, the student had taken four exams over 12 chapters. MTSU referred to these exams as preparatory exams. The preparatory exams were administered in paper form or in a computerized testing program which allowed a student the experience of computerized testing. Often times these preparatory exams were used by the high school teacher as test grades for the high school course. MTSU does not record or recognize the grades from the preparatory exams. These exams, along with the provided curriculum, are seen as a key component in the pass rate of the final exam. The final comprehensive exam consisted of 100 multiple choice questions in equal amounts from the 12 chapters. Regardless of the grades made on the preparatory exams, the final exam was administered by MTSU and monitored by the dual credit coordinator, as well as the

high school teacher. The final exam alone determined the college credit for the student. The exam was timed and graded upon submission. The student received a grade of P for pass if he or she scored a 70% or above on the final assessment. The results were posted to the student's MTSU transcript as a P (pass) and were accessible once the student enrolled in MTSU. If the score was 69% or below on the exam, a NP (no pass) was noted in the MTSU database but did not show up on a transcript.

At the time of this study there were no articulation agreements in place. A teacher simply notified the dual credit coordinator if he or she would like to participate in any of the dual credit course offerings. The teacher would then be required to participate in a dual credit course training conducted by the dual credit coordinator. At this time the teacher was introduced to the option of using the provided curriculum for all or a portion of the course delivery. The teacher would then receive a disc with the preparatory exams to use. The dual credit coordinator and the support services were available for the teacher during the duration of the course delivery for questions, comments and site visits. The coordinator was available for site visits and student advising. In many cases the coordinator was invited to speak to large groups about the importance of postsecondary education and how to be successful in such settings. According to Arnett's (2000) description of life phases, this interaction with participants could be influential in the "emerging adulthood" where postsecondary decisions are explored. All of the dual credit curriculum, as well as a step by step instructional handbook were available on a website housing all of the dual credit information.

## *Results*

According to the dual credit coordinator, since the inception of the dual credit program in the fall of 2008, 532 students have sought credit through the Middle Tennessee State University School of Agribusiness and Agriscience dual credit program. This means these students participated and paid the required \$60.00 records fee to sit for the exam. Of these students, 446 scored a 70% or above and received college credit. These results display an 83.8% pass rate. Although 532 sought credit, there were more than 2000 students in 27 high schools exposed to the coursework through participation and school visits.

Additional research is needed how to increase or improve self-efficacy, investigating programs that are designed to increase or improve self-efficacy, and whether these programs actually do increase or improve academic self-efficacy. It is important to study areas of self-efficacy and college readiness and ways to improve them with a study such as the one presented in this dissertation.

## **Purpose and Objectives of the Study**

The purpose of this correlational and descriptive study was to examine the influence of an agricultural dual credit course curriculum on student self-efficacy of college readiness. The study measured the impact of student participation in an agricultural dual credit course curriculum.

The study was guided by the following objectives:

1. Describe students' personal characteristics, postsecondary plans, and self-efficacy of college readiness.

2. Describe and compare the relationships between personal characteristics, postsecondary plans, and self- efficacy of college readiness.
3. Describe student perceptions of the dual credit program.
4. Describe and compare students who participated in dual credit and those who did not on self-efficacy of college readiness.

### **Assumptions**

It is assumed that the participants chose to participate in the dual credit course offering of their own volition. It is assumed they were truthful in their answers.

### **Limitations**

For this study, a questionnaire was used to obtain data regarding student participation or non participation in a dual credit course offering. It was also used to obtain data on student self-efficacy of college readiness and student perceptions of the program as well as personal characteristics. Although there are a number of extraneous variables that may influence individual answers, this study was limited to exploring the effects of a dual credit course curriculum or student self- efficacy of college readiness. The study sought responses from secondary (primarily 10<sup>th</sup> , 11<sup>th</sup> and 12<sup>th</sup>) agricultural education students whose secondary agricultural education teacher was participating in at least, but not limited to one dual credit course offering with Middle Tennessee State University School of Agribusiness and Agriscience during the 2011-2012 school year. The courses were ABAS 1101: Introduction to Ornamental Horticulture, ABAS 1201: Agribusiness Fundamentals and Applications, and ABAS 1301: Introduction to Leadership. These schools were located in the southern region of the United States in 16



high schools in the Middle and East Tennessee regions. The regional aspect of the study sample limited generalizability of the statistical analysis. The study population was limited to the 116 students (treatment group) who participated in the dual credit course and the 133 students (control group) who did not participate in the offering in the 2011-2012 school year with Middle Tennessee State University School of Agribusiness and Agriscience. Data were limited to participant responses via the web-based survey.

The research was conducted by the dual credit coordinator. All work within the program such as grants awarded, curriculum, handbook, website design, professional development, site visits and national workshops have all inclusively been conducted by the coordinator. Replication by an outside evaluator would provide another level of credibility to the study.

The hands-on approach employed by the dual credit coordinator did not allow for pre-testing. Teacher training for the program, parental consent acquisition for the study, and travel to all of the participating schools all contributed to time limitations preventing pre-testing as an option. Similarly, randomization was not plausible to implement in the design, but ensuring the same teacher taught both the dual credit course and the non-dual credit course helped control for error.

## **Definitions**

1. *Agricultural Education*: Term used in reference to instructional programs that prepare students for careers in all areas of the food, fiber, and natural resource system utilizing classroom and laboratory work, FFA involvement, and the Supervised Agricultural Experience (SAE) program (National FFA, 2007, p. 8).

2. *Career and Technical Education (CTE)*: Nationally recognized term synonymous with vocational education (historical) and agricultural education (Tennessee Department of Education Career and Technical Education, 2011)
3. *College Readiness*: The level of preparation needed to enroll and succeed without the need for remediation in a course at the postsecondary institution (Conley, 2007).
4. *College Readiness Self-Efficacy*: A personal belief about one's ability to enroll and succeed without the need for remediation in the postsecondary setting in order to achieve specific outcomes (Bandura, 1977; Conley, 2007).
5. *Dual Credit*: A postsecondary course or a high school course aligned to a postsecondary course that is taught at the high school by high school faculty for high school credit. Students are able to receive postsecondary credit by successfully completing the course, plus passing an assessment developed and/or recognized by the granting postsecondary institution. The institution will grant the credit upon enrollment of the student. (Tennessee Department of Education, 2012).
6. *Dual Enrollment*: A postsecondary course, taught either at the postsecondary institution or at the high school, by the postsecondary faculty (may be credentialed adjunct faculty), which, upon successful completion of the course, allows students to earn postsecondary and secondary credit concurrently. (Tennessee Department of Education, 2012).

7. *GPA- Grade Point Average*: The average of all grades throughout a student's years in high school.
8. *Self-Efficacy*: A personal judgment about one's ability to perform required actions in order to achieve specific outcomes (Bandura, 1977).

## **CHAPTER II**

### **REVIEW OF LITERATURE**

Many terms are used to describe dual enrollment and most can be used interchangeably depending on their structural design, implementation, effectiveness, and delivery method. These may include dual credit, dual enrollment, and postsecondary enrollment (Robertson, Chapman, & Gaskin, 2001). McMannon (2000) wrote “there is not [a] generally accepted or consistent language for such programs, a situation that reflects the different policies, purposes, and logistical arrangements for them” (p. 3). Simply put, all of these terms allow students to earn college credit while still in the secondary setting. For this particular study dual credit was used, however much of the research available used the term dual enrollment as does most of the literature review presented.

#### **Dual Credit**

Dual credit is the approach by which students receive both high school and college credit for the same coursework and, has received much attention in recent years (Kim, 2008). Dual credit was initially intended to provide challenging curricula to already academically prepared high school students (Kim, 2008). Over the past three decades, participants in dual credit programs have expanded to include a wider range of students (Clark, 2001).

According to Greenburg (1988), dual enrollment type programs can be traced back to 1876, when Johns Hopkins University established the Three-Year Collegiate

Program. Kim (2008) noted that the beginning point is different, if exam-based programs are not considered dual credit programs. In some cases dual credit like Advanced Placement students did not need to take a test administered by an external source because credit is awarded based on the entire course and not test results only (Hebert, 2001). City-As-School was founded in 1972 in New York City where high school students attended college courses taught by college faculty with traditional college students (Greenburg, 1988). According to Fincher-Ford (1997), Syracuse University's Project Advance (SUPA) was the first secondary and postsecondary dual credit partnership. The project was established in 1973 to resolve the senioritis issue in Syracuse, New York and is known for its large enrollments (Kim, 2008). Following the SUPA model, dual credit programs began to surface throughout the country, becoming somewhat pioneers with the concept. Some of these programs include the LaGuardia Community College's Middle College in 1974, Florida International Universities Partners in Progress Program in 1982, and Kingsborough Community College's College Now Program in 1984 (Kim, 2008).

Lieberman's idea of Middle College High School Program (MCHS) started in 1973 on the campus of LaGuardia Community College in New York (Cunningham & Wagonlander, 2000). The program presented an academic environment focused on high school students at risk of dropout. In addition the program provided faculty and peer support and counseling. According to Stoel (1988), the MCHS program had a proven track record of easing transition for underprepared students into postsecondary education. This program was replicated in 24 other sites (Clark, 2001). There were

4,500 students enrolled in the Middle College High School National Consortium schools in 1999-2000. Forty one percent of these students took college classes recording a 97% pass rate (Hoffman, 2003). The postsecondary attendance rates for the graduates in 1993 were 81% and in 1997, 73% (Weschler, 2001). Several aspects of this program that were thought to be successful were early postsecondary experience and counseling for at-risk students.

Kingsborough Community College's College Now Program, introduced in 1984, focused on the average achievers (Burg, 2002; Crook, 1990; Kleiman, 2001). A report from a participating high school in College Now showed more than 98% of program participants attended college (Burg, 2002). Crook (1990) conducted an evaluation study which showed the same program was effective in increasing college entry rates, retention and completion.

#### *State Supported Programs*

The first dual credit program with state legislation is found in Minnesota's Post-Secondary Enrollment Options Act in 1985 when Minnesota adopted statewide dual credit legislation entitled the Post-Secondary Enrollment Options Act (Boswell, 2001; Clark, 2001). After observing the success of the program, several other states including Michigan, Indiana, Iowa, and Ohio observed and emulated the Minnesota model as well as established state legislation (Boswell, 2001). The Minnesota dual credit program success paved the way for the 1990 initiative of Washington State to expand educational opportunities high school students (Boswell, 2001; Clark, 2001; Washington State Board for Community and Technical Colleges, 2002). With this expansion came the passage of

the Running Start Legislation in Washington State (Washington State Board for Community and Technical Colleges, 2002). The original Washington program allowed 11<sup>th</sup> and 12<sup>th</sup> grade students to take college courses without paying college tuition. The Running Start program and its success gave other states the initiative to establish dual credit programs (Clark, 2001). College in the High School Program (CHP) is another effort in Washington State. Students in the CHP program take college level classes at high school locations taught by either high school or college faculty and are delivered based on locally developed agreements. Twenty one universities served 3,585 students through the CHP program in 1997 and 1998 (Kim, 2008).

According to Allen, Florida's statewide dual enrollment program is one of the most cited:

Florida has a statewide college credit program for high school students. Courses can be taken during/after school hours and during the summer term. Over 37,000 students participated in Florida's dual enrollment program in 2006. The average dual enrollment student completes five college courses. In order to be eligible to participate, students must be enrolled in a public or private school or be a home school student, have a 3.0 unweighted GPA (or at least a 2.0 GPA for students wishing to take Career and Technical Education courses), show college-readiness by passing appropriate sections of the College Placement Test (CPT), have minimum SAT/ACT/FCAT scores, and have written approval from parents/legal guardians. Tuition fees and text book costs are free for dual enrollment students who attend a public high school. Private and home school students pay for their

text books, but tuition is free also. Dual enrollment college credits are posted on college transcripts and are used towards high school graduation. Florida's Statewide Course Numbering System (SCNS), with over 100,000 courses assigned distinct numbers, facilitates the transfer of credits (2010, p. 7).

Approximately 80% of Florida's dual enrollment classes are currently offered on college campuses; the state expects to see more offered at the high school in the future. (Florida Department of Education, 2006).

According to Allen (2010), the best dual credit programs focus on real college level material "pegged to explicit college course standards, with the opportunity to earn college credit". Jobs for the Future described in its 2008 publication that the best dual credit programs involve a well-designed coherent sequence of courses, instead of "cafeteria-style" course options that high schools typically offer.

#### *Tennessee History and Policies*

The majority of dual credit and dual enrollment programs throughout the United States have been in place between secondary and postsecondary schools in their local education areas (LEA) (Andrews, 2004). However, states offer dual credit programs in a variety of different ways (Krueger, 2006). The need for high school graduates to meet college entrance requirements is a priority (Wilensky, 2007). In 2006, Congress passed the newest version of the Carl D. Perkins Career and Technical Education Act (Perkins IV). Perkins IV emphasized the need to increase "rigor and relevance" in CTE curriculum presented in the secondary setting (Carl D. Perkins act of 2006). Tennessee followed that example and recognized the need to increase post secondary education



options to students by establishing Tennessee Public Law 459 in June 2007 (T.C.A. 49-15-109), also referred to as PC 459. The law authorized public postsecondary institutions and LEA's to jointly establish programs that link secondary and postsecondary through dual credit and dual enrollment agreements. Prior to PC 459, all dual enrollment and dual credit offerings in Tennessee were institution and Local Education Agency (LEA) specific and may or may not have featured an articulation agreement, therefore making them almost impossible to track. The following is an excerpt from PC 459:

PC 459 authorizes public postsecondary institutions and LEA's to jointly establish cooperative, innovative programs in high schools, public colleges and universities. It requires the state board of education, department of education, Tennessee higher education commission, board of trustees of the University of Tennessee and the board of regents to create a consortium for the oversight of these programs. It authorizes the consortium to establish committees when necessary and implement actions needed for proper operation. It provides that programs approved under this chapter can award dual credit for high school courses when applicable (2007, p. 1).

At the request of PC 459, the P-16 Council of Tennessee was formed in June 2008 (Tennessee Department of Education, 2012). The following definitions were approved by the P-16 Council of Tennessee in June 2008:

Dual Credit is a postsecondary course or a high school course aligned to a postsecondary course that is taught at the high school by high school faculty for

high school credit. Students are able to receive postsecondary credit by successfully completing the course, plus passing an assessment developed and/or recognized by the granting postsecondary institution. The institution will grant the credit upon enrollment of the student.

Dual Enrollment is a postsecondary course, taught either at the postsecondary institution or at the high school, by the postsecondary faculty (may be credentialed adjunct faculty), which upon successful completion of the course, allows students to earn postsecondary and secondary credit concurrently. The student must meet dual enrollment eligibility under the Tennessee Board of Regents (TBR) and University of Tennessee (UT) policies (2008, p. 1).

According to the Tennessee Council for Career and Technical Education Biennial Report (2009):

In the 2008–2009 school year, Tennessee Board of Regents (TBR) awarded dual credit to 3,227 students in 208 courses. There were 1,127 students in dual enrollment in 147 courses with a 98 percent pass rate. There were 41 statewide CTE articulation agreements in place. As required by the Carl D. Perkins Act of 2006, all CTE secondary and postsecondary programs of study must lead to an industry certification or credential, associate degree, or baccalaureate degree (2009, p. 9).

At the time of this study, the laws stated above were in effect. These laws gave opportunities for Tennessee high school students to earn postsecondary credits during high school. The dual credit program researched in this dissertation fell under Perkins

IV, Tennessee Public Law 459, and the P-16 Consortium consisting of the Tennessee Department of Education, Tennessee Higher Education Commission, Tennessee Board of Regents, and the University of Tennessee System.

It was hoped the 2008 laws concerning dual credit would continue to forge more partnerships with the Tennessee Board of Regents. On July 1, 2012, Public Chapter 967 (P.C. 967) went into effect to further expand early postsecondary credit opportunities for students across Tennessee. The legislation directed leaders of secondary and postsecondary education systems to collaborate under the Consortium for Cooperative and Innovative Education to achieve these goals. The Office of Postsecondary Coordination and Alignment within the Division of Career and Technical Education is the division in charge of expanding early postsecondary opportunities across Tennessee.

#### *Benefits of Dual Credit*

Dual credit programs can benefit a multitude of stakeholders. These include students, parents, high schools, and colleges. Many researchers who are familiar with dual credit claim there are countless benefits of the programs (Allen, 2010; Bailey, et al., 2002; Barnett, Gardner & Bragg, 2004; Blanco, et al., 2007; Boswell, 2001; Clark, 2001; Conklin, 2005; Coplin, 2005; Hebert, 2001; Hoffman, 2005; Karp, et al., 2007; Krueger, 2006; Johnstone & Del Genio, 2001; Kim, 2008; Lerner & Brand, 2006; Smith, 2007). These suggested benefits include increased student perceptions of their ability to achieve at higher levels, reduced high school dropout rates, enhanced high school curriculum, recruitment for college, strong foundation for relationships between secondary and postsecondary, improved relations between college and communities, facilitated

transition between high school and college, students prepared for college level work, decreased need for remedial coursework, increased higher education completion rates, enriched student and faculty experiences, students acclimatized to the college environment, opportunities for underserved student populations, reduced cost for a college education, and students completed a degree faster.

For students, dual credit may allow a greater choice of courses, college experience, a relationship with a postsecondary institution, the opportunity to boost confidence, and a shorter time to complete requirements for both a high school and college degree. A high school student can increase their exposure to challenging coursework by enrolling in college level classes (Bailey & Karp, 2003). Research conveys that the strongest predictor of bachelor's degree completion is the level of quality and rigor of students' high school curriculum (Adelman, 1999). With dual credit, students are exposed to college coursework before they actually leave the secondary setting and enter the postsecondary setting. By participating in college courses while still in high school, students can actually determine if they are prepared. The students who are not successful in passing the dual credit course are warned of their lack of preparedness for college. Students may understand why they need to apply themselves to their high school work once they have encountered college level work (Bailey & Karp, 2003). On the other hand, when students are successful in passing the course, it can motivate them in various ways. For example, the expectations held for students in dual credit programs have led to an increase in motivation and the opportunity to earn college credit (Bailey & Karp, 2003). Students have experienced

personal advantages from participating in dual credit opportunities (Heath, 2008). Dual credit participation in many instances have experienced a special bond among other participating students, and pride in completing more challenging work (Karp, et al., 2007).

Parents often find cost savings on tuition for participants appealing (Karp et al., 2007). Saving money through dual credit is another benefit (Allen, 2010; Andrews & Marshall, 1991; Puyear, 1998). The rapidly rising cost of college has made it difficult for many students to afford such. Dual credit programs are often free or relatively low cost which promotes inexpensive access to postsecondary education for students who may have financial issues (Orr, 2002). The opportunity for a student to earn college credits prior to entering college allows them to shorten the time it takes to earn their degree and save on the overall cost of their postsecondary education (Bailey & Karp, 2003). Many high school may not consider college to be an option for them, thus further emphasizing dual credit programs may show students, as well as parents, that they can have success in college (Bailey & Karp, 2003).

Dual credit programs allow high school and college faculty to work together to demonstrate to students the importance of postsecondary education and being prepared for it. Dual credit can help high school faculty better prepare their students for the college experience. Students who fail to succeed in college often claim non-academic factors as reasons for dropping out such as being overwhelmed and prior unrealistic expectations of the college experience (Noel, Levitz, & Saluri, 1985). High school and college faculty can work together to ensure an increase in the amount of quality

information available to high school students. Furthermore, studies of individual programs show that dual credit programs add value to the high school students' educational experiences (DiPuma, 2002; Robertson et al., 2001).

### *Problems and Issues*

Aside from the aforementioned benefits, dual credit stakeholders have also identified several concerns associated with dual credit. These include funding uncertainty, program quality, course rigor, high school teachers' ability to teach college courses, program variation, limited access for underprepared students, lack of policies and credit transferability (Andrews, 2001; Clark, 2001; Heath, 2008; Johnstone & Del Genio, 2001; Kim, 2008; Kreuger, 2006; Lerner & Brand, 2006).

A primary concern of dual credit programs lies within the quality of the instruction and the academic rigor of the courses being offered (Krueger, 2006). Some researchers question if dual credit courses taught by high school teachers represent a realistic experience (Johnstone & Del Genio, 2001; Reisburg, 1998). Many dual credit courses are taught by either adjunct faculty of the college or high school teachers serving as adjunct faculty (Andrews & Marshall, 1991; Hebert, 2001; Oregon Joint Boards of Education, 2000). The Education Commission of the States suggested that dual credit and dual enrollment courses were potentially diluting the quality of postsecondary education (Krueger, 2006). Kim draws attention to the following:

Another key issue with dual credit is how to increase students' educational opportunities through dual credit while maintaining student selection criteria and maintain program quality. This is where the multiple foci of dual credit can be

perceived as contradictory. Student selection is closely interwoven with access. If student selection criteria become stricter, student access to dual credit programs will be limited. In contrast, if selection criteria become looser, students' opportunities to have dual credit experiences will increase, although broadening the constituency of the program can be viewed as lowering quality standards (2008, p. 6).

Dual credit programs have dispelled many of these negative beliefs through continuous awareness and success (Heath, 2008).

Parents often have concerns with transferability of the credits earned through a dual credit program. Often the agreement is between the local institution and the participating Local Education Agency (LEA). With this comes the uncertainty of credit transferability to another institution other than the participating stakeholders. Often with dual credit, there is no guarantee of credit transferability (Hebert, 2001). Kruegar (2006) identified a common course numbering system in Florida making the use of these credits simpler for students.

Dual credit programs can vary greatly depending on their individual state policies and local program requirements. Each model allows a high school student to enroll in or take college level classes however; they may each have distinguishing characteristics. Because they can vary, districts and schools often focus their efforts on only those programs they feel best fit their students' needs (Klekotka, 2005). This makes it difficult to get a large volume of research with consistent results. Harrington (2005) stated that despite all the cited benefits, very few studies provide empirical evidence that the

programs are supporting students' transition to college or improving college retention and graduation rates. Allen (2010) emphasizes that almost no recent statistics are available on dual enrollment and dual credit at the national level. A 2002 study from National Center for Education Statistics (NCES) reported during the 2002-03 academic year, more than half (57%) of all universities in the nation enrolled high school students in courses for dual credit (Kleiner & Lewis, 2005).

### **Theoretical Framework**

Multiple theories were used to guide this study. In the following sections Conley's Theory of College Readiness (2007), Bandura's Self-Efficacy Theory (1977), and Social Cognitive Theory, which has been noted as stemming from the work of Albert Bandura (1977), are explored as their significance to this study.

#### *College Readiness*

As jobs continue to require more technology knowledge and the diversity of these job requirements increase, the basic skills which were once adequate to compete in today's workforce are not sufficient and education will be needed to fulfill the skills needed to do these jobs well (Bailey & Mingle, 2003; Kirst & Venezia, 2007). Thus the need for education beyond high school is imperative. Along with that need for continuing education comes the concern of college readiness.

In a 2009 speech to a joint session of Congress, President Barack Obama expressed the need to help students seeking higher education have access to and be able to attain education. He stated the following:



Right now, three-quarters of the fastest growing occupations require more than a high school diploma. And, yet, just over half of our citizens have that level of education, we have one of the highest dropout rates of any industrialized nation and half of our students who begin college, never finish. This is a prescription for economic decline, because we know the countries that out-teach us today will out-compete us tomorrow. That is why it will be the goal of this administration to ensure that every child has access to a complete and competitive education—from the day they are born to the day they begin a career (Higher Education for Everyone, 2009, p. 10).

The above quote, came from an article featured in the *Winston-Salem Journal* (2009) entitled Higher Education for Everyone: Is Obama's Vision Even Possible? The speech given by President Obama offered an optimistic promise to the educational needs of the country; however, these needs for continuing education, including college readiness improvement, are not something new (Bailey & Mingle, 2003; Educational Testing Services, 2007; McCabe, 2000). Student college readiness is seen as one of the most critical issues challenging higher education today. Students' shortcoming of academic preparation has led to the development of many student programs, all with the intention of getting students better prepared to be successful in the postsecondary setting. Preparing high school students for college level work and future employment in the global economy has been on the agenda for many states across the country (Haycock, 2006). Although this is not a new problem, it is one that has become increasingly

important is the last several years because the majority of jobs in the United States require postsecondary education.

In most situations, a student's admission to college is determined by their high school GPA because it is seen as an indicator of academic success. An extensive body of research identifies high school GPA as a strong predictor of college success (Irvine, 1966; Astin, 1993). Noble (1991) states a strong literature base exists which supports high school grades and overall GPA as a predictor of college success. In several individual studies over a period of 20 years, Schwartz & Washington (2002) validate that high school GPA is a predictor of college success. The body of knowledge indicates that academic self-efficacy is positively related to GPA and persistence rates in college (Bong, 2001, Noble, 1991). Students in this study were asked to identify their current GPA.

Although the importance of standardized testing as a way of predicting college readiness snowballs throughout the country, many are under the credence that scoring well on these exams corresponds to college readiness. However, more than 50% of students who pass standardized tests are still required to enroll in remedial classes (Smith, 2006). Research also indicates that students are less likely to graduate from college if they are academically underprepared (Adelman, 2006). There is also a gap between what high schools require for successful academic achievement and what colleges require for success (Venezia, et al., 2003; McCabe, 2000).

In a national study on career decision making among high school youth, researchers at Ferris State University found that 68 % of students surveyed nationally

planned to attend a four-year school, while 26% planned to attend a community college or technical school (Hurley & Thorp, 2002). Although the number of students planning to attend college appears positive, the issue of college readiness becomes a concern.

Since standardized tests may not be the best predictors of college readiness, it is important to explore other possibilities. A NCES study characterized these possibilities as predictors in four categories: before college, enrollment, college achievement, and post-college (Perna & Thomas, 2006). Although the NCES research produced a comprehensive list of 10 indicators of college success, it does not examine all 10 (Lawson, 2011). For the sake of this literature review, the focus will remain in the before college category, due to the connection with the MTSU ABAS dual credit program's interest in improving college readiness for students by exposing them to postsecondary level work prior to entering it.

According to Lawson (2011), the best predictor of college readiness is the preparation one receives during high school. Students receive the best preparation when they successfully complete the most rigorous college centered classes while in the secondary setting (Adelman, 2004; Adelman, 2006; Engle, 2007; Perna & Thomas, 2006). Although all courses can be rigorous, one of the intentions of the program researched in this study was to provide students with more rigorous coursework compared to non-advanced courses and prepare them for the academic challenges of postsecondary education. Many states, as seen in a previous section of this literature review, have implemented programs such as dual credit and dual enrollment to improve college readiness. These state initiatives are an outgrowth of the federal government's

No Child Left behind Act of 2001, which mandates the elimination of the achievement gaps which exist between groups of students within the nation's schools (U.S. Department of Education, 2004). The groundwork for this legislative reform of American K-12 education is attributed to the Business Roundtable, an association of executive officers of leading U.S. companies that are committed to promoting economic growth, and a well-trained U.S. workforce for future competitiveness (Business Roundtable, 2008).

#### *Conley's Theory of College Readiness*

In a report prepared for the Gates Foundation, Conley (2007) defined college readiness as “the level of preparation a student needs to enroll and succeed without the need for remediation in a credit based general education course at the postsecondary institution” (p. 5). In more than 40 states this need for remediation is being closely monitored by the state legislative bodies. Many states have implemented standardized testing, graduation tests, and curriculum reform in different academic areas. An example of this is in Minnesota. Minnesota has focused effort on analyzing the state's high school to college transition issues and has implemented several initiatives such as graduation standards which align with college preparation curriculum, improved documentation of students' achievement, and developmental education opportunities facilitated by early assessment and reporting (Crist, Jacquart & Shupe, 2002).

The emphasis on college readiness has led to an increased use of assessments and data concerning student academic abilities. Nevertheless, college readiness is not only concerned with scores on national tests but high school grades, cognitive strategies,

content knowledge, and attitudes (Conley, 2007). Conley defined college readiness in his 2007 report and conveyed a student is considered college ready if he or she can master four “key components”: 1) key cognitive strategies; 2) key concepts; 3) academic behaviors; 4) contextual skills and awareness. Key cognitive strategies include critical thinking skills that students acquire through continuous education. Key concepts are defined as the content knowledge students possess in order to complete college classes. He recognized academic behavior as one of the key components for a student to be considered college ready. Conley defines academic behaviors as those necessary for academic success, including “self-monitoring, self-awareness, and self-control”. Lastly awareness, as it pertains to “college awareness”, such as admission and financial aid processes as well as the logistics of the college environment. Despite the importance of these multiple components, the emphasis for this study was on the academic behavior and awareness associated with college readiness and their relationship to the MTSU dual credit program.

#### *Bandura’s Theory of Self-Efficacy*

Self-efficacy is one’s self-judgments of personal capabilities to initiate and successfully perform specified tasks at designated levels (Bandura, 1977, 1982, 1990). Bandura (1989) later expanded the definition of self-efficacy to also refer to people’s beliefs about their ability to exercise control over things that affect their lives, as well as beliefs in their capabilities to secure motivation, cognitive resources, and protocol needed to exercise control over task demands . It is concerned not with the skills one has, but with judgments of what one can with whatever skills he possesses (Bandura,

1986). Self-efficacy beliefs are dynamic and domain specific, meaning that perceived beliefs about self must be applied to a specific task (Priest, 2008). Although it may seem clear cut, self-efficacy is a multifaceted construct that involves a) level or difficulty of the task, b) generality, which refers to transferability of efficacy beliefs among different tasks and c) strength, which refers to the confidence one has in their ability to perform a task (Zimmerman & Cleary, 2006). These factors coincide to determine whether one engages in a task or avoids it.

A task in which self-efficacy was applied in this study was the MTSU dual credit program curriculum delivery, where prior college experience through course participation coupled with preparatory exams and postsecondary awareness could boost self-efficacy beliefs based on previous assessment performance and confidence felt when credit is earned at the completion of the dual credit course. In the domain of college readiness, this means students may move confidently into or even consider postsecondary education in cases where they initially felt unconfident to do such because they believe they have the capability to be successful (Niles & Harris-Bowlsbey, 2005).

The strongest foundation of self-efficacy comes from mastery experiences that provide a source of efficacy based on real mastery of experiences (Bandura, 1982). In the case of the dual credit program in this study, the more successes a student experienced, the higher their perceived self-efficacy. Successfully passing a preparatory exam strengthens the sense of self-efficacy and makes the student more likely to have confidence needed to take another exam, thus seeking college credit. If a student is not successful in passing a preparatory exam, study skills learned while working to

overcome the situation provides the individual with a stronger sense of self-efficacy. Failure to pass a college level preparatory exam decreases self-efficacy beliefs for a behavior. The effects of failure on personal self-efficacy have greater value depending on how important the experience is weighed. In the case of a dual credit course, where the value on success of this task is high, not being successful or completing the course could have an impact on an individual's college readiness self-efficacy.

Self-efficacy can also come from social modeling, which occurs when an observer witnesses an individual perform a task that he or she feared. The observer overcomes his or her fear by witnessing someone equal to him or her achieving success in a task, "seeing people similar to oneself succeed by sustained effort raises observers' beliefs that they too possess the capabilities to master comparable activities to succeed" (Bandura, 1994, p.73). A student can develop positive self-efficacy by safely experiencing the situation through another student. Modeling is successful because it provides information about a task and improves students' expectations that the task can be mastered (Schunk, 1991). Peer modeling can be effective among students because the models are similar to the individual observing and this encourages feelings that the task can be accomplished (Schunk, 2003). In the study reported in this dissertation, this technique allows a student to develop self-efficacy by experiencing someone else such as a teacher or a classmate successfully demonstrating the task of completing college level material.

Verbal persuasion is a skill that is used to encourage an individual to do things that he or she believes, for whatever reason, that he or she cannot do. Bandura (1994)

stated that people can be persuaded to believe they have the abilities necessary to succeed in tasks given to them. These are often tasks that people want to do but fear they do not possess the skills needed. For example, a student participating in the dual credit program in this study could experience verbal persuasion from the high school teacher, classmates, the dual credit coordinator and/or a school counselor. Bandura (1982) heeds that verbal persuasion is limited because it is related to an individual's perception of their abilities. In other words, individuals must first believe they can achieve the goal, despite strong persuasion (Bandura, 1982). A dual credit student who is nervous about the rigors of college coursework may interpret that nervousness as a lack of ability to complete the college coursework. In the case of postsecondary education, no matter how much the student is verbally encouraged, an individual will not pursue postsecondary education if he or she feels success is not attainable. The higher a student's college readiness self-efficacy, the more likely they are to succeed in college (Bean and Eaton, 2000).

The strongest foundation of self-efficacy comes the authentic mastery of experiences (Bandura, 1982). An example of this would be students' individual success experiences. The more successes the student experiences, the higher his or her perceived self efficacy. When a student performs a task successfully, (such as scoring well on a college level preparatory exam or activity), the success strengthens the sense of self-efficacy and makes the individual more likely to try other activities (such as another preparatory exam or even another dual credit course). This would also hold true in the handling of a crisis or difficult situation. In some cases there are specific skills learned to



overcome a difficult situation and thus provide the individual with a stronger sense of self-efficacy. Failure with a task decreases self-efficacy beliefs for the task. This means that when an individual fails to complete a task or meet a goal that is weighed as high value, that value will have a large impact on the individual's life. In the case of a high school student participating in a dual credit course, where social value on the success of the course is evident, not being successful or completing the course with a passing grade can have a huge impact on college readiness self-efficacy in future postsecondary endeavors.

Several instruments have been created to measure self-efficacy. An example of this is the Teachers' Sense of Efficacy Scale (TSES). This scale measures teachers' beliefs of their self-efficacy in the classroom by focusing on three factors: instructional strategies, classroom management, and student engagement (Tschannen-Moran & Hoy, 2001). The College Self-Efficacy Inventory (Solberg, O'Brien, Villareal, Kennel, & Davis, 1993) is a self-efficacy instrument that measures overall college self-efficacy (SE) with four self-efficacy subscales: Course SE, Roommate SE, Social SE and Social Integration SE. The College Academic Self- Efficacy Scales (CASES) was created by Owen and Froman in 1988 and focuses on students' beliefs regarding academic self-efficacy. Each of these instruments measured a specific domain of self-efficacy. For the purposes of this study, the College Self-Efficacy Inventory (Solberg, et al., 1993) was used to measure overall college self-efficacy of college readiness among dual credit course participants and non-participants.

### *Social Cognitive Theory*

Social cognitive theory (SCT) refers to a model of behavior that emerged from the work of Bandura (1977). SCT was originally driven on the accession of social behaviors and emphasizes much of what is learned is done so through observation. SCT has been used repeatedly by those interested in understanding classroom motivation and learning (Pajares, 1996; Schunk & Zimmerman, 1994; 1998). For example, classroom learning is influenced by factors within the academic environment, especially the reinforcements experienced by one self and by others (Gruber, 2011).

Social Cognitive Theory provides a construct for how self-efficacy can be used to improve college readiness for high school students. SCT assumes that individuals can consciously change their cognitive abilities (Bandura, 1986). This is significant to the idea that self-efficacy can be altered and/or advanced. Accordingly, individuals are able to influence their individual performance by increasing their academic self-efficacy. Cognitive learning assumes that psychological factors are important in influencing how an individual behaves (Bandura, 1982). Social Cognitive Theory outlines three requisites for individuals to learn and model behavior; these are a) retention (recalling what was observed), b) reproduction (capability of reproducing the behavior), and c) motivation (desiring to adopt the behavior) (Bandura, 1977). Social Cognitive Theory provides a means to understand, predict, and change human behavior (Gruber, 2011).

Self-efficacy theory assists in determining human motivation (Bandura, 1989). Students with greater self-efficacy show more confidence in their academic ability to be successful when compared to their peers with lower self-efficacy. Self-efficacy is often

explored when determining students' motivation in academic settings (Pajares, 1996). Congruent with the beliefs of SCT, self-efficacy is viewed as a result of a student's own past performances and the observation of others in the learning environment (Bandura, 1997). Since 1977, researchers have investigated the role self-efficacy plays on academic achievement and have continuously linked self-efficacy to academic performance (Multon, Brown, & Lent, 1991; Zimmerman, Bandura, & Pons, 1992). Pajares (2002) stated that self-efficacy is the most constant predictor of student outcomes, considering the significant role self-efficacy has played in research. Bandura (1994) asserts that people can be convinced they can succeed in tasks given to them. These are referred to as verbal persuasion. Individuals must first believe they can accomplish the goal, no matter how strong the persuasion (Bandura, 1982).

A review of the literature in agricultural education yielded no research that examined the effect or influence of an agricultural dual credit course on college readiness self-efficacy. However, there were studies using SCT and Self-Efficacy theory to evaluate the effects of various treatments on specific populations (Fraze, Wingebach, Rutherford, & Wolfskill, 2011; Wolf, Foster, & Birkenholz, 2010).

### **Summary**

Extensive research has been conducted and is rich in claims of positive outcomes for dual credit and dual enrollment programs in the United States. These type programs have been documented as early as 1876 and some have more than 40 years of existence in their history. Dual credit gives a student the opportunity to earn college credit while in the high school setting. Dual credit gives the student a "taste of college" before they

actually enroll in and attend a university. Iowa, Ohio, Minnesota, Florida, New York, Illinois, and Indiana, to name a few, have a multitude of data in support of the benefits of dual credit. As with any other program, there are issues with dual credit. However, literature reviews show the benefits outweigh the problems time and time again.

High school reform and educational accountability have led to increased use of assessments and a plethora of data about student academic abilities (Schultz, 2007). Over the past two decades, the body of knowledge shows numerous efforts have been made to ease the transition from secondary to postsecondary education. This transition and college readiness is concerned with not only test scores, but a multitude of other factors. College readiness has varying definitions. Conley (2007) refers to college readiness as the level of preparation a student needs to enroll and succeed without remediation. Studies reveal a push nationwide to increase the number of students receiving postsecondary education. This focus stems from the fact that a large percentage of future jobs in the US will require a level of postsecondary education. With this focus comes the issue of college readiness and how to improve college readiness for students. Summative studies lead us to believe prior college experiences before enrollment in college can improve the level of college readiness for a student.

The literature review provided evidence academic self-efficacy is a strong predictor of college success. Self-efficacy is concerned with a student's beliefs in their ability to accomplish a specific task (Bandura, 1977). Personal past experiences of mastery, ability, and persuasive support are factors in which self-efficacy are built upon. Many studies show high academic self-efficacy to be a strong indicator of academic

achievement. Students whose sense of efficacy was raised set higher goals, achieved higher academically, and were more precise in evaluating the quality of their performances than were students led to believe they lacked such capabilities (Bandura, 1997).

This body of knowledge leads us to believe that increasing and improving academic self-efficacy through a dual credit program like the MTSU ABAS program designed to “coach” students into postsecondary education, will lead to an increased level of college readiness. This increased confidence will ultimately lead to more students pursuing postsecondary education. However, research is lacking in the areas of how to increase or improve self-efficacy, investigating programs that are designed to increase or improve self-efficacy, and whether these programs actually do increase or improve academic self-efficacy. Therefore it is important to begin studying these areas of self-efficacy and college readiness and ways to improve them.

## **CHAPTER III**

### **METHODOLOGY**

In an effort to evaluate the personal characteristics, postsecondary plans, program perceptions and college readiness self-efficacy, a quantitative survey instrument was used to gather data and analyze information on high school students enrolled in agricultural education in both dual credit and non-dual credit courses primarily in the Middle Tennessee Region. Chapter III will discuss the research design, review the study population, explain the instrument used, and describe the data collection process.

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

The purpose of this correlational and descriptive study was to examine the influence of an agricultural dual credit course curriculum on student self-efficacy of college readiness. The study attempted to measure the impact of student participation in an agricultural dual credit course curriculum.

The following objectives were explored:

1. Describe students' personal characteristics, postsecondary plans, and self-efficacy of college readiness.
2. Describe and compare the relationships between personal characteristics, postsecondary plans, and self- efficacy of college readiness.
3. Describe student perceptions of the dual credit program.
4. Describe and compare students who participated in dual credit and those who did not on self-efficacy of college readiness.

## **Research Design and Population**

Survey research was employed to describe students' personal characteristics, post secondary plans, and self-efficacy of college readiness and to identify student perceptions of an agricultural dual credit program. A post-test only static-group comparison (Campbell & Stanley 1963) design was used to explain the relationship between personal characteristics, post secondary plans, and self- efficacy of college readiness and to compare students who participated in dual credit and those who did not on self-efficacy of college readiness.

A total of 244 students (156 males and 88 females) participated in this study. These were students enrolled in high school between August 2011 and June 2012. The students in this study ranged from 15-18 years of age. A total of 116 students were participants in the agricultural dual credit course (experiment group), and a total of 133 students were in an agriculture course that did not have a dual credit option (control group). Each group of students had the same agricultural education teacher at their respected high school.

The target population ( $N = 543$ ) for this study was defined as students at 16 schools where the agriculture dual credit courses were offered with the Middle Tennessee State University, School of Agribusiness and Agriscience in the 2011-2012 academic year. A nonprobabalistic sampling of an intact group included 245 students from 16 secondary agricultural programs in seven different school districts across Tennessee, primarily in the Middle Tennessee region (See Table 3-1). Access was limited to the 245 students because of lack of written parental consent (See Appendix B).

The eligible students needed to be enrolled in an agricultural education class taught by a high school teacher. The students were informed about the program by a network of school counselors and teachers. The students were also informed that participation in this study would in no way impact their future admission to the university offering the program nor another university.

Sixteen high schools in the Middle Tennessee region participated in the dual credit course in the 2011-2012 school year. Each of the schools also had a group that did not participate in the specified course offering as the control group. There were  $n = 205$  dual credit students in the experimental group and 338 students in the control group not in the dual credit course. Students from both groups at each school who completed the web based survey instrument had the same agricultural education teacher. The intact treatment group was represented by students ( $n = 116$ ) already enrolled in the dual credit course, and the control-group included a similar set of students ( $n = 133$ ) in a different course without the dual credit option taught by the same teacher at each respected school. This study was approved by Middle Tennessee State University Office of Research Compliance (IRB Protocol Number: 12-287) (See Appendix C) following the completion of the Human Research Curriculum Research Report (See Appendix D)

### **Study Variables**

Independent variables included personal characteristics, post-secondary plans, and dual credit participation. The dependent variable in this study was positive college readiness self-efficacy. Self-efficacy refers to the beliefs in one's capabilities to organize and carry out the course of action required to manage a situation (Bandura,



1982). In this study, self-efficacy beliefs were examined with college readiness beliefs, defined as an individual's beliefs that he or she would be ready for college level work (Conley, 2007).

Self-efficacy of college readiness was measured as a continuous variable using the College Self-Efficacy Inventory (CSEI) (Solberg, et al., 1993) (See Appendix A for a copy of the CSEI instrument). Students responded to a 22-item summated rating (Likert-type) scale with questions ranging from 1 = very unconfident, 2= unconfident, 3= neither confident nor unconfident, 4= confident and 5 = very confident. Responses were summed to obtain college readiness self-efficacy scores that could range from 22 (the lowest amount of confidence) to 110 (the highest amount of confidence).

Table 3-1.

*Schools and Student Respondents (N = 245)*

High School	<i>Respondents (f)</i>	<i>Respondents (%)</i>
High School #1	27	11.1
High School #2	10	4.1
High School #3	22	9.1
High School #4	27	11.1
High School #5	13	5.3
High School #6	25	10.3
High School #7	25	10.3
High School #8	8	3.3
High School #9	19	7.8
High School #10	8	3.3
High School #11	11	4.5
High School #12	1	.4
High School #13	6	2.5
High School #14	34	14.0
High School #15	2	.8
High School #16	5	2.1

## **Internal Validity**

According to the Campbell and Stanley (1963) major threats to internal validity for a static-group comparison are maturation, selection, and mortality. Maturation and mortality do not appear to be a factor of concern because intact classes at each school were used as the treatment and control group. Selection is a factor of concern because those students enrolled in the dual credit course self-selected into the course and may be different than those not in the dual credit course for a variety of reasons unknown to the researcher.

## **Instrumentation**

The researcher-developed instrument was adapted from Solberg's (1993) instrument measuring the confidence in completing tasks associated with being a student in college (See Appendix A). Dr. Scott Solberg was contacted via email (See Appendix E), and he responded via email with permission (See Appendix F) to use his instrument for the study. Perceptions of dual credit (1=Strongly Disagree, 2=Disagree, 3=Neither Agree or Disagree, 4=Agree, and 5=Strongly Agree) and college readiness (1=Very Unconfident, 2=Unconfident, 3=Undecided, 4=Confident, and 5=Very Confident) variables were incorporated in a summated rating scale. The instrument was also designed to gather demographic information, nominal data, and ordinal data regarding the participants' experiences in the Middle Tennessee State University School of Agribusiness and Agriscience dual credit program. Specifically, data related to personal characteristics, college readiness self-efficacy, and post-secondary plans used

categorical items (i.e. Yes, No, or Maybe) and open-ended questions. A copy of the instrument can be found in Appendix G.

Somewhat different in the instrument was the way GPA was reported. A survey performed by the Tennessee Department of Education (2007) revealed that approximately 30 percent of districts use a weighted 5.0 scale, while the remaining 70 percent use a traditional 4.0 scale. GPA in this study went above 4.0 to 5.0 to ensure that any honor student who may have scored above a 4.0 because of advanced placement classes would have a chance to respond accurately.

The instrument consisted of 23 items. This study reported on and sought to determine personal characteristics, postsecondary plans, self-efficacy of college readiness, program perception and differences in college readiness of dual credit and non-dual credit students. There were also a variety of other questions asked which are not reported in this study, such as perceptions of high schools experiences, college choice, and factors influencing student decision to participate in dual credit. These additional questions were added at the request of MTSU ABAS administration and departmental faculty.

A primary focus of the study sought to determine college readiness self-efficacy. This was done with the Solberg's (1993) College Self-Efficacy Inventory (CSEI). The instrument's constructs consisted of: Course SE, which addressed one's confidence in ability to research a term paper, write a course paper, do well on exams, manage time efficiently, take class notes, keep up to date with your school work and understand your textbooks. Social SE consisted of one's confidence in participating in class discussion,

asking questions in class, talking to professors in and out of class, working on a group project, and talking to academic and support staff. Roommate SE addressed one's ability to divide space, chores and get along with others you live with. The fourth factor Social Integration, dealt with one's connection to the institution and personal confidence in joining an intramural sports team or student organization and the confidence level to get a date when you want one.

Solberg, et al (1993) validated construct validity with principal component analyses with varimax rotation. Coefficient alpha reliability of the CSEI was noted as .86 for Course Self-efficacy, .89 for Social Self-efficacy, .79 for Roommate Self-efficacy, and .62 for Social Integration Self-efficacy. A Chronbach's Alpha was calculated to determine reliability for this study to be .87 for Courses SE (8 items), .87 for Social SE (7 items), .77 for Roommate SE (4 items), and .54 Social Integration (3 items).

### **Data Collection**

Twelve weeks prior to administering the surveys and collecting data, the researcher emailed a letter requesting permission to conduct the survey to the school superintendents in the participating counties (See Appendix H). The superintendents were instructed to respond via email indicating permission. Once superintendent approval was obtained, an email was sent seeking permission to conduct the survey to each individual school principal within the county (See Appendix I). The principals were instructed to respond via e-mail indicating permission. During the weeks that permission was being sought, the researcher visited each of the participating schools. At

this time the teacher, as well as the students were informed about the research being conducted. The researcher also informed the students they had a right to opt out of the study by not completing the online instrument. The students were informed they must submit a parental consent form if they were 17 years of age or younger, before they would be allowed to complete the online survey (See Appendix B). In the weeks that followed and upon receiving the informed consent from superintendents and principals, teachers were e-mailed the parental consent form to copy and distribute to students participating in the study. Once the permission forms were collected, they were then mailed to the researcher. Teachers were contacted via telephone then e-mailed a link to the survey. The teachers then directed the participants with parental consent as a group to complete the instrument online through Survey Monkey. Upon completion of the survey, all data were downloaded from Survey Monkey into Excel and formatted in Excel. The data were then transferred into and analyzed using the Statistical Package for Social Sciences (SPSS) Version 18.0 computer program for Microsoft Windows.

### **Data Analysis**

Frequencies and percentages were used to describe personal characteristics (i.e. FFA member, demographics), college plans, and dual credit participation or not. Means and standard deviations were used to describe college readiness self-efficacy and perceptions of the dual credit program. To describe if gender, FFA membership, first generation college student status, college application status, acceptance status, and current major choice were related to college readiness self-efficacy *t-test* were performed. Analysis of variance (ANOVA) was used to determine GPA, year in school,

and ethnicity impacts on CSEI. ANOVA was used to determine the relationship between post-secondary plans and college readiness self-efficacy. Omega-squared was hand calculated to determine the effect size of differences on ANOVA analysis (Keppel, 1991) and Cohen's  $d$  (1977) was calculated for  $t$ -test analysis to compare dual credit participants and non-participants on college readiness self-efficacy. All results are reported in Chapter IV.

## **CHAPTER IV**

### **RESULTS**

Chapter I described the background and intentions of dual credit programs in the United States as well as the significance of the study. The primary purpose of this study was to examine the influence of an agricultural dual credit course curriculum on agricultural education student self-efficacy of college readiness as they matriculate to post-secondary education. The study attempted to measure the impact of student participation in an agricultural dual credit course curriculum model. Another purpose of the study was to determine the relationship between student participation in a dual credit course offering and college readiness self- efficacy as well as student perceptions of the course offering. Specifically, this study sought to:

The study was guided by the following objectives:

1. Describe students' personal characteristics, postsecondary plans, and self-efficacy of college readiness.
2. Describe and compare the relationships between personal characteristics, postsecondary plans, and self- efficacy of college readiness.
3. Describe student perceptions of the dual credit program.
4. Describe and compare students who participated in dual credit and those who did not on self-efficacy of college readiness.

Chapter II provided a theoretical framework and the research relevant to this study. A large body of literature was examined to convey dual credit history, benefits



and problems associated with dual credit, the MTSU program, college readiness and self-efficacy as it relates to the study.

Chapter III described the methods used to conduct the study. Specifically the context of the study, the research design, subjects, instrumentation, procedures, and analysis of data were discussed. The independent variables in the study were personal characteristics, postsecondary plans and student participation in the dual credit program. The dependent variable in the study was student self-efficacy of college readiness. The quantitative research methods employed in the study were descriptive and inferential.

Chapter IV is organized in terms of the four specific research questions posed in Chapter I. It first reports students' personal characteristics, postsecondary plans, and self-efficacy of college readiness. The next objective reports any significant relationships between students' personal characteristics, postsecondary plans, and self-efficacy of college readiness. Next, student perceptions of the dual credit program are explored followed by a comparison of dual credit students and non-dual credit self-efficacy of college readiness.

During data collection, participants were directed by their high school agriculture teacher to complete the online instrument. The online instrument was hosted on the Survey Monkey software website. Participants were instructed to only complete the instrument one time.

## **Objective One**

### *Describe Students' Personal Characteristics, Postsecondary Plans, and Self-Efficacy of College Readiness*

Two hundred forty five respondents completed the online survey instruments, seven were high school freshman (2.9%), 48 were sophomore (19.6%), 68 were junior (27.8%), and 122 were senior (49.8%) (See Table 4-1). Of the 245 respondents, 156 were males (63.9%) and 88 were females (36.1%). One respondent failed to identify gender. The sample of student respondents reflected 223 were Caucasian (94.9%), seven were African American (3%), five were American Indian (2.5%), and 10 student respondents failed to identify ethnicity. Of the student respondents, 185 identified themselves as FFA members (76.4%) and 57 as non- FFA members (23.6%). Three respondents failed to identify FFA member status.

Table 4-1

*Personal Characteristics (n = 245)*

	<i>f</i>	<i>%</i>
<b>Rank</b>		
Freshman	7	2.9
Sophomore	48	19.6
Junior	68	27.8
Senior	122	49.8
<b>Gender</b>		
Male	156	63.9
Female	88	36.1
<b>Ethnicity</b>		
Caucasian	223	94.9
African American	7	3.0
American Indian	5	2.1
<b>FFA Member</b>		
Yes	185	76.4
No	57	23.6

### *GPA*

Of the sample ( $n=245$ ), 33 students had a GPA of 4.1 or above (13.5%), 50 students 3.6 - 4.0 GPA (20.5%), 65 students 3.1 – 3.5 GPA (26.6%), 64 students 2.6 – 3.0 GPA (26.2%), 28 students 2.1 – 2.5 GPA (11.5%) and four students identified themselves as having a 2.0 or below GPA (1.6%) (Table 4-2). One student failed to identify their GPA.

Table 4-2

*Participant GPA (n = 245)*

	<i>f</i>	<i>%</i>
4.1 or above	33	13.5
3.6 - 4.0	50	20.5
3.1 - 3.5	65	26.6
2.6 - 3.0	64	26.2
2.1 - 2.5	28	11.5
2.0 or below	4	1.6

### *Student College Aspirations*

Of the sample ( $n=245$ ), 189 students identified themselves as college bound (77.1%), 15 students identified themselves as not being college bound (5.4%), and 42 students indicated they may or may not attend college (17.1%). Forty of the student

respondents identified themselves as the first in their family to attend college (17.3%) and 191 students recognized themselves as not being the first in their family to go to college (82.7%). Fourteen students failed to respond to this question. Of the 189 student respondents who answered yes to attending college (77.1%) and the 42 respondents who answered maybe to attending college (17.1%), 79 students claimed to have submitted an application (35%), while 147 of those planning to attend college claimed to have not yet submitted an application (65%). Sixty-four of the student respondents identified themselves as already being accepted to college (27.9%), while 165 students (72.1%) had not been accepted at the time the data were collected. Of the 189 student respondents who answered yes to attending college (77.1%) and the 42 respondents who answered maybe to attending college (17.1%), 127 identified themselves as having decided upon a major (55.7%) . One hundred one students identified themselves as not yet choosing a major (44.3%).

A comparison of means between those students participating in a dual credit program and those students not participating in a dual credit program shows no difference in intent to attend college;  $t(243) = .03, p > .05$ . A comparison of means between those students participating in a dual credit program and those students not participating in a dual credit program shows no difference in whether students would be the first to attend college;  $t(229) = .00, p > .05$ . A comparison of means between those students participating in a dual credit program and those students not participating in a dual credit program shows those participants in a dual credit program were more likely to have submitted a college application than those not participating in a dual credit

course program;  $t(224) = 2.65, p < .05$ . A comparison of means between those students participating in a dual credit program and those students not participating in a dual credit program shows those participants in a dual credit program were more likely to have been admitted to a college than those not participating in a dual credit program;  $t(227) = 2.15, p < .05$ . This finding may be a result of those not participating in a dual credit program having not yet applied to college. As a result, recommendations based on this finding are not offered. A comparison of means shows no difference in intent to go to college and choice of a major by participation in a dual credit program;  $t(226) = .10, p > .05$ .

(See Table 4-3)

Table 4-3

*Student College Aspirations (N = 245)*

<i>Question</i>	<i>Dual Credit</i>		<i>Non Dual Credit</i>		<i>Total</i>	
	<i>f</i>	<i>%</i>	<i>f</i>	<i>%</i>	<i>f</i>	<i>%</i>
Do you plan to attend college?						
Yes	86	76.1	103	78.0	189	77.1
No	9	8.0	5	3.8	14	5.4
Maybe	18	15.9	24	18.2	42	17.1
Will you be the first in your family to attend college?						
Yes	18	17.3	22	17.3	191	82.7
No	86	82.7	105	82.7	191	82.7
Have you submitted a college application?						
Yes	45	44.1	34	27.4	79	35.0
No	57	55.9	90	72.6	147	65.0
Have you been accepted?						
Yes	36	35.3	28	22.2	64	27.9
No	67	65	98	77.2	165	72.1
Have you decided on a major?						
Yes	57	55.3	70	56.0	127	55.7
No	46	44.7	55	44.0	101	44.3

College Self-Efficacy Inventory (CSEI) scores were reported through the following constructs: Course Self-Efficacy (CSE), Social Self-Efficacy (SSE), Roommate Self-Efficacy (RSE), and Social Integration Self-Efficacy (SISE). The overall CSEI course self-efficacy scores ranged from a minimum score of 10 to a maximum score of 40. Overall participants tended to be confident ( $M=3.83$ ,  $SD=.68$ ) in their college readiness self-efficacy. Students enrolled in dual credit programs were

confident ( $M=4.0$ ,  $SD=.56$ ) and students not enrolled in dual credit ( $M=3.69$ ,  $SD=.74$ ) were confident. Mean scores comparing participant and non-participants in the dual credit program are also listed in Table 4-5, and these differences will be highlighted under the section under objective four. (See Table 4-4)

Table 4-4

*College Readiness Self-Efficacy of Participants (N=228)*

	Dual Credit		Non-Dual Credit		Total	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
	Course self-efficacy	4.00	.56	3.69	.74	3.83
Social self-efficacy	4.14	.54	3.90	.66	4.00	.62
Roommate self-efficacy	4.06	.59	3.95	.67	4.00	.64
Social integration self-efficacy	3.64	.77	3.44	.82	3.53	.80

*Note.* Construct means (*M*) and standardized deviation (*SD*) are reported. Summated rating scale 1=very unconfident, 2=unconfident, 3=undecided, 4=confident, 5=very confident

An analysis of individual items for each construct is below in Table 4-5. Within SSE students were confident with all seven items of the scale. Within CSE students were confident with all eight items of the scale. Within RSE students tended to be confident with all items of the scale. Within SISE students tended to be confident with “get a date



when you want one” and undecided with “join a student organization” and “join an intramural sports team.”

Table 4-5

*College Readiness Self-Efficacy Inventory (N=228)*

<i>Item</i>	<i>n</i>	<i>M</i>	<i>SD</i>
<b>Social Self-Efficacy (SSE)</b>			
Make new friends in college	228	4.28	.75
Work on a group project	227	4.05	.79
Talk to your professors/instructors	228	4.01	.81
Ask a professor a question outside of class	228	3.98	.84
Ask a question in class	228	3.96	.91
Participate in class discussion	228	3.94	.81
Talk with school academic and support staff	228	3.84	.86
<b>Course Self-Efficacy (CSE)</b>			
Keep up to date with your school work	227	4.12	.83
Take good class notes	226	3.94	.82
Do well on your exams	227	3.93	.79
Manage your time efficiently	225	3.90	.83
Research a term paper	226	3.79	.97
Write a course paper	228	3.74	.99
Use a library	226	3.73	1.1
Understand your textbooks	228	3.72	.86
<b>Roommate Self-Efficacy (RSE)</b>			
Socialize with other you live with	228	4.29	.72
Get along with other you live with	228	4.12	.73
Divide chores with other you live with	227	3.95	.81
Divide space in your residence (if applicable)	226	3.83	.84
<b>Social Integration Self-Efficacy (SISE)</b>			
Get a date when you want one	227	3.96	.97
Join a student organization	228	3.48	1.1
Join an intramural sports team	227	3.18	1.23

*Note.* 1=very unconfident, 2=unconfident, 3=undecided, 4=confident, 5=very confident; N does not =228 in some instances due to item nonresponse

## **Objective Two**

*Describe and Compare the Relationships between Personal Characteristics, Postsecondary Plans, and Self- Efficacy of College Readiness*

The purpose of Objective Two was to see if there was a difference between personal characteristics, post secondary plans and self-efficacy of college readiness.

There was no relationship for student rank and CRSE. There was no relationship for ethnicity and CRSE. There was no relationship for FFA membership status and CRSE. There was also no relationship between the majority of personal characteristics and CRSE with the exception of the following.

There were gender differences for CSE. Specifically, females had higher CSE (M=4.02; SD=.60) than males (M=3.72; SD=.70), and this difference was significant,  $t(226) = 3.34, p < .05$ , Cohen's  $d = .43$ . This difference approaches a moderate effect size according to Cohen (1977).

There was also a significant relationship between GPA and each construct of CRSE. As can be seen in Table 4-7, higher GPA was related to Course SE. For these relationships, we are approaching a large effect size for Course SE ( $\Omega^2 = .12$ ). Post hoc analysis shows that those students with a GPA of 2.0 or below had statistically and significantly lower CSE scores than those students with a GPA of 2.1 or higher. (See Table 4-6)

Table 4-6

*Relationship between GPA and Overall Course Self-Efficacy (N = 227)*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>f</i>	<i>p</i>	$\Omega^2$
Overall CSE	227	3.83	.68	7.43	.00	.12
4.1 or above	33	4.10	.53			
3.6 - 4.0	48	4.12	.51			
3.1 – 3.5	63	3.83	.63			
2.6 – 3.0	56	3.56	.76			
2.1 – 2.5	24	3.67	.70			
2.0 or below	3	2.71	.36			

*Note.* 1 = very confident; 2 = unconfident; 3 = undecided; 4 = confident; 5= very confident

As can be seen in Table 4-7, higher GPA was related to SSE. For these relationships, we are approaching a medium effect size for SSE ( $\Omega^2=.10$ ). Post hoc analysis shows two homogenous sub groups: those with a GPA of 3.6 – 4.0 had statistically and significantly higher scores than those students with a GPA of 2.6 – 3.0.

Table 4-7

*Relationship between GPA and Overall Social Self-Efficacy (N = 227)*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>f</i>	<i>p</i>	$\Omega^2$
Overall SSE	227	4.01	.62	6.12	.00	.10
4.1 or above	33	4.37	.42			
3.6 - 4.0	48	4.23	.54			
3.1 – 3.5	63	3.91	.67			
2.6 – 3.0	56	3.79	.65			
2.1 – 2.5	24	3.91	.51			
2.0 or below	3	3.57	.14			

*Note.* 1 = very confident; 2 = unconfident; 3 = undecided; 4 = confident; 5 = very confident

As can be seen in Table 4-8, higher GPA was related to RSE. For these relationships we are solidly in the medium effect size range for roommate self-efficacy ( $\Omega^2 = .08$ ). Post hoc analysis shows two homogenous subgroups; those with a GPA of 3.1 – 3.5 had statistically and significantly higher RSE scores than those students with a GPA of 2.1 – 2.5.

Table 4-8

*Relationship between GPA and Overall Roommate Self-Efficacy (N = 227)*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>f</i>	<i>p</i>	$\Omega^2$
Overall RSE	227	4.01	.64	4.05	.00	.08
4.1 or above	33	4.26	.59			
3.6 - 4.0	48	4.19	.49			
3.1 – 3.5	63	4.00	.66			
2.6 – 3.0	56	3.82	.64			
2.1 – 2.5	24	3.81	.73			
2.0 or below	3	3.44	.19			

*Note.* 1 = very confident; 2 = unconfident; 3 = undecided; 4 = confident; 5= very confident

As can be seen in Table 4-9, higher GPA was related to Social Integration SE. For these relationships we are solidly in the medium effect size range for Social Integration SE ( $\Omega^2=.07$ ). Post hoc analysis shows that those students with a GPA of 2.0 or below had statistically and significantly lower Social Integration SE scores than those students with a GPA of 2.1 or higher.

Table 4-9

*Relationship between GPA and Social Integration Self-Efficacy (N = 227)*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>f</i>	<i>P</i>	$\Omega^2$
SISE	227	3.5	.80	4.47	.00	.07
4.1 or above	33	3.99	.71			
3.6 - 4.0	48	3.6	.83			
3.1 – 3.5	63	3.48	.76			
2.6 – 3.0	56	3.41	.68			
2.1 – 2.5	24	3.35	.97			
2.0 or below	3	2.33	.33			

*Note.* 1 = very confident; 2 = unconfident; 3 = undecided; 4 = confident; 5= very confident

### **Objective Three**

#### *Describe Student Perceptions of the Dual Credit Program*

Dual credit participants agreed with all of the statements regarding perceptions of the program. Dual credit participants most agreed with five items: “I have an idea of what I need to do with my career”; “I understand the time needed to study in college”; “I understand my academic strengths and what I still need to improve”; “I understand the importance of course selection”; and “I know the importance of not giving up and sticking through difficult subjects” (See Table 4-10).

Table 4-10

*Perceptions Following Completion of a Dual Credit Course (N=113)*

	<i>M</i>	<i>SD</i>
I have an idea of what I need to do with my career	4.02	.93
I understand the time needed to study in college	4.00	.80
I understand the importance of course selection	4.00	.84
I understand my academic strengths and what I need to improve	3.99	.80
I know the importance of not giving up and sticking through	3.97	.88
I have gained the skills to succeed in college courses	3.85	.86
I have met someone who can help me with college advise	3.83	1.0
I have learned how to organize my school tasks	3.81	.87
I understand college requirements	3.75	.90
I have learned helpful study strategies	3.73	.86
I have improved my study skills	3.69	.86
I understand the college application process and deadlines	3.68	.93
I have learned about support services in college	3.62	.95

Note. Scale 1=Strongly Disagree, 2=Disagree, 3=Neither Agree nor Disagree, 4=Agree, 5=Strongly Agree; Overall Scale, *M*=3.84, *SD*=.66

## **Objective Four**

*Describe and Compare Students who Participated in Dual Credit and Those who did not on Self-Efficacy of College Readiness*

Students who participated in dual credit ( $M = 4.00$ ,  $SD = .56$ ) scored higher on Course SE than non-dual credit students ( $M = 3.69$ ,  $SD = .74$ ),  $t(226) = 3.48$ ,  $p < .05$ , Cohen's  $d = .55$ . The significant difference between dual credit and non-dual credit participants on Course SE is represented by a medium effect size.

Students who participated in dual credit ( $M = 4.14$ ,  $SD = .54$ ) scored higher on Social SE than non-dual credit students ( $M = 3.90$ ,  $SD = .66$ ),  $t(226) = 3.02$ ,  $p < .05$ , Cohen's  $d = .45$ . The significant difference between dual credit and non-dual credit participants on Social SE is approaching a medium effect size.

There were no differences in dual credit and non-dual credit participants for Roommate SE and Social Integration SE. (See Table 4-11)



Table 4-11

*Comparison of Dual Credit and Non-Dual Credit (N = 228)*

	Dual Credit			Non-Dual Credit			<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>				
CSE	103	4.00	.56	125	3.69	.74	3.48	226	.00*	.55**
SSE	103	4.14	.54	125	3.90	.66	3.02	226	.00*	.45**
RSE	103	4.06	.59	125	3.96	.67	1.23	226	.22	.24
SISE	103	3.64	.77	125	3.44	.82	1.86	226	.06	.26

*Note.* Scale, 1 = very unconfident, 2 = unconfident, 3 = undecided, 4 = confident, 5 = very confident. Possible construct mean ranges: Course SE = 8-40, Social SE = 7-35, Roommate SE = 4-20, Social integration = 3-15. \*The difference between dual credit participants and non-participants is significant. \*\*Medium effect size

## **CHAPTER V**

### **SUMMARY, CONCLUSIONS, DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS**

Chapter I provided the necessary background and setting to put the purpose for the study into context. Chapter II displayed a body of literature relevant to the study with previous findings. Chapter III included the methodology used. Chapter IV provides a description of the statistical analysis of data and the results of the study. This chapter will give meaning to and expand upon the findings and their relation to the body of literature that already exists. It will also provide direction for practice and future studies.

The purpose of this correlational and descriptive study was to examine the influence of an agricultural dual credit course curriculum on student self-efficacy of college readiness. To do so the following objectives and hypotheses were developed to guide the study.

This study was guided by four objectives:

1. Describe students' personal characteristics, post secondary plans, and self-efficacy of college readiness.
2. Describe and compare the relationships between personal characteristics, postsecondary plans, and self- efficacy of college readiness.
3. Describe student perceptions of the dual credit program.
4. Describe and compare students who participated in dual credit and those who did not on self-efficacy of college readiness.

Sixteen high schools in the Middle and East Tennessee regions participated in the dual credit course in the 2011-2012 school year. All of the schools participating in this study had students complete the online questionnaire ( $n=245$ ). The target population ( $N = 543$ ) for this study was defined as students at 16 schools where the dual credit course was offered with the MTSU School of Agribusiness and Agriscience in the 2011-2012 academic year. A convenience sample/accessible population included 245 students from 16 secondary agricultural programs in seven different school districts across Tennessee, primarily in the Middle Tennessee region. Access was limited to the 245 students because of lack of written parental consent. The eligible students needed to be enrolled in an agricultural education class taught by a high school teacher. The students were informed about the program by a network of school counselors and teachers. The students were also informed that participation in this study would in no way impact their future admission to the university offering the program nor another university.

Once all Institutional Review Board (IRB) requirements had been met in regard to consent, students were directed to the website by their cooperating agricultural education teacher. These teachers were instructed of this website and its content by a personal phone call from the coordinator/researcher. Three weeks following the initial phone call, a second and final call was made by the coordinator/researcher to each cooperating teacher as a reminder.

The researcher-developed instrument was adapted from Solberg's (1993) (See Appendix A) instrument measuring the confidence in completing tasks associated with

being a student in college. Perceptions of dual credit and college readiness variables were incorporated in a summated rating scale. The instrument was also designed to gather demographic information, nominal data, and ordinal data regarding the participants' experiences in the Middle Tennessee State University School of Agribusiness and Agriscience dual credit program. Specifically, data related to personal characteristics, factors influencing the student's decision to earn dual credit, and post-secondary plans used categorical (i.e. Yes, No, or Maybe) and open-ended questions.

Survey items were coded and data were transferred into SPSS. Frequencies and percentages were used to describe personal characteristics (i.e. FFA member, demographics), college plans, and dual credit participation or not. Means and standard deviations were used to describe college readiness self-efficacy and perceptions of the dual credit program. To determine if gender, FFA membership, first generation college student status, college application status, acceptance status, and current major choice were related to college readiness self-efficacy *t-test* were performed. Analysis of variance (ANOVA) were used to determine GPA, year in school, and ethnicity impacts on CSEI. ANOVA were used to determine the relationship between post-secondary plans and college readiness self-efficacy. Omega-squared were calculated to determine the effect size of differences on ANOVA analysis (Keppel, 1991) and Cohen's *d* (1977) were calculated for *t-test* analysis to compare dual credit participants and non-participants on college readiness self-efficacy.

## **Objective One**

### *Describe Students' Personal Characteristics, Post Secondary Plans, and Self-Efficacy of College Readiness*

Half of the respondents ( $n = 245$ ) were seniors (49.8%,  $n = 122$ ), 27.8% were juniors ( $n = 68$ ), 19.6% sophomores ( $n=48$ ), and 2.9% ( $n = 7$ ) freshmen. The majority of the respondents were male (63.9%,  $n=156$ ), less than half were female (36.1%,  $n = 88$ ). From the sample the majority of the participants were Caucasian (94.9%,  $n = 223$ ), seven identified themselves as African American (3%), and five American Indian (2.5%). Of the student respondents, 185 identified themselves as FFA members (76.4%) and 57 as non FFA members (23.6%).

Of the sample ( $n=245$ ), 33 students had a GPA of 4.1 or above (13.5%), 50 students 3.6 - 4.6 GPA (20.5%), 65 students 3.1 – 3.5 GPA (26.6%), 64 students 2.6 – 3.0 GPA (26.2%), 28 students 2.1 – 2.5 GPA (11.5%) and four students identified themselves as having a 2.0 or below GPA (1.6%).

More than three-fourths of the respondents (77.1%,  $n = 189$ ) indicated they were college bound. Forty two students indicated they may or may not attend college (17.1%), while a very small percentage of the respondents (5.4%,  $n = 15$ ) identified themselves as not being college bound. Forty of the student respondents identified themselves as the first in their family to attend college (17.3%) while the majority of students recognized themselves as not being the first in their family to go to college (82.7%,  $n = 191$ ). Of the 189 student respondents who answered yes to attending college (77.1%) and the 42 respondents who answered maybe to attending college

(17.1%), 79 students claimed to have submitted an application (35%), while 147 of those planning to attend college claimed to have not yet submitted an application (65%). Sixty four of the student respondents identified themselves as already being accepted to college (27.9%), and the majority of the students (72.1%,  $n = 165$ ) had not been accepted at the time the data were collected. Of the 189 student respondents who answered yes to attending college (77.1%) and the 42 respondents who answered maybe to attending college (17.1%), 127 identified themselves as having decided upon a major (55.7%). One hundred one students identified themselves as not yet choosing a major (44.3%).

Objective one also described self-efficacy of college readiness. CSEI scores were reported through the following constructs: CSE, SSE, RSE, and SISE. The overall CSEI course self-efficacy scores ranged from a minimum score of 10 to a maximum score of 40. The mean of overall Course Self-Efficacy was ( $M=30.65$ ,  $SD=5.43$ ). The mean of overall SSE was ( $M=28.04$ ,  $SD=4.35$ ). The mean of overall RSE was ( $M=16.14$ ,  $SD=2.43$ ) and the mean of overall SISE was ( $M= 10.58$ ,  $SD=2.40$ ). A standardized mean is reported to compare the constructs since they are represented by different numbers of items. SISE seems to be lower than the other constructs.

#### *Objective One Conclusions, Discussions, and Implications*

It can be concluded that although a majority of students, regardless of their enrollment in the dual credit program or not, planned to attend college. Those students enrolled in a dual credit program were more likely to apply earlier to college than those not enrolled in a dual credit program. Because those enrolled in a dual credit program

tended to apply earlier than other students they were also more likely to be accepted to college earlier than other students.

The majority of the respondents were male, and this was consistent with findings of other agricultural education studies (Priest, 2008, Ricketts & Rudd, 2005; Walker, Morgan, Ricketts, & Duncan, 2011) and the Tennessee Department of Education (TDOE) Division of CTE (2011). The TDOE reports 60% of the state's agricultural education students as male and 40% are female. However, Touchstone (2010) conducted a dual credit study in Idaho and found a difference of 53% female and 47% male. These findings are important because it indicates the similarity of our participants with other agricultural education students across the country, allowing for a measure of generalization among our population study even with a lack of random selection.

From the sample, the majority of the participants were Caucasian 94.9% and three percent identified themselves as African American. This study's ethnicity representation is again in line with the other agricultural education studies (Lawrence, Rayfield, Moore, & Outley, 2013) and higher than the Tennessee Career and Technical Education's (2011) report of 69.81% Caucasian, while 24.58% were African American is lower. Although ethnicity demographics indicate consistency with other agricultural education programs, the imbalance limits generalization of findings, especially for programs in urban programs, for example, where ethnicity is represented by a more even distribution.

GPA was evaluated because of its strong relationship with college success (Noble, 1991; Schwartz & Washington, 2002), self-efficacy (Bong, 2001), and even

membership and level of involvement with FFA (Rayfield, Compton, Doerfert, Frazee, & Akers, 2008). With the exception of the poorest GPA category, the distribution is somewhat even across the other categories. The majority of the participants would be classified as good students by most accounts. In fact, the groups of participants in this study seem to be scoring somewhat higher than other studies citing GPA scores of high school agricultural education students. For example, Connors and Elliot (1995) and King and Kotrlik, (1995) found the average GPA of agriculture students was approximately 2.7. In the MTSU study only 1.6% of student participants identified themselves as having a 2.0 or below GPA. A 2.0 GPA indicates a grade of 70-79%. Depending on the state and individual postsecondary institution requirements, it is debatable as to what determines a “good” versus “bad” GPA. In the case of this study, if a 2.0 GPA is to be considered average, then the majority of the student respondents were in the above average range. Perhaps schools choosing to engage in dual credit opportunities foster greater performance. Whatever the case, this study not only raises more questions, it also limits the generalizability of results to the participants who were surveyed, considering research identifies high school as a strong predictor of college success (Irvine, 1966; Astin, 1993).

Burg (2002) found more than 98% of dual credit participants in a *College Now* program attended college, compared to an 85% college attendance rate in its overall graduating class. This data were also comparable with the study *Decisions Without Directions* (Hurley & Thorp, 2002), which found that nationally 68% of young people plan to attend college. Of the 231 student respondents who answered yes or maybe to



attending college in the MTSU study, more than half (55.7%) identified themselves as having decided upon a major. Less than half of the students identified themselves as not yet choosing a major (44.3%). According to Arnett (2000) the college major decision can fluctuate considering the phase of “emerging adulthood” high school students often experience. A similar agricultural education study conducted by Priest (2008) showed somewhat different results with 70.4% of 108 participants identifying themselves as having decided on a major; this could be in part to the treatment of learning activities focusing on career decision making employed by the researcher. This once again raises the question explored under students’ personal characteristics. It is possible that schools choosing to participate in dual credit programs foster greater performance. Research shows dual credit programs repeatedly show a higher percentage of students planning to attend college (Burg, 2002). Moreover, a majority of students in the MTSU agricultural education study (77.1%) had decided upon a major. These percentages are higher than the national average of 68% of young people who plan to attend college (Hurley & Thorp, 2002). It also raises the question of whether agricultural education has an effect on college attendance decisions. This also limits the generalizability of results to the participants, considering research identifies high school as a strong predictor of college success (Irvine, 1966; Astin, 1993).

CSEI scores were reported through the following constructs: CSE, SSE, RSE, and SISE. Overall students’ CSEI score indicated they were confident in their self-efficacy regardless of whether enrolled in a dual credit program or not.

According to Solberg, (1993) a student with high self-efficacy in the Course construct is takes good class notes, feels efficacious about their ability to research a term paper, understands their textbooks, writes a course paper, does well on exams, manages time efficiently, makes effective use of the library, and they keeps up-to-date on school work. Students were confident in CSE.

Students were also confident in SSE. A student with high self-efficacy in this construct can make new friends in college with ease (Solberg, et al, 1993). They are confident in their ability to visit with professors, and in their ability to work on groups in college. They are also more likely to openly participate in class discussions.

RSE includes dividing chores, getting along, socializing and dividing space. Students in this study were also confident in this construct.

Still in the range of confident, but not as high was students' self-efficacy in the SISE. This construct is represented by the ability to join intramural sports team, student organizations, or get a date when you want one (Solberg, et al., 1993).

All the participants are students of agricultural education and regardless of dual credit participation they seem fairly confident in abilities that will help them matriculate to college. The researcher supposes that agricultural education classes are helping develop confidence needed to be successful in post-secondary education. An implication exists that enrollment in a dual credit program supports students self-efficacy and may help students matriculate to college at a higher rate than other students.

## **Objective Two**

### *Explain the Relationship between Personal Characteristics, Post Secondary Plans, and Self- Efficacy of College Readiness*

The purpose was to see if there was a significant relationship between personal characteristics, post secondary plans and self-efficacy of college readiness. There was no relationship for student rank and college readiness self-efficacy (CRSE). There was no relationship for ethnicity and CRSE. There was no relationship for FFA membership status and CRSE. There was also no relationship between the majority of personal characteristics and CRSE with the exception of the following.

There were gender differences for CSE. Specifically, females had higher CSE than males. There was also a significant relationship between GPA and each construct of CRSE. For these relationships, we are approaching a large effect size for CSE ( $\Omega^2 = .12$ ), approaching a medium effect size for SSE ( $\Omega^2 = .10$ ), and solidly in the medium effect size range for RSE ( $\Omega^2 = .08$ ) and social integration self-efficacy ( $\Omega^2 = .07$ ).

The large and medium effect size is in relationship with various studies that indicate that academic self-efficacy is positively related to GPA (Bong, 2001).

### *Objective Two Conclusions, Discussion, and Implications*

It can be concluded that student rank, ethnicity, and FFA membership had no relationship to CRSE. Females had significantly higher CSE. Because females had higher CSE, they are likelier to approach courses in the postsecondary setting with more confidence than males. There were significant relationships between GPA and each construct of the CRSE. It can be concluded students with a 2.1 GPA or above will likely

approach CSE with more confidence than students with a 2.0 GPA or below. It can be concluded that students with a 3.5 GPA or higher will likely approach SSE with more confidence than students with a 3.4 or below. Students with a 3.5 GPA or higher will likely approach RSE with more confidence than students with a 3.4 or below. It can also be concluded students with a 2.1 GPA or above will approach SISE with more confidence than students with a 2.0 GPA or above. Students indicating a 2.1 or above are likelier to approach CSE, SSE, RSE, and SISE with more confidence than a student with a 2.0 GPA or below.

Finding no relationship between many of the independent variables and CRSE is important because these variables can be excluded from future plans associated with the dual credit curriculum program at MTSU. For example, it has been determined by many that FFA is a solution to many youth development issues (Dormody & SeEVERS, 1994; Ricketts, 1982), but in this study FFA membership had no bearing on CSEI, which has historically been relevant to college success. Likewise, student rank can be omitted from a model of determining college success in the context of agricultural education and dual credit. The researcher is not comfortable with making the same claim for ethnicity because of limited diversity of the sample.

The relationships that did exist were for gender and CSE and GPA and CSE. Specifically females scored higher than males on CSE. Recall that CSE is associated with confidence in taking good class notes, researching term papers, understanding textbooks, writing course papers, doing well on exams, time management, and others. The literature has noted the social deficiencies of males (Bynum, 2000; Woolfolk, 1995;

Eagly & Johnson, 1990; Ricketts, Osborne, & Rudd, 2004) but the finding that males are lagging in CSE is a new finding. Dual credit program developers, managers, and facilitators should consider encouragement and planning to assist males in improving in CSE.

GPA's positive relationship with each one of the constructs of CSEI may be a focal point of the findings in this study because it gives decision makers of the dual credit offerings a concrete decision tool for determining potential success rates following matriculation to college. Students who identify themselves as having an above average GPA are more likely to be successful in college (Irvine, 1966; Astin, 1993). The body of knowledge indicates that academic self-efficacy is strongly related to GPA (Noble, 1991; Bong, 2001, Zimmerman, 2002). Students indicating an above average GPA, could in turn be predisposed to be successful in college due to the confidence built during successful completion of high school coursework. Colleges of agriculture should continue to utilize GPA as they decide who they will recruit and accept into their programs.

### **Objective Three**

#### *Identify Student Perceptions of the Dual Credit Program*

Dual credit participants agreed with five items regarding perceptions of the program. Dual credit participants most agreed with five items: I have an idea of what I need to do with my career ( $M=4.01$ ;  $SD=.93$ ), I understand the time needed to study in college ( $M=4.00$ ;  $SD=.80$ ), I understand my academic strengths and what I still need to improve ( $M=3.99$ ;  $SD=.80$ ), I understand the importance of course selection ( $M=3.99$ ;

$SD=.84$ ), and I know the importance of not giving up and sticking through difficult subjects ( $M=3.97$ ;  $SD=3.99$ ). The scale consisted of the following: 1=Strongly Disagree, 2=Disagree, 3=Neither Agree nor Disagree, 4=Agree, 5=Strongly Agree.

### *Objective Three Conclusions, Discussion, and Implications*

It can be concluded that overall perceptions of the agricultural dual credit program were high. Karp (et al., 2007) proclaims dual credit students perceived a better atmosphere than in other courses, a connection among other participating students, and pride in attempting more challenging work. Dual credit programs allow high school and college faculty to work together to convey to students the importance of postsecondary education and being prepared for it. Perceptions of the program were positive overall. Interactions such as faculty visits to each high school, study guides, preparatory exams, the comprehensive program website, and established relationships between program faculty and teachers in the schools all could be reasonably contributing to these positive perceptions.

### **Objective Four**

#### *Compare Dual Credit and Non-Dual Credit Self-Efficacy of College Readiness*

Students who participated in dual credit ( $M = 4.46$ ,  $SD = 4.46$ ) scored higher on CCSE than non-dual credit students ( $M = 29.54$ ,  $SD = 5.90$ ),  $t(226) = 3.48$ ,  $p < .05$ , Cohen's  $d = .55$ . The significant difference between dual credit and non-dual credit participants on CCSE is represented by a medium effect size.

Students who participated in dual credit ( $M = 28.99$ ,  $SD = 3.79$ ) scored higher on SSE than non-dual credit students ( $M = 27.27$ ,  $SD = 4.64$ ),  $t(226) = 3.02$ ,  $p < .05$ ,

Cohen's  $d = .45$ . The significant difference between dual credit and non-dual credit participants on SSE is approaching a medium effect size.

*Objective Four Conclusions, Discussion, and Implications*

It can be concluded that RSE and SISE differences were nonexistent between dual credit participants and nonparticipants. Those students enrolled in a dual credit program were more likely to approach CSE and SSE with confidence than those not enrolled in a dual credit program. It can be concluded that dual credit participants are more likely to persist in college than nonparticipants.

There were no differences in dual credit and non-dual credit participants for RSE and SISE. These findings are somewhat similar to other studies tracking the success of dual credit students. The body of literature indicates support for the differences between dual credit and non-dual credit on the CSE and SSE in this study (Karp, et al., 2007, Kim, 2008). For example, dual credit has been shown to increase student perceptions of their ability to achieve at higher academic levels, reduce dropout rates, improve relations between colleges and communities, decrease need for remedial coursework, increase higher education completion rates and ease acclimation to college level work (Bailey, et al., 2002; Kruger, 2006).

However, research is lacking as to exactly what circumstances contribute to the success of dual credit students (Allen, 2010). It is for this reason self-efficacy as it stems from Social Cognitive Theory coupled with the importance of college readiness, was a focus in this study. The high expectations held for students in this program are presumed to increase their motivation by offering these students the opportunity to earn

college credit (Bailey & Karp, 2003). Following the literature review, it was presumed that exposing students to college before they actually enter the college setting would help them to better understand what to expect (Bailey & Karp, 2003). It could be assumed, based on Bandura's (1977) self-efficacy theory, that students in the Middle Tennessee Region, participating in the MTSU dual credit program, are being exposed to many college readiness efficacy-building opportunities, thus resulting in the significant relationship between dual credit participation and two of the CSEI constructs.

RSE and SISE differences were nonexistent between dual credit participants and nonparticipants, especially considering the types of items they included. Roommate self-efficacy items asked questions such as the ability to get along with others you live with, and SISE asked questions such as the ability to join an intramural sports team. Although the RSE and SISE are important constructs, they did not weigh as much as CSE and SSE in the CSEI.

Prior research shows that students with higher college readiness self-efficacy are more likely to persist in college (Bean & Eaton, 2000). Drawing tentative conclusions from these data, it could be inferred that students who go through the MTSU ABAS dual credit program may have higher levels of CRSE and SSE and in turn have higher college success rates. Since self-efficacy is improved through the successful completion and mastery of specific tasks, it could be presumed that participation in the dual credit program in this study would drive a sense of mastery through participating in and completing a college course successfully. The level of interaction with the high school



teachers, students, and dual credit coordinator/researcher could account for the positive perceptions of the program.

### **Recommendations**

The following recommendations are provided in an effort to continually strengthen existing dual credit programs and hopefully encourage other secondary and postsecondary institutions to develop dual credit programs with the hope of helping students develop their potential for college readiness self-efficacy.

#### *Recommendations for MTSU Administration*

Student perceptions of the overall program were also high, and it is important to note, the design of the study causes the researcher to extend caution in generalizing results beyond the Middle Tennessee program. However, the effectiveness of an agricultural dual credit course such as the one presented in this study cannot be ignored. In fact, now administrators and program leaders have the necessary evidence to justify continuation of the successful program as it is successful in increasing college readiness self-efficacy. Additional self-efficacy recommendations for MTSU administration follow.

1. College readiness and CRSE should be a focus of teacher workshops and in-service trainings in the Middle Tennessee Region and beyond to ensure educators understand the possible influence of dual credit on CRSE.
2. Given that the CSEI helps predict CRSE, administration and faculty at both the secondary and postsecondary level should utilize the MTSU dual credit model in future dual credit course developments and collaborations.

3. Agricultural educators at the postsecondary level should utilize these findings in this study as a basis for training future agricultural education teachers on how improve CRSE.
4. Agricultural education should continue to work with stakeholders to provide dual credit opportunities for students.

#### *Recommendations for Further Research*

As there were limitations to this study, further research would be beneficial. Conducting similar studies in different regional and state locations, possibly with a larger sample size may improve generalizability of the findings. This study cannot determine if the college readiness self-efficacy gained by students in the MTSU ABAS dual credit program will be something participants retain throughout high school into their freshman year of college or beyond. The following recommendations for further research will guide additional program development and evaluation.

1. Additional research related to environmental influences should be conducted to explain the relationship between dual credit and college readiness self-efficacy.
2. Additional research including special populations of students should be conducted and the impact dual credit has upon college readiness self-efficacy.
3. Given dual credit participants were more likely to have applied to college than nonparticipants, it may be beneficial to investigate the influence of dual credit on early college decision and application.
4. Given the higher female Course SE and Social SE, it may be beneficial to investigate the causes and impacts of the differences between CRSE and gender.

5. Longitudinal studies should be conducted to determine if students retained a level of self-efficacy upon completion of the freshman year.
6. Longitudinal studies should be conducted to follow former dual credit students to track their success onto postsecondary education and beyond.
7. Longitudinal studies should be conducted to determine what factors, if any contributed to a decline in self-efficacy and persistence rates in college.

### **Summary**

Results in this study indicated student participation in an agricultural education dual credit course in the Middle Tennessee Region had a positive effect on college readiness self-efficacy. The emphasis on college readiness has led to an increased use of assessments and data concerning student academic abilities. Nevertheless, college readiness is not only concerned with scores on national tests but high school grades, cognitive strategies, content knowledge, and attitudes (Conley, 2007). Results in this study implied that student participants will confidently approach postsecondary options namely CSE and SSE. This also implies students are more likely to be successful in the postsecondary setting due to their level of self-efficacy as they approach college. The strongest foundation of self-efficacy comes from mastery experiences that provide influential sources of efficacy information based on realistic mastery of experiences (Bandura, 1982). This implies students have a higher college readiness self-efficacy due to their participation in the MTSU dual credit program. This finding specifically related to dual credit in agricultural education is unique to the body of knowledge, and makes a significant contribution to the literature.

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## APPENDIX A

*College Self-Efficacy*

*The College Experience Survey*

### PART F

This section of the questionnaire seeks information regarding your degree of confidence in completing tasks associated with being a student at your college. You will be asked to respond to a series of statements by marking the number on the blue answer sheet which best represents your present attitude or opinion. Remember this is not a test and there are no right or wrong answers. The answer categories range from:

- |                          |                        |
|--------------------------|------------------------|
| 0 - totally unconfident  | 5 - somewhat confident |
| 1 - very unconfident     | 6 - confident          |
| 2 - unconfident          | 7 - very confident     |
| 3 - somewhat unconfident | 8 - totally confident  |
| 4 - undecided            |                        |

#### EXAMPLE:

You would mark the number (5) on the blue answer sheet if you are *somewhat confident* with:

01. Finding the Union.

Please Answer All The Items

---

Using the scale provided please mark the number on the blue answer sheet which best represents the degree to which you feel confident performing the following tasks.

- |   |   |
|---|---|
| 106. Make new friends at college                                | 117. Work on a group project  |
| 107. Talk to your professors/instructors.                       | 118. Socialize with others you live with.                           |
| 108. Take good class notes.                                     | 119. Do well on your exams.   |
| 109. Divide chores with others you live with.                   | 120. Talk with a school academic and support (e.g. advising) staff. |
| 110. Research a term paper.                                     | 121. Manage your time effectively.                                  |
| 111. Join an intramural sports team.                            | 122. Use the Library  |
| 112. Understand your textbooks.                                 | 123. Join a student organization.                                   |
| 113. Get a date when you want one.                              | 124. Ask a question in class.                                       |
| 114. Ask a professor or instructor a question outside of class. | 125. Divide space in your residence (if applicable)                 |
| 115. Get along with others you live with.                       | 126. Participate in class discussions.                              |
| 116. Write a course paper.                                      | 127. Keep up to date with your school work.                         |

## APPENDIX B

**Principal Investigator:** Alanna L. Neely  
**Study Title:** The Effects of Dual Credit on College Readiness  
**Institution:** Middle Tennessee State University

Name of participant: \_\_\_\_\_ Age: \_\_\_\_\_

The following information is provided to inform you about the research project and your child's participation in it. Please read this form carefully and feel free to ask any questions you may have about this study and the information given below. You will be given an opportunity to ask questions, and your questions will be answered. Also, you will be given a copy of this consent form.

Your child's participation in this research study is voluntary. He or she is also free to withdraw from this study at any time. In the event new information becomes available that may affect the risks or benefits associated with this research study or your willingness to participate in it, you will be notified so that you can make an informed decision whether or not to continue your participation in this study.

For additional information about giving consent or your rights as a participant in this study, please feel free to contact the MTSU Office of Compliance at (615) 494-8918

Your child is being asked to participate in a research study because he or she participates in a high school agricultural education class and may or may not be currently participating in a dual credit course with MTSU.

Your child will be asked to answer a brief survey about his or her high school experiences, learning outcomes, learning experiences and college readiness. The survey does not ask any identifiable information and is strictly anonymous.

We hope to determine the effectiveness of your child's participation or non participation in the dual credit program.

The survey is totally optional and there are no consequences if withdrawal is chosen.

If you should have any questions about this research study, please feel free to contact Alanna L. Neely at (615) xxx-xxxx

All efforts, within reason, will be made to keep the personal information in your child's research record private, but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board and Federal Government Office for Human Research Protections. If you or someone else is in danger we are required to report such by law.

**I have read this informed consent document and the material contained in it has been explained to me verbally. I understand each part of the document, all my questions have been answered, and I give permission for my child to participate in the study.**

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Student

\_\_\_\_\_

\_\_\_\_\_  
Signature of Parent



## APPENDIX C



April 4, 2012

Alanna L. Neely  
Department of Agribusiness and Agriscience  
[alneely@mtsu.edu](mailto:alneely@mtsu.edu)

**Protocol Title:** "Effects of Dual Credit on College Readiness"

**Protocol Number:** 12-287

Dear Investigator(s),

I have approved your study at the exempt level pending our office receives copies of letters of approval from all participating schools and districts.

The exemption is pursuant to 45 CFR 46.101(b) (2). This is because your study consists of survey procedures, and information is obtained in such a manner that human subjects cannot be identified.

You will need to submit an end-of-project report to the Office of Compliance upon completion of your research. Complete research means that you have finished collecting data and you are ready to submit your thesis and/or publish your findings. Should you not finish your research within the three (3) year period, you must submit a Progress Report and request a continuation prior to the expiration date. Please allow time for review and requested revisions. Your study expires on **April 4, 2015**.

**Any change to the protocol must be submitted to the IRB before implementing this change.** According to MTSU Policy, a researcher is defined as anyone who works with data or has contact with participants. Anyone meeting this definition needs to be listed on the protocol and needs to provide a certificate of training to the Office of Compliance. **Once your research is completed, please send us a copy of the final report questionnaire to the Office of Compliance.** This form can be located at [www.mtsu.edu/irb](http://www.mtsu.edu/irb) on the forms page.

Also, all research materials must be retained by the PI or **faculty advisor (if the PI is a student)** for at least three (3) years after study completion. Should you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Emily Born".

Emily Born  
Compliance Officer  
615-494-8918

## APPENDIX D

Completion Report

Page 1 of 1

### CITI Collaborative Institutional Training Initiative

#### Human Research Curriculum Completion Report Printed on 3/30/2012

**Learner:** Alanna Neely (username: alannaneely)  
**Institution:** Middle Tennessee State University  
**Contact Information:** 344 Woodbury rd.  
Auburntown, Tn. 37016 United States  
Department: Agribusiness and Agriscience  
Phone: 615-898-2523  
Email:alneely@mtsu.edu

#### Social & Behavioral Research:

#### Stage 1. Basic Course Passed on 03/29/12 (Ref # 7710829)

Required Modules	Date Completed	Score
Belmont Report and CITI Course Introduction	03/29/12	3/3 (100%)
History and Ethical Principles - SBR	03/29/12	3/4 (75%)
Defining Research with Human Subjects - SBR	03/29/12	5/5 (100%)
The Regulations and The Social and Behavioral Sciences - SBR	03/29/12	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	03/29/12	4/5 (80%)
Informed Consent - SBR	03/29/12	4/5 (80%)
Privacy and Confidentiality - SBR	03/29/12	5/5 (100%)
Conflicts of Interest in Research Involving Human Subjects	03/29/12	4/5 (80%)
Middle Tennessee State University Module DEMO	03/29/12	no quiz

**For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.**

Paul Braunschweiger Ph.D.  
Professor, University of Miami  
Director Office of Research Education  
CITI Course Coordinator

<https://www.citiprogram.org/members/learnersII/crbystage.asp?strKeyID=CEFD15-73...> 3/30/2012

## APPENDIX E



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### School of Agribusiness and Agriscience

P.O. Box 5  
Middle Tennessee State University  
Murfreesboro, Tennessee 37132  
Office: (615)898-2523  
FAX: (615) 898-5169

To: V. Scott Solberg, Ph. D.

From: Alanna L. Neely  
Instructor/Coordinator Middle Tennessee State University  
School of Agribusiness and Agriscience

Dear Dr. Solberg,

I am currently working on my dissertation: *Influence of Agricultural Dual Credit on Student Self-Efficacy of College Readiness*, and am seeking permission to use the College Self-Efficacy Inventory Scale. I think it will be vitally important to my study.

I was also wondering if you could share with me where I am to find which items go with which subscales. My research of the scale indicates three subscales; however I am not clear on which items go where.

I would greatly appreciate any insight into this. If there are any resources which you would suggest to help in my journey, I would greatly appreciate it.

*Alanna L. Neely*

Alanna L. Neely  
Instructor/ Dual Credit Coordinator  
Middle Tennessee State University  
School of Agribusiness and Agriscience

## APPENDIX F

**From:** Solberg, V. Scott [ssolberg@bu.edu]  
**Sent:** Wednesday, January 23, 2013 3:04 PM  
**To:** Alanna Neely  
**Subject:** RE: Permission to use CSEI

Yes you have permission.  
The monograph has the scales in it. Good luck with your research!

Scott Solberg

## APPENDIX G

### Welcome

#### 1. Welcome

Welcome to the MTSU dual credit survey. Thank you for taking time to assist MTSU in its research on the effectiveness of dual credit programs. We hope to use this survey to develop a better understanding of our dual credit students and the impact of dual credit on their lives and college readiness. Your responses will be used to improve the dual credit program. If you have any questions about this study you may e-mail Alanna Neely at [aneely@mtsu.edu](mailto:aneely@mtsu.edu) or call 615-898-2523.

This survey is completely optional and we appreciate your assistance with our study. You may withdraw from this study at any time. This is an anonymous survey. We will not collect any data that can be used to personally identify you. Your responses will be stored in a secure computer and only summary statistical analysis, that cannot be used to identify individuals, will be available to the public. Your participation in this survey and your answers to this survey will have no impact on your grade or academic standing. If you chose to withdraw from this study by not completing the survey it will have no impact on you.

By participating, you will help us to make our dual credit program effective as well as a model for future dual credit courses. Your opinion and experiences with this program are important to us and we need your feedback in order to make improvements to the program. Please complete the entire survey and answer all questions honestly and to the best of your ability.

By clicking "Next" you signify that you are willing to participate in this survey.

## High School Experiences

Reflecting on the classes you have taken in high school, indicate the extent to which you agree or disagree with the following statements about your learning experiences.

### 1. When I think about my high school classes and teachers.....

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I feel accepted as a capable student by my teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel accepted as a person by my teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teachers make me feel as though I bring valuable ideas to class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teachers understand that students come from different backgrounds.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teachers are interested in what I have to offer in class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teachers seem to genuinely care how I am doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The pace of my classes is appropriate for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am encouraged by my teachers to openly share my views in classes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel motivated to come to my classes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can express my honest opinions in my classes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teachers show that they believe in my ability to do the class work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teachers are willing to take as long as needed to help me understand the class material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teachers really care about whether I am learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teachers are willing to give me individual help when needed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**2. Are you planning to attend college?**

Yes

No

Maybe

## College Readiness Inventory

**3. Think about yourself as a college student. For each statement below choose one number that best represents your confidence at completing the following tasks:**

	very unconfident	unconfident	undecided	confident	very confident
Make new friends in college	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talk to your professors/instructors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take good class notes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Divide chores with others you live with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research a term paper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Join and intramural sports team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understand your text books	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get a date when you want one	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask a professor or instructor a question outside of class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get along with others you live with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Write a course paper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work on a group project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socialize with others you live with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do well on your exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talk with a school academic and support (e.g. advising) staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage your time efficiently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use a library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Join a student organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask a question in class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Divide space in your residence (if applicable)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in class discussions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep up to date with your school work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**4. Did you participate in a dual credit course offering with Middle Tennessee State University School of Agribusiness and Agriscience?**

Yes

No

## MTSU Dual Credit Experience

Thinking about your experiences with the MTSU dual credit program, indicate to the extent to which you agree or disagree with the following statements.

### 5. As a result of the MTSU Dual Credit Program.....

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I have improved my study skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have learned helpful study strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have learned how to organize my school tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know the importance of not giving up and sticking through difficult subjects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand my academic strengths and what I still need to improve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have met someone who can help me with college advice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have gained the skills to succeed in college courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the college application process and deadlines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand college requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have learned about support services in college	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the time needed to study in college	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the importance of course selection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have an idea of what I need to do with my career	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**6. What was the primary factor influencing your decision to participate in a dual credit course? Choose one only.**

- My friend(s) influenced my decision
- My high school teacher influenced my decision
- The MTSU dual credit coordinator influenced my decision
- My parent(s) influenced my decision
- My high school counselor influenced my decision
- I registered for the course not knowing it was a dual credit course

**7. Did you pay the \$60.00 Testing/Records Fee to receive college credit?**

- Yes
- No

## Background Information

### 8. What is your high school name?

- Lebanon High School
- Watertown High School
- Mt. Juliet High School
- Wilson Central High School
- White House High School
- Westmoreland High School
- Hendersonville High School
- Portland High School
- Van Buren County High School
- Riverdale High School
- Blackman High School
- Dekalb County High School
- Lewis County High School
- Macon County High School
- Grundy County High School
- Campbell County High School
- Franklin County High School

Other (please specify)

### 9. Which of the following best describes you:

- Freshman
- Sophomore
- Junior
- Senior

### 10. What is your gender?

- Male
- Female

**11. Which of the following best describes you?**

- Caucasian (white)
- African American
- Hispanic
- American Indian

Other (please specify)

**12. Are you an FFA member?**

- Yes
- No

**13. What is your GPA?**

- 4.1 or above
- 3.6 - 4.0
- 3.1 - 3.5
- 2.6 - 3.0
- 2.1 - 2.5
- 2.0 or below

**14. Do you plan to attend college?**

- Yes
- No
- Maybe

**15. Will you be the first in your family to go to college?**

Yes

No

**16. If you plan to go to college, have you submitted a college application?**

- Yes
- No

**17. If you plan to go to college, have you been accepted?**

- Yes
- No

If yes, please list the schools that have accepted you.

**18. If you have been accepted, which university do you plan on attending?**

**19. If you plan to go to college, have you decided on a major?**

- Yes
- No

If yes, what will your major be?

**20. What is your highest score on the ACT exam**

**21. Do you plan to attend a Technical/Vocational School? (Ex: Nashville Auto Diesel College, Shelbyville Tech, Hartsville Tech, Beauty School etc.)**

- Yes
- No
- Maybe

**22. If you plan to attend a technical/vocational school, where will you attend?**



**Thank you so much for your participation**

The End

## APPENDIX H



School of Agribusiness and Agriscience

---

April 10, 2012

(Name)  
Director of Schools or Superintendent  
(County)

Dear (Director),

My name is Alanna Neely and I am the Dual Credit coordinator for the School of Agribusiness and Agriscience at MTSU. (High school) is an active participant in our program. Over the life of the program I have made over ( ) visits to (County) schools speaking about the importance of post secondary education.

After five years of working with the program, I am currently working on my dissertation and would like to survey students in the program. The survey instrument "Determining the Effects of a Dual Credit Course on Student Self-Efficacy and College Readiness", will be totally optional and available through an online survey. The survey does not collect any identifying information. The research will not interfere with regular instruction nor pose any harm to participants.

Before seeking principal consent, I must first receive approval from you. Only students with parental permission and willingness to participate will be involved.

If you could please respond with approval via email for my records, I would appreciate it. Please feel free to contact me with any questions. Thank you again for your continuous support of our program.

I have also included the survey instrument.

Alanna L. Neely  
Instructor/Dual Credit Coordinator  
Middle Tennessee State University School  
School of Agribusiness and Agriscience  
MTSU Box 5  
Murfreesboro, Tn. 37132  
Phone: (615)898-2523

## APPENDIX I



School of Agribusiness and Agriscience

---

April 10, 2012

(Principal Signature)  
Principal  
(High School)

Dear (Principal),

My name is Alanna Neely and I am the Dual Credit coordinator for the School of Agribusiness and Agriscience at MTSU. (High School) is an active participant in our program under the direction of (Teacher). I am currently working on my dissertation and would like to survey students in the program. The survey instrument "Determining the Effects of a Dual Credit Course on Student Self –Efficacy and College Readiness", will be totally optional and available through an online survey. The survey does not collect any identifying information. The research will not interfere with regular instruction nor pose any harm to participants.

I received permission from (Superintendent) and am now seeking your consent. Only students with parental permission and willingness to participate will be involved.

If you could please respond with approval via email for my records, I would appreciate it. Please feel free to contact me with any questions. Thank you.

Alanna L. Neely  
Instructor/Dual Credit Coordinator  
Middle Tennessee State University School  
School of Agribusiness and Agriscience  
MTSU Box 5  
Murfreesboro, Tn. 37132  
Phone: (615)898-2523  
Email: [alneely@mtsu.edu](mailto:alneely@mtsu.edu)  
Phone: (615) 653-6018  
Fax: (615) 898-5169