

INVESTIGATION OF THE EFFECTS OF AGRICULTURE EDUCATION
PROGRAMS ON STUDENTS PREPAREDNESS FOR POST
SECONDARY EDUCATION

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by

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TABLE OF CONTENTS

	PAGE
Publication Rights.....	iii
Acknowledgements.....	iv
List of Tables	vii
Abstract.....	viii
CHAPTER	
I. Introduction.....	1
Background.....	1
Statement of the Problem.....	2
Research Objectives.....	3
Purpose of the Study	4
Definition of Terms.....	4
Limitations of the Study.....	6
II. Literature Review.....	7
Introduction.....	7
Background Information.....	8
College and Career Readiness	9
Career Technical Education.....	15
Agriculture Education.....	21
Summary of Literature	26
III. Methodology	28
Design of the Investigation.....	28
Population and Sample	28
Treatment	29
Data Analysis Procedures	31

CHAPTER	PAGE
IV. Findings and Results	32
Presentation of Findings	32
Discussion of Findings.....	38
V. The Conclusions and Recommendations	42
Conclusions.....	42
Recommendations.....	44
References.....	46
Appendices	
A. Informed Consent Form.....	51
B. Survey	53

LIST OF TABLES

TABLE	PAGE
1. Demographic Characteristics of Agriculture Students	33
2. Analysis of Student Perception for Post-Secondary and Career Plans	35
3. Analysis of Student Perceptions Regarding The Effectiveness of the Agriculture Program in Preparing Them for Post-Secondary Education and Careers	36
4. Analysis of Student Perceptions Regarding the Individuals and Outside Factors that Influenced Their Choices Towards Planning for Post-Secondary Education and Careers	37

ABSTRACT

INVESTIGATION OF THE EFFECTS OF AGRICULTURE EDUCATION PROGRAMS ON STUDENTS PREPAREDNESS FOR POST SECONDARY EDUCATION

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There has been an increased focus on the role of career technical education as school districts shift to Common Core standards. Agriculture Education is an integral role in preparing students to meet the demands of the economy after high school. The purpose of this study was to identify perceptions of agriculture students related to their readiness for college and careers. This research also sought to determine the effectiveness of agriculture programs in providing students with skills that are necessary following high school. The target population for this study included seniors and recent graduates enrolled in agriculture education courses in the Kern High School District in Bakersfield, California. A random sample was used for the population of this study. An electronic survey was used to survey 68 respondents.

This study found that a high number of students plan to continue their education beyond high school. Furthermore, students understand the requirements to meet A-G eligibility, but indicated that the most difficult requirements to satisfy include mathematics and language other than English. Results indicated that students perceived their agriculture education program was effective in preparing them with skills necessary for college or a career.

CHAPTER I

INTRODUCTION

Background

Agriculture Education programs seek to prepare high school students for life after graduation through a unique combination of hands on learning experiences (National FFA Organization, 2014). Agriculture programs are designed to impact a variety of students through the three circle design model focusing on FFA, classroom instruction, and Supervised Agriculture Experience projects (California FFA Association, 2014). This design is unique among high school programs as the goal is to merge student's experiences both inside and outside of the classroom setting to better prepare students for success. The purpose of this model is to meet the needs of a diverse range of students in the areas of leadership, personal growth, and career success (National FFA Organization, 2014). An unintended consequence is a program where students assume ownership in their own learning and a safe environment to challenge themselves with high expectations. Agricultural programs not only prepare students for career technical education, but they also develop a well-rounded student.

Regardless of the student demographics or school population, districts and school sites are held to a strict set of standards for student learning. In the state of California, school districts have the discretion to increase these minimum high school graduation requirements (Leff, 2014). Understanding the difference between high school

graduation requirements and the more strenuous requirements needed to enter one of California's public universities can get confusing for parents and students. In the state of California, A-G prerequisite requirements are the minimum standards for high school coursework that demonstrate a student is equipped to enter the University of California or California State University System (Cline, 2007). A high school student meeting A-G prerequisite requirements must complete a minimum of 15 courses with a C grade or higher including foreign language, a laboratory science, intermediate algebra and a visual or performing art (Leff, 2014).

After graduating high school, a student should be equipped with a foundation of academic knowledge and critical thinking skills to prepare them for college or a career field (Conley, 2012). Career technical education programs like agriculture education have a long history of preparing students for life after high school. After completing high school, students face the choice of deciding to continue their education at a two year college, four year university, vocation school, or to enter the workforce immediately. Regardless of a student's choice, secondary schools must provide the skills students need to become productive members of society. Career and college environments share several elements including; time management, persistence and ownership over learning (Conley, 2012).

Statement of the Problem

Agriculture education programs are based on a three-circle model that includes classroom instruction, FFA leadership activities and Supervised Agriculture Experience projects (California FFA Association, 2014). The integration of all three

components equally creates an educational program that meets the needs of a diverse range of students (California FFA Association, 2014). Educational funding is divided into several funding categories. Career technical education programs like agriculture education are funded through state and federal resources. The majority of funds that schools receive are based on student attendance (Canfield, 2013). Beyond the funding schools receive per-student, school may receive categorical funding for specific purposes such as the Quality Education Investment Act (QEIA) or reduced class sizes (Canfield, 2013). Categorical funding is tied to specific rules for those programs and is often tied to specific school site goals such as increasing the number of students meeting minimum college eligibility requirements (Canfield, 2013). This research is intended to determine the perception of students related to the effectiveness of the agriculture program in preparing them for college or a career. With the continued focus on academic performance at high schools, factors that contribute to student success should be a priority. Agriculture education should analyze the role programs play in preparing students for life after high school.

Research Objectives

1. Describe the demographics of the agriculture student population regarding A-G eligibility and career or college plans.
2. Determine student perceptions of their preparedness for post secondary education and career plans.
3. Determine student perceptions of their agriculture programs effectiveness in preparation towards post secondary education and career plans.

4. Describe the individuals and/or factors that influence a student's post secondary education and career plans.

Purpose of the Study

The purpose of this study was to explore whether students enrolled in agriculture education programs have a higher rate of college eligibility based on their experiences in an agriculture program. Agriculture Education programs are designed to impact a wide range of students with a three circle model focusing on FFA, classroom instruction, and Supervised Agriculture Experience projects. This design is unique among high school programs as the goal is to merge learning experiences both inside and outside of the classroom setting to better prepare students for success. This study will focus on students enrolled in agriculture classes within the Kern High School District in Bakersfield, CA. With an increased emphasis on academic performance, agriculture program should continue to demonstrate the effectiveness of agriculture education in preparing students to meet the demands of both college and careers after high school. This study seeks to determine student perceptions related to the effectiveness of agricultural education in relation to preparing students for success after graduation.

Definition of Terms

A-G Requirement

A list of 15 college preparatory classes in the areas of history, English, math, lab science, foreign language, visual and performing arts and college preparatory elective that students must complete as a component of eligibility into a California public university (University of California Admissions, 2014).

Agriculture Education Program

The agriculture education model is based on three equal and interdependent components which include: classroom instruction, FFA leadership activities, and Supervised Agriculture Experience projects. (California FFA Association, 2014).

CTE

Career Technical Education (CTE). Curriculum designed to bridge the gap between college-career by providing student with discipline specific skills (University of California Admissions, 2014).

FFA

National FFA Organization. A national youth leadership program with the mission of making a positive difference in the lives of young people by developing their potential for leadership, personal growth and career success through agricultural education. (National FFA Organization, 2014).

SAE

Supervised Agricultural Experience (SAE). An SAE provides students the opportunity to learn by doing by establishing a project in one or more category including; entrepreneurship, placement or research and experimentation (California FFA Association, 2014).

Agriculture Education Student

In California, any 9-12 grade student enrolled in an agriculture class at a comprehensive high school and regional occupational programs and centers (California FFA Association, 2014).

UC

University of California (University of California Admissions, 2014).

CSU

The California State University. A system of higher education that includes 23 campuses across the state of California. (California State University, 2014).

Limitations of the Study

One major limitation of this research is the population size. The study was conducted on recent graduates and current senior students enrolled in agriculture education courses within the Kern High School District. It was difficult to locate recent graduates, limiting the number of responses. Furthermore, expanding the population size to include a greater number of both recent graduates and current senior students from more high schools with agriculture programs in the Kern High School District may increase the scope of survey respondents.

A second limitation is the lack of variance within the sample. The Kern High School district has 18 comprehensive high schools, 13 of which currently have agriculture education programs. This research would have greater reliability if data were collected from students enrolled in agriculture education from all of the high schools in the district or expanded to include other high schools with agriculture programs within the San Joaquin Region. Finally, this research also would have benefited from expanding the sample to include non agriculture students, allowing for additional comparisons.

CHAPTER II

LITERATURE REVIEW

Introduction

Many states recently adopted Common Core State Standards designed to redirect the focus of education and better prepare students for life after high school. Schools are placing academic rigor at the forefront of educational standards and reevaluating student needs at the secondary level (Lerner & Brand, 2007). One educational issue that has emerged is the gap between college and career readiness standards. Persuading students to select either college or a career preparation option does not prepare students for success after high school (Murray, 2012). Career technical education is prepared to bridge the gap between courses designed to balance academic core standards with real world applications (Murray, 2012). Career technical education programs such as agriculture education expose students to a broad range of hands on curriculum opportunities ranging from animal sciences to floral design and mechanized agriculture (Lewis, 2006). These programs seek to help students determine the sequence of courses that will best match their specific educational and career needs. Agriculture education classrooms across the country prepare students with “real world” skills by developing leadership traits, focusing on personal growth and exposing students to career opportunities (National FFA Organization, 2014).

Background Information

Agriculture education programs are designed to follow a three-circle model, focusing on classroom instruction, hands-on opportunities through Supervised Agriculture Experience projects, and leadership development with the National FFA Organization (National FFA Organization, 2014). The National Future Farmers of American Organization officially began in 1928 to provide services and support for young men interested in farming (National FFA Organization, 2014). Over the years, the organization has evolved to meet the growing needs of students and the agriculture industry, which included changing the official name to the National FFA Organization to represent its diversity (National FFA Organization, 2014). Today, the number of students enrolled in agriculture classes has reached an all time high (National FFA Organization, 2014). California has over 85,000 students currently enrolled in agriculture education courses, with enrollment continuing to increase (California FFA Association, 2014). Across the nation, nearly 500,000 students are engaged in agriculture education making the National FFA Organization the largest youth leadership organization (National FFA Organization, 2014).

Agriculture courses and other vocational pathways are considered career technical education. Students enrolled in agriculture education receive specific vocational and career skills related to agriculture fields of study. Funding for agriculture education classes in California occur primarily through two major federal and state programs (California Department of Education, 2014). Those two sources of funding are the Carl D. Perkins Vocational and Technical Education Act of 1998 and the Agriculture Education Vocational Incentive Grant program (California Department of Education,

2014). The scope of agriculture education has changed since the foundation years of agriculture education programs that first originated from the Smith-Hughes Act of 1917 (California Department of Education, 2014). Today, agriculture education courses prepare students with a foundation of academic and technical skills necessary to be successful in school and careers (California Department of Education, 2014).

College and Career Readiness

Secondary schools must prepare a diverse range of students for a wide variety of opportunities after completing high school. Should secondary schools encourage students to prepare for college, the career field or both? According to Conley & McGaughy (2012):

During the 1990s, states adopted educational standards that defined what students needed to know and be able to do, but these standards were silent on what constituted college readiness and career readiness or the relationship between the two. Standards for success, the first set of standards specific to college readiness, was created in 2003 under the sponsorship of the Association of American Universities. (p. 29)

Conley (2011) reported that, “The Common Core State Standards, released in June 2010, were developed under the sponsorship of the National Governors Association and the council of Chief State School Officers” (p. 17). Common Core State Standards will replace existing standards in 47 states and the District of Columbia (Conley, 2011). Proponents of the new common core state standards argue these newly adopted standards are the solution for preparing high school graduates in the United States to meet the growing demands of both colleges and career fields (Rothman, 2012). According to Rothman (2012):

In developing the college and career readiness standards, the standards writers defined readiness as the ability to succeed in entry-level, credit bearing, academic college courses and in work-force training programs. That is, students who meet the standards should be able to enroll in postsecondary education without needing remediation. (p. 13)

According to Rothman (2012), “nationwide, about 40 % of new college students are required to take at least one remedial course before entering into credit-bearing coursework” (p. 12). Research shows that 52 % of graduates in the United States completed the ACT exam (Adams, 2012). Data from the ACT exam reports that only 25 % of students tested show proficiency in all four major subjects: English; reading; mathematics; and science (Rothman, 2012). Adam’s research suggests students completing a more challenging academic load while in high school will be better prepared for college entrance exam requirements (Adams, 2012). Common core state standards focus on reinvigorating the type of instruction that occurs in the classroom to ensure that students are engaged (Conley, 2011).

A study conducted by ACT found that growing expectations for entry-level workers indicate that all students should be held to a similar academic course load that will prepare them for both continued education or to enter the workforce (ACT, 2006). Similar studies suggested that college and career readiness skills share several similarities, but are not identical (Conley & McGaughy, 2012). Students planning to enter postsecondary education or the workforce need to be presented with several options to begin exploring their specific interests. Developing post secondary plans while still in high school provides students the opportunity to prepare for the specific content, skills, and abilities necessary and relevant for their success after graduation (Conley & McGaughy, 2012).

Some students are left with few choices at the end of their senior year of high school based on their academic records. According to Leff (2014), “Fewer than four in 10 California High School students are completing the requirements to be eligible for the state’s public universities” (p. 5). Students completing minimum requirements required for a high school diploma may limit themselves to fewer opportunities. Murray (2012) argued that,

Non-college bound students take a weak academic load and disconnected electives that sometimes include a course or two in nonrelated career or technical fields. As a result, far too many graduates are bound for low level jobs, prepared for neither college nor career. (p. 60)

Graduates must have options and a two-tiered educational system where students may choose college or a career is no longer effective (Murray, 2012). In the state of California, the Kern High School District is the largest 9-12 high school district with over 35,000 students (Kern High School District, 2015). The Kern High School district outlines two sets of graduation requirements, one for students on the college preparatory pathway and another for students taking the career preparatory pathway. (Kern High School District, 2015). Both pathways require the same number of units for graduates, but they differ in the two areas categorized as pathway units and elective units (Kern High School District, 2015).

Secondary students desiring to attend one of the 32 public universities in the state of California must meet a set of guidelines commonly referred to as A-G requirements (Leff, 2014). The letters, ‘A’ through ‘G’ represent different subject requirements used to demonstrate that students are prepared to study at a public university. The A-G sequence outlines the 15 year-long courses in the areas of

history/social studies, English, mathematics, laboratory science, language other than English, visual and performing arts, as well as college preparatory electives (California State University, 2014). Within these subject requirements, students are expected to complete two years of history and social science, four years of English, three years of math (four years is recommended), two years of laboratory science, two years of the same language other than English, one year of visual or performing arts, and one year of an approved college preparatory elective (California State University, 2014). Students must pass these courses with a grade of C or better unless otherwise validated (California State University, 2014).

Most states have recently adopted common core college and career ready standards to help students develop 21st century skills (Murray, 2012). An Educational Trust-West case study of the transcripts of over 15,000 high school students showed that non college bound individuals choose easier academic classes that serve no meaningful purpose towards a career objective (Murray, 2012). Challenging secondary courses help students develop 21st century skills, including problem solving, critical thinking and the ability to communicate (Murray, 2012). High school graduates need these skills to be successful in a wide range of areas, including two-year schools, career training programs and to enter the workforce (Murray, 2012).

To better prepare students for life after high school, Murray (2012) suggested that secondary schools bridge the gap between core academic classes and career and technical pathways further expanding the opportunities available to students. Math is one area that presents the greatest barrier for students planning on entering postsecondary schools (Murray, 2012). In the case study of San Jose schools conducted by Education

Trust-West, students that failed Algebra I had a high rate of failing the repeated course as well (Murray, 2012). School districts in San Jose found that rather than dividing students by college and career pathways, students needed more academic support (Murray, 2012). Academic support such as a lab class for students with lower math scores help students to pass the class the first time (Murray, 2012). Another type of academic support could be a resource class offered at the end of the school day to expand opportunities to receive intervention support (Murray, 2012).

Secondary schools also seek help from their communities in preparing students to meet the demands of the local economy. Partnerships with post secondary institutions and local businesses provide schools with more resources to help students explore opportunities after graduation while still they are still in high school. Conley cites a postsecondary program in Colorado that allows juniors and seniors to enroll in college courses and earn high school credit, college credit or both (Conley, 2002). In this particular case, school districts in Colorado actually pay student's tuition depending on the agreement between the high school and the postsecondary institution (Conley, 2002). Transition programs are another example, where students have the opportunity to earn dual credit through activities like senior seminars, summer bridge programs and taking advanced placement courses (Conley & McGaughy, 2012). Transition program can help prepare students for post-secondary expectations while remaining in the high school settings (Conley & McGaughy, 2012). Coursework that combines difficult academic content and the opportunity to investigate real world applications will link college bound and career ready learners (Conley & McGaughy, 2012).

Williams (2005) explains, “it is possible to achieve high academic standards while also meeting the increasing technical and essential abilities demanded by our global economy” (p.36) Common Core State Standards are a step in the right direction towards providing students with a broader range of opportunities to prepare for both college and careers rather than just on increasing test scores (Au, 2013). Providing all students with a challenging academic coursework and opportunities to develop 21st century skills is necessary to increase the value of a high school diploma (Murray, 2012).

Conley (2002) stated, “Rather than preparing some students for college and others for work, high schools should prepare all students to succeed in an increasingly complex and interdependent world by engaging them in significant, meaningful experiences in a variety of settings outside of school” (p. 63). College readiness and career readiness have many similarities, but research shows they still have distinct differences (Conley & McGaughy, 2012). Secondary schools have the ability to offer a variety of classes and programs to meet the needs of all types of students (Conley & McGaughy, 2012). Focusing learning on both college and career readiness instead of forcing students to choose will help better prepare students to meet the demands of life after high school (Conley & McGaughy, 2012). According to Kreamer (2014), “college and career readiness has become the new norm, with every state around the country anchoring its educational system in the goal of students being prepared for life after high school” (p. 23). Students that are both college and career ready must have the academic and technical skills that will prepare them to be employed in the career area that they choose (Kreamer, 2014).

Career Technical Education

Formerly known as vocational education, Career and Technical education continues to expand in high schools today (Gray, 2004). Gray's (2004) research explains that, "in the late 1980s, students' outcome goals for CTE were expanded from transition from school to work to transition from school to college or work" (p. 129). Despite growth in CTE curriculum, stereotypes still exist. Individuals not involved in CTE still perceive that these pathways only prepare students for the workplace, participants are mostly males, and CTE courses are only for students struggling academically (Gray, 2004). Research shows that 25 % of all high school students choose to enroll in CTE courses (Gray, 2004). According to Gray (2004), "Of the 80% who complete an integrated CTE and academic program, 60% go to college upon graduation, with more than 50% of those enrolling in pre-baccalaureate technical programs" (p. 130). A similar follow up study of CTE students that participated in the North County Regional Occupation Program in California found that 93 % of graduates who also completed the ROP program continued their education at the college level (Reese, 2009). Gray suggested that students with specific career goals will be more successful in college by simply knowing what they hope to achieve after graduation when needing to overcome academic challenges (Gray, 2004). Gray (2004) continues by stating, "A final and largely unrealized contribution of CTE is its potential to provide all high school students with a hands-on contextually rich environment to verify tentative career choices" (p.133).

The Carl D. Perkins Technical Education Act and Career Technical Education curriculum were key features in 2014 for both Congress and President Obama (Kreamer, 2014). According to Kreamer (2014), "Over the past few years, the interest and support

for CTE has grown exponentially. Policymakers at all levels have been working to advance opportunities for learners to engage in CTE” (p. 21). Worker training has received bipartisan government support since a report projected that 11 million workers will lack the continuing education needed to perform in the workplace by the year 2022 (Rhodan, 2012). Congress recently passed the Workforce Innovation and Opportunity Act, providing school districts the ability to identify workforce needs within their region and funding for programs to support those skill initiatives (Rhodan, 2012). Rhodan (2012) cited Senator Johnny Isakson as saying, “Workforce training is critically important to help grow the American economy still recovering from recession and bridge the widening skills gap separating thousands of unemployed workers from promising careers in 21st century workplaces” (p. 1).

A group of CTE state directors from across the United States and U.S. territories established a renewed set of principles for CTE’s future in 2010 (Kreamer, 2014). According to Kreamer, “this vision for CTE is structured around five interconnected principles- global competition, employer engagement, college and career readiness, programs of study and data/return on investment” (p. 22). The third of those five principles relates to preparing students for success in further education and a career (Kreamer, 2014).

Recent changes in education within every state have shifted to focus on preparing students for life after high school (Kreamer, 2014). Kreamer’s (2014) research stated that, “while college and career readiness is defined in many ways, we believe that to be college-and career-ready students must possess the academic, technical, and employability skills that prepare them for the careers of their choice” (p. 23). This new

vision for CTE recognizes that students should not be forced into either a college preparatory option or career preparatory option while in high school (Kreamer, 2014). More than two-thirds of jobs today require completion of additional training beyond high school (Kreamer, 2014). This new vision helps to ensure that career and technical education remains a priority despite continual changes in education.

A cultural shift in the policies related to secondary education has occurred with a renewed focus on preparing students for both college and a career (Au, 2013). According to Williams (2005),

. . . many policymakers are challenging the traditional split between the academic and vocational sides of the curriculum. This challenge stems from the growing perception that, with the profound economic, and social shifts currently facing the nation, a curriculum divided into distinct academic and vocational groups is no longer useful or fair. (p.34)

Common Core State Standards are intended to create consensus on the goals for education (Au, 2013). Students need a strong foundation of both academic knowledge, combined with thinking and reasoning skills (Conley & McGaughy, 2012).

According to Conley (2011), “the stated goal of the standards is to specify key knowledge and skills in a format that makes it clear what teachers and assessments need to focus on” (p. 17). Conley and his research team at the Educational Policy Improvement Center determined that two and four year postsecondary institutions expect students to have a range of cognitive strategies to be successful in entry level college courses (Conley, 2011). The five key cognitive strategies that the research identified includes; problem formulation, research, precision and accuracy, interpretation, and communication (Conley, 2011).

Rothman's (2012) research explains that, "it is projected that 62% of U.S. jobs in 2018 (compared with just 28% in 1973) will require education beyond high school" (p. 11). Career and technical education was once considered an appropriate sequence for non college bound students (Dare, 2006). Today, many career and technical education students complete courses that require advanced academic skills (Dare, 2006). Meeting both academic and technical standards helps to prepare students for the competitive job market. Proponents of CTE programs argue that students enrolled in career technical education courses are just as prepared as college preparatory students to enter post secondary institutions (Dare, 2006). Additionally, Dare's (2006) research cited the following:

Participants in the 2003 National High School Leadership Summit noted that the once-common assumption that CTE does not prepare students for higher education is no longer valid. Newer models include helping CTE students meet high academic and technical expectations, easing CTE students' transitions to postsecondary education and advanced training, and increasing the rigor of CTE instruction. (p. 74)

Courses in career technical education are a great opportunity to engage students outside of a traditional class setting. According to Wright, Thomas and Rogers (2014), "career and technical education (CTE) has become what high school education should be" (p.37). These courses gain support because tasks such as resume building and preparing for a job interview are skills that every student will use after high school. Relevant skills combined with high academic expectations can help students ease the transitions to rigorous technical training or post-secondary studies (Dare, 2006). Students desire to know how they will apply the information from their coursework. Career and technical education courses provide students with hands on learning opportunities to

engage in classroom content (Koslowski, 2014). CTE courses are relevant because they help students make real work connections to the workplace beyond high school (Rhodes, 2014).

Career and technical education courses provide students with skills that will be useful after graduating high school. CTE courses offer components that are not included in the standards for strictly academic classes. Rhodes (2014) stated that, “Apprenticeships, internships, career academies, job shadowing, guest speakers, advisory councils, business alliances-these CTE components lead to continuous dialogue between high schools and business” (p. 40). The combination of employability skills and the chance to practice techniques with real world applications help CTE students become career focused (Rhodes, 2014).

Brewer (2014) explained, “CTE holds the power to encourage their skills and interests, while giving new life and significance to the academics that they need to survive and become productive citizens” (p. 15). However, learning academic knowledge and career skills do not have to occur independently of each other for students (Gordon, 2014). Earning a bachelor’s degree is not necessarily in the best interest of every student (Wright, Thomas & Rogers, 2014). Gordon (2014) suggested, “The reality is that for some students- the 15 to 27% who earn any degree- a B.A. or B.S. degree does provide access to the upper tier of American society. However, many future entry-level jobs with career-growth potential will require only a year or two of postsecondary education” (p. 45).

According to ACT (2006), “Employers are convinced that in an expanding global economy, entry-level workers need much the same knowledge and skills as

college-going students” (p.2). Lewis (2006) cited the National Institute of Public and Higher Education warning that the average wage will continue to decrease without an increase in education levels (Lewis, 2006). Lewis extrapolated, “The projected decline in educational levels coincides with the growth of knowledge-based economy that requires most workers to have higher levels of education according to the Center’s Policy Alert” (p. 6). Career Technical education can meet broader educational goals of providing a stable workforce while also preparing student to continue their education. Career and technical education courses continue to thrive and are now a major component of the United States educational system (Dare, 2006).

Career and technical student organizations, also known as CTSOs, are found in most high schools today (Kosloski, 2014). These student organizations provide students opportunities outside the classroom to participate in a variety of activities, from competitive events to career exploration events (Kosloski, 2014). Jim Stone, director of the National Research Center for Career and Technical Education stated (as cited in Kosloski, 2014):

Career and technical student organizations (CTSOs), like DECA, FBLA, FCCLA, FFA, HOSA, SkillsUSA and TSA, are one of the most powerful pedagogies available to the field of CTE, yet it seems to me that they receive far less acclaim than they deserve. Although there are many factors that contribute to a students’ academic and technical achievement while in high school, many of our most accomplished CTE graduates cite their active involvement in a CTSO as a primary reason for success. (p. 35)

There are a variety of different CTSOs for multiple career areas, but they all serve as a similar incentive program that provides fun and challenging opportunities to apply knowledge and skills (Kosloski, 2014). Kosloski (2014) explained, “most young learners do not learn by sitting in a classroom all day, and increasing the rigor for the

curricula without changing the setting is of little value. Learners need contextual, applied learning, and they also need to be able to connect that learning to the world of work” (p. 36). Beyond providing relevant learning experiences in the classroom setting, CTSOs provide students the opportunity to engage in educational opportunities outside of class (Kosloski, 2014). CTSOs reinforce curriculum through activities such as leadership training, community service, and skilled competitions (Kosloski, 2014).

Agriculture Education

Course in agricultural education were first developed with the passing of the Smith-Hughes Act of 1917 by state and federal legislators (California Department of Education, 2014). In 1950, Congress reemphasized the value of the National FFA Organization as an integral component of vocational agriculture by granting FFA a federal charter (National FFA Organization, 2014). The federal charter was last amended in 1998 and continues to serve as a link between the FFA and classroom agriculture education instruction (National FFA Organization, 2014). According to the California Department of Education (2014),

The California Department of Education, the Superintendent of Public Instruction, and the State Board of Education have strongly supported a comprehensive program of instruction in agriculture that integrates technical agriculture with strong academic foundations in core subjects. (p. 1)

The unique model of agriculture education programs combines classroom content with real world experiences and leadership development through the National FFA Organization (Fritch, 2013). FFA is intracurricular, suggesting that leadership experiences such as contests and conferences are integrated components of course curriculums (Fritch, 2013). Agriculture education offers students an alternative learning

approach by offering variety in teaching strategies, technical content, and intracurricular leadership development (Dailey, Conroy, Shelley-Tolbert, 2001). Proponents of agricultural programs at the high school level recognize that this model of education helps sustain students interested and provides incentive to do well in school (Fritch, 2013).

According to Lewis (2006), a report by CNN noted an increase in high school agricultural program across the nation (Lewis, 2006). Today, there are over 600,000 members in the National FFA Organization, with 7,665 chapters in every state across the nation, Puerto Rico, and the Virgin Islands (National FFA Organization, 2014). Ninety-two percent of agriculture education programs across the nation offer courses in agriscience (National FFA Organization, 2014). California ranks in the top five states in terms of overall FFA membership (California FFA Association, 2014). The state of California has 315 FFA chapters with over 76,000 members (California FFA Association, 2014). In 2011, agriculture education departments offered over 1,000 classes that met California A-G requirements (California FFA Association, 2014).

The increased participation of students in agriculture education programs is linked to the broadened curriculum available (Lewis, 2006). Since agriculture is such a broad field, programs are able to offer classes that fit the interests of the school population or local industry (Fritsch, 2013). Advocates suggest that agriculture education offers students a unique program that encourages involvement and helps keep students in school (Fritsch, 2013). According to Dailey et al. (2001), “agricultural education provides, at a minimum, hands-on, experimental, science and mathematics education that

meets the demands for cross-curricular integration, and needs of students in the nontraditional setting” (p. 13).

According to Friedel’s (2011) research, “Findings from the 2009 High School Survey of Student Engagement (HSSSE) determined that two out of every three students were either bored every day, or every class” (p. 52). Agriculture education programs are well designed to provide students with hands-on learning opportunities in a non-traditional setting (Dailey et al., 2001). Friedel conducted a study to determine the level of student engagement relative to students enrolled in agriculture education programs (Friedel, 2011). The study also sought to identify factors that contributed to student engagement in all three components of an agriculture program (Friedel, 2011). Friedel concluded that, “agriculture education students participating in this study, on average, were significantly higher in both behavioral and emotional engagement” (p. 51).

Agriculture education uses a unique approach to educate within the scope of career and technical education (National FFA Organization, 2014). The three-circle model is comprised of: hands-on classroom learning, real world experiences through Supervised Agriculture Experience projects, and leadership development through the FFA (National FFA Organization, 2014). In this model, each of the three circles are interconnected, reinforcing the others (Fritch, 2013). This model offers a variety of benefits for students including a strong foundation of academic and technical content (California FFA Association, 2014). Students enrolled in agriculture education programs also benefit from leadership development and hands-on learning opportunities (California FFA Association, 2014). The National FFA Organization (2014) stated that the agricultural education mission is, “agricultural education prepares students for successful

career and a lifetime of informed choices in global agriculture, food, fiber, and natural resources systems” (p. 86).

FFA programs and agriculture education in California are funded by the Carl D. Perkins Vocational and Technical Education Act of 1998 and the Agriculture Education Vocational Incentive Grant Program (California Department of Education, 2014). According to the California Department of Education (2014) these funding program are intended to accomplish four major purposes:

1. Enable local education agencies to improve the curriculum for students enrolled in agricultural education programs through the development and implementation of (a) an integrated academic and vocational curriculum, (b) curriculum that reflects workplace needs and instruction, and (c) support services for special populations.
2. Increase the competence of future and current high school, middle grades, and regional occupational centers and programs agricultural education instructors in developing and implementing a new integrated curriculum, student and program certification systems, technical preparation strategies, and effective instructional methodologies.
3. Promote the development and use of curriculum, instructional materials, and instructional strategies that prepare students in all aspects of the agricultural industry and foster critical thinking, problem solving, leadership, and academic and technical skill attainment.
4. Increase linkages between secondary and postsecondary institutions offering agricultural education programs; between academic and agricultural educators; and among agricultural educators, the agricultural industry, professional associations, and local communities. (p.1)

Agriculture education programs are broad and serve a variety of purposes, yet generally produce students with excellent social skills and a high degree of content knowledge that can become productive members of society (Dailey et al., 2001).

According to Fritsch (2013), advocates suggest that although every student may not be college bound, agriculture students should be college and career ready. Dailey et al. (2001) reported “Agricultural education is versatile” and “improves learning by having

the opportunity to learn a little facet of every field and every area out there” (p. 15). A survey of FFA Advisers across the nation reported that agriculture education students learn skills that include teamwork, how to effectively run a meeting, delivering a speech, and planning an activity (Boone & Taylor, 2007).

An affective agriculture education program that successfully integrates all components of the three-circle model prepares students for adulthood regardless of their career choice (Dailey et al., 2001). Students enrolled in agriculture pathways are provided opportunities to learn a wide variety of information because the field is so broad (Dailey et al., 2001). Beyond career preparation, agriculture students are also prepared for higher education as academic content and skills are transferred to other disciplines (Dailey et al., 2001). According to the research of Dailey et al. (2001):

Agriculture education is a viable curriculum alternative for instruction and experiences leading to transfer of workplace skills. Learning technical and workplace skills is encouraged within the diversity of coursework and experiences in agricultural education, offering students an opportunity to learn a variety of skills. Agricultural education incorporates a combination of diverse teaching methodologies (i.e. hands-on learning, vocational skills training, academic concept development) and technical content (i.e. agriculture, business, science, marketing, economics), with intra-curricular experiential learning and leadership development. (p. 18)

Acting as a partnership with the National FFA Organization, the National Council for Agriculture Education serves to strengthen agricultural education at the classroom level across the United States (National FFA Organization, 2011). According to the National FFA Organization (2014):

The mission of The National Council for Agricultural Education is to establish high-quality agricultural education programs in America’s schools by stimulating:

- The preparation, retention and advancement of high-quality agriculture educators.
- The development of programs that prepare students for academic and career success.
- Program innovation and adaptability in response to changing student and industry needs.
- The use of research-based practices in agricultural education programs at all levels.
- Expanded opportunities for students to experience high-quality educational programs in agriculture. (p. 7)

Summary of Literature

With changes in education policies, secondary schools are reevaluating curriculum strategies and the needs of students (Lerner & Brand, 2007). The adoption of Common Core State Standards was an effort to direct the focus of standards to preparing students with skills needed after graduation. Studies suggest that college and career readiness skills share several similarities (Conley & McGaughy, 2012). Career technical education programs are prepared to bridge the gap by offering courses that blend academic core standards with skills applicable in the real world (Murray, 2012). The unique model adopted by agriculture education programs combines academic content with real world experiences and leadership development through the National FFA Organization (Fritch, 2013).

A 2014 study showed that less than four in 10 California students are completing the minimum requirements to enter a public university (Leff, 2014). The minimum entrance guidelines for California's public universities are commonly referred to as A-G requirements (Leff, 2014). High school graduates need the skills to be successful in a wide range of areas including two-year schools, career-training programs, and to enter the workforce (Murray, 2012). College and career readiness coursework will

link difficult academic content with real world applications and better prepare college and career ready learners (Conley & McGaughy, 2012).

Career technical education programs have the potential to provide all students with a rigorous, hands-on environment to explore career choices (Gray, 2004). Murray (2012) suggested, “Although not everyone will go to a four-year college, our graduates need the academic skills that will help them achieve success in a variety of postsecondary pursuits” (p. 61). The new vision for career technical education programs recognizes that students should not be forced to decide between being college-ready or career-ready (Kreamer, 2014). Career technical education courses provide students with both academic and technical skills needed to be successful in post secondary plans (Dare, 2006).

Agriculture education is an example of a program designed to provide students with the academic content and life skills needed to pursue their desired career area (Dailey et al., 2001). The education model implemented by agriculture education programs combines classroom content with real world application and leadership training (Fritch, 2013). Agriculture education programs offer students a broad curriculum and generally provide students with social skills and a high level of content knowledge (Dailey et al., 2001). Beyond preparation for careers, students enrolled in agriculture education are also prepared for high education as academic content skills are transferred to other disciplines (Dailey et al., 2001).

CHAPTER III

METHODOLOGY

Design of the Investigation

The research was designed to investigate the perceptions agriculture students held related to their readiness for college and careers. A survey was created to measure perceptions related to each of the four research objectives. The survey included fifteen items on a five point Linkert scale (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree), 3 items that measured nominal data related to factors influencing students college and career choices, and 6 items related to demographic information of respondents. Each question was designed to measure perceptions related to college and career choices as well as demographic information of agriculture students.

Population and Sample

The target population for this study was identified as students enrolled in agricultural education courses in the Kern High School District in Bakersfield, CA. The Kern High School District has 19 comprehensive high schools, 13 of which offered agriculture coursework during the 2014-2015 academic year. The sample included 68 senior students and recent graduates from four of those high schools; Foothill High School, Frontier High School, Highland High School, and North High School. Twelfth grade students were identified as any senior student currently participating in at least one

agriculture class. The type of agriculture classes offered to 12th graders varied but included; agriculture mechanics, floral design, veterinary sciences, and agriculture government and economics. A recent graduate was defined as a student that had graduated from high school in the last two years and a student that had also been enrolled in at least one agriculture class during high school.

Treatment

Instrument

Data were collected electronically utilizing a researcher designed survey developed to investigate the effects of agriculture education programs on student's preparedness for post-secondary education (see Appendix B). The survey was designed and implemented using Google Forms as a means of survey instrumentation. Twelfth grade students were surveyed on computers located in their classrooms using a website link provided by their agriculture instructor. Recent graduates were emailed a survey link to be completed independently in a private home setting. Consent by the parent(s) or guardian(s) of participants was obtained through the use of an Informed Consent Form (see Appendix A). To increase participation, respondents received the link to survey through high school agriculture instructors at specified schools sites. Specific instructions were included at the beginning of the survey for all respondents. Research suggests that participant follow up could increase the reliability of research (Dillman, Smyth & Christian, 2009). A follow up email was sent as a reminder to each agriculture instructor one week after initial email and again two weeks after initial email to increase response rate.

Reliability and Validity

The validity of the survey instrument was reviewed by a panel of experts in education and agriculture. The panel of experts included a high school head counselor, a state agriculture education consultant, a professor of agriculture education, and a district agriculture education coordinator. This panel surveyed the survey document and offered suggestions prior to administration of the survey.

A pilot survey was used to estimate reliability of the survey. Thirty-four students were surveyed in the pilot study. The Cronbach's alpha reliability for the pilot study was determined to be .89 ($n=34$). This reliability coefficient is within acceptable range for educational research (Fraenkel & Wallen, 2009). No changes were made to the instrument as a result of the pilot study. Reliability of the survey was also determined using Cronbach's alpha. The post-hoc reliability was determined to be .93 ($n=68$).

Data Collection

Data from this study were collected in April of 2015. Four schools were randomly selected to participate in the study and the department chair of the desired school sites were notified by electronic mail. An informed consent form was provided to agriculture instructors to obtain parent or guardian permission for student participation prior to electronic survey. Google Forms was used as a means of electronically collecting survey responses from participants through the use of a website link provided to each agriculture instructor. In addition, the survey informed participants that their participation in the research study was voluntary and if they did not wish to participate in the research study, they could decline by clicking the "disagree" button. The Institutional Review

Board at California State University, Chico authorized the survey instrument. The department chairs from the school sites that were selected identified 95 current students and recent graduates from their agriculture programs to participate in survey. Of the 12th grade agriculture students and recent agriculture program graduates identified, 68 responded to the survey, yielding a response rate of 71.58% for this study. To avoid non response error, follow up emails were sent to all agriculture teachers with students selected to participate in the research. A comparison of early and late responders indicated no substantial differences, implying no further threats to reliability.

Data Analysis Procedures

Data were analyzed using IBM SPSS Statistics -version 23.0. The mean, standard deviation and frequency were calculated for each survey question. Research questions were identified by construct for each of the four research objectives.

CHAPTER IV

FINDINGS AND RESULTS

Presentation of Findings

Objective One

The intent of objective one was to describe the demographics of the agriculture student population in relation to college and career readiness. Table 1 indicated that more of the individuals surveyed were current high school seniors (94.12%) than recent high school graduates (5.88%). Most agriculture students first received advice on the courses necessary for college admission in ninth grade (45.59%), followed by eighth grade or earlier (17.65%). Surprisingly, few students indicated that they did not receive advice (5.88%). More students described their educational status as on track to meet high school graduation requirements and A-G eligibility (52.94%) followed by students on target to meet high school graduation requirements (30.88%). Most students indicated that three years of high school mathematics coursework was the most difficult A-G requirement to meet (51.47%), followed by two years of coursework in a language other than English (30.88%). Fewer students indicated the most difficult A-G requirement as laboratory science-2 years (11.76%), visual and performing arts -1 year (11.76%), English-4 years (16.18%), and history/social science-2 years (14.71%). The fewest students indicated 1 year of coursework in a College Preparatory Elective (2.94%) as the most difficult A-G requirement. The largest number of agriculture students

Table 1

Demographic Characteristics of Agriculture Students (n = 68)

Characteristic	<i>f</i>	%
Grade level		
High school senior	64	94.12
High school graduate	4	5.88
Year first received advice from school on courses to gain admission to college		
9th Grade	31	45.59
8th Grade	12	17.65
10th Grade	8	11.76
11th Grade	8	11.76
12th Grade	5	7.35
Did not receive advice	4	5.88
Educational status		
Will meet high school graduation requirements and A-G eligibility	36	52.94
Will meet high school graduation requirements	21	30.88
Received a high school diploma and met A-G eligibility requirements.	7	10.29
Received a high school diploma	4	5.88
A-G requirement that is most difficult to meet		
Mathematics-3 years	35	51.47
Language other than English-2 years	21	30.88
English-4 years	11	16.18
History/Social Science-2 years	10	14.71
Laboratory Science-2 years	8	11.76
Visual and Performing Arts-1 year	8	11.76
College Preparatory Elective-1 year	2	2.94
Educational plans after high school		
Attend a community college	36	52.94
Attend a four-year college or university	24	35.29
Other	5	7.35
Undecided	3	4.41
Employment plans after high school		
Work part-time	42	61.76
Work full-time	15	22.06
Undecided	11	16.18
Role since graduating high school		
Have not graduated	59	86.76
Working part time	13	19.12
Attending a four year University	4	5.88
Working full time	2	2.94
Attending a community college	2	2.94
Other	1	1.47

expressed a desire to attend a community college (52.94%) after finishing high school followed by students planning to attend a four-year college or university (35.29%). Most agriculture students plan to work part time (61.76%) after finishing high school preceded by the number of students planning to work full time (22.06%). The least number of students were undecided on their employment plans after high school.

Objective Two

The second objective sought to determine student perceptions of their preparedness for post-secondary and career plans. The first eight statements in the student survey were designed to evaluate the perceptions of students using a Linkert scale of (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. The mean and standard deviation were determined by analyzing the sum of responses for each of the eight statements. Agriculture students overwhelmingly agreed that they understand the requirements to receive a high school diploma ($M=4.56$, $SD=.90$), as seen in Table 2. Results also indicated that students understand the A-G eligibility requirements ($M=4.33$, $SD=.97$). A large number of respondents indicated a plan for after high school ($M=4.24$, $SD=.99$) as well as a career plan ($M=4.09$, $SD=1.09$). A large number of respondents indicated they felt prepared to enter post-secondary education programs ($M=3.86$, $SD=.84$). Results indicated less confidence in the perception by agriculture students that they received the skills needed to be successful after high ($M=3.48$, $SD=1.13$). Agriculture students shared similar perceptions on their preparedness for life after high school ($M=3.68$, $SD=1.04$) and their preparedness to enter the workforce ($M=3.60$, $SD=1.01$).

Table 2

Analysis of Student Perception for Post-Secondary and Career Plans (n = 68)

Item	<i>M</i>	<i>S.D.</i>
Understand high school diploma requirements	4.56	.90
Understands A-G eligibility requirements	4.33	.97
Has plan for after high school	4.24	.99
Has a career plan	4.09	1.09
Feels prepared to enter post-secondary educational program	3.86	.84
Prepared for life after high school	3.68	1.04
Feels prepared to enter workforce	3.60	1.01
Feels received skills needed to be successful after high school	3.48	1.13

Objective Three

The third objective sought to determine student perceptions regarding the effectiveness of the agriculture program in preparing students for post-secondary education and careers. The third construct included six statements in the student survey that were intended to evaluate the perceptions of students using a Linkert scale of (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. The mean and standard deviation was determined by analyzing the sum of responses for each of the six statements indicated. Respondents shared similar perceptions regarding the effectiveness of agriculture programs, which can be seen in Table 3. The greatest number of students indicated that the agriculture program helped to develop skills that will be useful after high school ($M=4.35$, $SD=9.7$). Students agreed that the agriculture program helped them grow as an individual ($M=4.29$, $SD=1.00$) and that the agriculture program helped them explore career opportunities ($M=4.24$, $SD=.91$). Students also expressed that the agriculture program helped them develop skills that will be beneficial in college or a career ($M=4.23$, $SD=1.05$) as well as helping encourage students to explore educational

Table 3

Analysis of Student Perceptions Regarding The Effectiveness of the Agriculture Program in Preparing Them for Post-Secondary Education and Careers (n= 68)

Item	<i>M</i>	<i>S.D.</i>
The agriculture program has helped me develop skills that will be useful after high school	4.35	.97
The agriculture program has helped me develop skills that will be useful after high school	4.35	.97
The agriculture program has helped me grow as an individual	4.29	1.00
The agriculture program has helped me explore career opportunities	4.24	.91
The agriculture program has helped me explore career opportunities	4.24	.91
The agriculture program has helped me develop leadership skills that will be beneficial in college or a career	4.23	1.05

opportunities ($M=4.20$, $SD=.98$). The lowest average within this construct was the perception that the agriculture program has helped students seek financial support to fund their educational opportunities ($M=3.97$, $SD=1.14$).

Objective Four

The fourth objective sought to determine specific individuals and outside factors that influence student's choices towards planning for post-secondary education and careers. Table 4 shows the agriculture students surveyed agreed that they have formed a bond with an adult or mentor who has helped provide them college and/or career advice ($M=3.83$, $SD=1.26$). In analyzing factors that contribute to post high school plans, students were asked to select all factors that applied. Students overwhelming selected family support (66.18%) and experiences in agriculture education (60.29%). The cost of continuing education closely followed in number of respondents (52.94%). The number of students that selected experiences provided by extra-curricular activities

Table 4

Analysis of Student Perceptions Regarding the Individuals and Outside Factors that Influenced Their Choices towards Planning for Post-Secondary Education and Careers (n=68)

Item	M	S.D.
I have formed a bond with an adult or mentor who can help me with college and/or career advice	3.83	1.26
Factors that have influenced post high school plans*		
Family support	45	66.18
Experiences in agriculture education	41	60.29
Cost of continuing education	36	52.94
Experiences provided by extra-curricular activities besides agriculture	25	36.76
Experiences provided by other curriculum areas	21	30.88
Lack of family support	10	14.71
Other	3	4.41
People who have discussed college admissions requirements with you during high school*		
High school counselor	51	75.00
High school agriculture teacher	46	67.65
Parent(s)/guardian(s)	44	64.70
A high school teacher	37	54.41
Friends/classmates	28	41.18
Other	4	5.88
People who have discussed career plans with you during high school*		
Parent(s)/guardian(s)	50	73.53
High school agriculture teacher	42	61.76
Friends/classmates	35	51.47
High school counselor	34	50.00
A high school teacher	27	39.71
Other	2	2.94

*Note: Respondents were allowed to identify all factors that applied.

besides agriculture (36.76%) was slightly higher than experiences provided by other curriculum areas (30.88%). The fewest students selected lack of family support (14.71%) as a factor that influenced their post high school plans. In regards to individuals that have

discussed college admissions requirements with students during high school, the greatest response was towards a high school counselor (75.00%). A high number of students also discussed college admissions requirements with a high school agriculture teacher (67.65%), a parent/guardian (64.70), and a high school teacher (54.41%). Fewer respondents indicated that they discussed college admissions requirements with a friend or classmate (41.18%). Finally, agriculture students were asked to identify any individuals that discussed career planning options with them. The greatest number of responses indicated that students discussed career plans with their parent/guardian (73.53%). This response rate was followed by the number of students who discussed career plans with a high school agriculture teacher (61.76%, or a high school counselor (50.00%). The fewest number of students expressed that they had discussed career plans with a high school teacher outside of agriculture (39.71%).

Discussion of Findings

The purpose of objective one was to describe the demographics of agriculture students regarding A-G eligibility requirements along with their college and career plans. For these purposes, both high school seniors and recent graduates were included in the sample. An overwhelming number of respondents were current high school seniors (94.12%). The remaining four respondents indicated that they were attending a four year University (5.94%). Agriculture students indicated they first received advice on the types of courses they would need to take during high school for college eligibility either in eighth grade or earlier (17.65%) or by ninth Grade (45.6%). This response demonstrates that agriculture students have access to information near the beginning of high school

allowing them to make informed course choices. That same group of students varied in response to their current educational status. A larger portion of respondents determined that they were on track to receive a high school diploma while also meeting A-G eligibility requirements (52.94%) while less expressed they only planned to meet the minimum graduation requirements for high school (30.88%). Students expressed that of A-G requirements needed for college admission, three years of mathematics (51.47%) and two years of a language other than English (30.88%) were the most difficult to meet. The findings indicate that most agriculture students planned to continue their education after high school and expressed a desire to attend a community college (52.94%) or a four-year college or university (35.29%). Very few students identified with being undecided of their educational plans after high school (4.41%). A higher number of students met the minimum college entrance requirements and planned to continue their education beyond high school. The results also conclude that most students planned to work at least part-time after completing high school (61.76%) with less choosing to work full-time (22.06%). These results could represent students that planned to pursue further education while also working part-time.

After the demographics of the agriculture students were identified, it was imperative to determine the perceptions students held towards post-secondary and career planning. Students held a positive perception on each of the eight questions measuring post-secondary and career planning, indicating that they are components of a comprehensive agriculture program. Students held strong opinions regarding their understanding of the requirements to graduate from high school and meet A-G eligibility requirements. A substantial number of students planned for both a career and life after

high school, demonstrating that students make decisions prior to graduation. Results show that students are least confident they have received the skills needed to be successful after high school. This may demonstrate that students are not confident that the curriculum they receive is applicable to real world situations. Students also expressed that they are not confident they are prepared for the workplace or post-secondary educational program. This lower level of confidence could show that students in career technical education programs need further exposure to career skills, industry experiences, and hands on opportunities.

Students also held strong positive perceptions towards the effectiveness of their agriculture program in preparing them for post-secondary education as well as careers. The results showed that students believe that the agriculture program at their high school provided skills necessary for success after high school. This demonstrates a strong confidence that the coursework provided in agriculture education is effective in preparing students for the real world. Students also expressed a high level of confidence that the agriculture program enabled them to explore both career and educational opportunities. These results indicate that career and technical education programs like agriculture education prepare students for both continued education and careers. Students felt confident that the agriculture program has helped them grow individually and provided leadership skills, showing that agriculture education courses can be a positive experience for a variety of students.

The final objective sought to determine the factors that influence a student's post-secondary and career plans after high school. More students indicated they spoke with their parents regarding career plans and their counselor regarding college admissions

requirements. Results indicate students discuss both career plans and college admissions requirements with their high school agriculture teacher. These findings indicate that agriculture instructors provide students with college and career readiness opportunities. Students also indicated that they discussed college admissions and career plans with their agriculture instructor more frequently than other high school teachers on their campus. The research also intends to analyze the factor that influences student's plans after high school. A higher number of respondents indicated family support and experiences in agriculture education. These results show that factors both in and out of the classroom influence students decision-making. Fewer students expressed a lack of family support as a factor for their plans after high school.

CHAPTER V
THE CONCLUSIONS AND
RECOMMENDATIONS

Conclusions

The changing landscape of educational policies has created a new focus on preparing students for both college and careers (Au, 2013). Courses in career technical education are designed to balance academic rigor with hands on activities to prepare students beyond the classroom (Murray, 2012). Agriculture education has utilized the three -circle model to prepare students not only to meet the demands of college preparedness, but also to prepare students to enter the workforce (National FFA Organization, 2014). Agriculture programs across the state and nation are preparing students with a foundation of both academic and technical abilities to better prepare students to meet the demand of college and careers.

This study provided a number of observations that are useful in understanding the demographics of the agriculture student population in Bakersfield, California. It was observed that most students have plans to continue their education beyond high school. Respondents also indicate plans to work at least part time after high school. Over half of the students expressed plans to meet both high school graduation and A-G eligibility requirements. Mathematics and a language other than English were acknowledged as the most difficult A-G requirements to meet.

Observations related to students perceptions on their preparedness for college and careers will be helpful for agriculture educators. Students generally understand the requirements for both a high school diploma and A-G eligibility. It was also observed that students have a plan for after high school. The study was limited by the number of respondents that were recent graduates. This data could provide greater insight on the actual correlation to student's perceptions after high school graduation.

It was observed that a high number of respondents overall perceive the agriculture program as effectively preparing them personally for post secondary education and career plans. It was also observed that agriculture programs help develop individual leadership growth while providing students with skills that will be useful in both college and career environments. Students perceive that agriculture programs are least effective in helping students seek financial support to fund educational opportunities.

The study indicated that family support was overwhelmingly the largest influence in the choices students make regarding post high school plans. It should be considered that while family support was a large influence, the lack of family support was not a concern. It was also observed that students rely on more than just high school guidance counselors for support in the decision making process as both agriculture and high school teachers were also indicated as factors. It was also observed that students are very concerned with the cost of pursuing further education. A large number of students indicated experiences in agriculture education as a major factor in college and career plans. Agriculture education would benefit from further investigation into the specific experiences as they relate to the three-circle model of agriculture education.

Implications

Agriculture students perceived that agriculture programs are personally preparing them for post secondary education and career planning. Follow up research is needed to provide agriculture programs with a better understanding of career placement several years after graduating from high school. Revised graduate follow up procedure would provide more beneficial information to agriculture programs across California. Graduate follow up procedures could focus on specific skills or abilities needed in the academic and career settings as students indicated less confidence that they had the skills necessary to be successful after high school. In addition, more research on graduates could provide agriculture programs with a better understanding of the role of agriculture education among career technical education programs.

Recommendations

A larger sample size that includes students from a variety of agriculture program across the state and nation would strengthen this investigation. Furthermore, adjusting the survey to include questions that evaluated both agriculture and non agriculture students would provide more insight into the role of agriculture program in preparing students with college and career skills compared to students not enrolled in agriculture education. This analysis could also include students enrolled in other career and technical student organizations. Finally, to further investigate the influence of agriculture programs additional research must extend to a higher number of recent high school graduates.

Since a high number of respondents expressed that agriculture programs were effective in preparing students for post-secondary education and careers, it was surprising that results also showed that students lacked the confidence that they received the skills needed to be successful after high school. Further research on this matter would help determine specific skills sets that high school graduates lack in preparing for life after high school. Agriculture education should explore additional opportunities to follow up with graduates annually to analyze their progress towards post secondary and career goals. Further research on alumni of high school agriculture programs could provide insight on what specific skills are needed to be successful after high school.

Substantial research has been conducted regarding college and career readiness, yet little research is available specific to agriculture education and FFA. Very little research is available to show the value of agriculture education programs in preparing students to meet both college and career readiness standards. With the shift towards common core, it is imperative that agriculture programs showcase the value of the agriculture education model in meeting the needs of a vast range of students. As career technical education continues to expand, it is imperative that new and existing programs focus on skills that graduates need to be contributing members of society. The agriculture education model serves as excellent framework for balancing academic content knowledge with real world skills and leadership training.

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APPENDIX A

INFORMED CONSENT FORM

Parent/Guardian Consent

The attached survey is part of a thesis research project being conducted by Natalie Ryan, graduate student at California State University, Chico. Your child has been invited to participate in this research project because they are a secondary school agriculture student in California. They will be asked to reflect on their high school experience and answer questions about their views. The results from the study will help us better prepare our students for college and careers after high school.

Your student's participation in this research study is voluntary. They may choose not to participate. If they decide to participate in this research survey, they may withdraw at any time. If they decide not to participate in the study or if they withdraw from participating they will not be penalized.

The procedure involves completing an online survey that will take approximately 5 minutes. Their responses will be confidential. All data is stored in a password protected electronic format. To help protect their confidentiality, the survey will not contain information that will personally identify your student. The results of this study will be used for scholarly purposes and will be released only in summaries where no individual's answers can be identified. The names, school, and districts of the participants will not be released in any form. There are no foreseeable risks, discomforts, or repercussions for them as a participant related to this research.

If you have any questions about the research study, research subject's right, or in case of research related injury, please contact Natalie Ryan at nryan8@csuchico.edu or 559-492-6840. This research has been reviewed according to California State University, Chico IRB procedures for research involving human subjects.

PARENTAL/GUARDIAN CONSENT:

Your signature below indicates that:

- You have read the above information
- You voluntarily agree to participate

____ Parent/Guardian Signature

APPENDIX B

SURVEY

Thinking about your experience as a high school student, indicate the extent to which you agree or disagree with each of the following statements.

To what extent do you agree with the following statements:	Select the best answer:				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I understand the requirements to receive a high school diploma					
I feel prepared for life after high school					
I have a plan for what I want to do after graduating high school					
I understand the requirements for A-G eligibility					
I feel like I received the skills needed to be successful after high school					
I feel prepared to enter the workforce					
I feel prepared to enter a postsecondary educational program					
I have an idea of what I want to do with my career					
I have formed a bond with an adult or mentor who can help me with college and/or career advice.					

Thinking about your experience as a student in your high school agriculture program, indicate the extent to which you agree or disagree with each of the following statements.

To what extent do you agree with the following statements:	Select the best answer:				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The agriculture program has helped me develop skills that will be useful after high school					
The agriculture program has helped me explore career opportunities					
The agriculture program has helped encourage me to explore educational opportunities					
The agriculture program has helped me seek financial support to support my educational opportunities					
The agriculture program has helped me develop leadership skills that will be beneficial in college or a career					
The agriculture program has helped me grow as an individual.					

What factors have influenced your post high school choices?

Factors that have influenced your post high school choices	Check all that apply
a) Cost of continuing education	
b) Lack of family support	
c) Experiences in agriculture education	
d) Experiences provided in other curriculum areas	
e) Experiences provided by extracurricular activities besides agriculture	
f) Other (<i>Please specify</i>)	

Which of the following people have discussed college admissions requirements with you during high school?

People who have discussed <u>college admissions requirements</u> with you	Check all that apply
g) Your parent(s)/guardian(s)	
h) High school counselor	
i) A high school teacher	
j) High school agriculture teacher	
k) Friends/classmates	
l) Other (<i>Please specify</i>)	

Which of the following people have discussed career plans with you during high school?

People who have discussed <u>career plans</u> with you	Check all that apply
a) Your parent(s)/guardian(s)	
b) High school counselor	
c) A high school teacher	
d) High school agriculture teacher	
e) Friends/classmates	
f) Other (<i>Please specify</i>)	

Demographics

1. I am currently a
 - a. High school graduate
 - b. High school senior

2. When did you first receive advice from your school on the proper courses to take to gain admission to college?
 - a. 8th Grade or earlier
 - b. 9th Grade
 - c. 10th Grade
 - d. 11th Grade
 - e. 12th Grade
 - f. I have not received advice

3. Which of the following best describes your educational status
 - a. On track to meet high school graduation requirements
 - b. On track to meet both high school graduation requirements and A-G eligibility
 - c. Received a high school diploma
 - d. Received a high school diploma and met A-G eligibility requirements

4. Which A-G requirement was most difficult to meet (Check all that apply)
 - i. History/Social Science-2 years
 - ii. English-4 years
 - iii. Mathematics-3 years
 - iv. Laboratory Science-2 years
 - v. Language other than English- 2 years
 - vi. Visual and Performing Arts- 1 year
 - vii. College preparatory Elective- 1 year

5. What are your plans for your education after finishing high school?
 - a. Attend a community college
 - b. Attend a four-year college or university
 - c. Undecided
 - d. Other (*Please specify*)

6. What are your plans for employment after finishing high school?
 - a. Work full-time
 - b. Work part-time
 - c. Undecided

7. What are you currently doing since graduating high school? (Check all that apply)
 - a. Have not graduated
 - b. Working full time
 - c. Working part time
 - d. Attending a four year University
 - e. Attending a community college
 - f. Other (*Please specify*)

Your response has been recorded. Thank you for your participation.