

An Investigation of Soft Skill Development of California Agricultural Education
Students Participating in an FFA Career Development Event.

by

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DEDICATION

This research study is dedicated to the more than 83,000 California FFA members who work hard to develop their soft skills through participation in career development events and to the agricultural instructors that make these experiential learning activities possible.

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ABSTRACT

This research project is a descriptive study of Santa Barbara Section Future Farmers of America (FFA) members. The findings in this study determined: 1) soft skills are included in the Foundation Standards for the California Career Technical Education Model Curriculum. 2) FFA members obtained soft skills in agriculture courses in the Santa Barbara Section FFA. 3) FFA members who competed in the Opening and Closing Ceremonies Contest gained more soft skills than those who did not compete. 4) FFA members showed overall improved soft skill scores from freshman to senior years. The researcher used the Life Effectiveness Questionnaire (LEQ-H) Soft Skills Assessment instrument to measure soft skill development by surveying FFA members before and after the Santa Barbara FFA Section Opening and Closing Ceremonies Contest. In total, 303 FFA members participated in the soft skills survey. Of these, 164 FFA members from five high schools within the Santa Barbara FFA Section completed pre- and post-surveys. The researcher identified two groups of students based on their participation in the CDE event, those who did not participate (Group one) and those who did participate (Group two). While completing the LEQ-H Survey, students ranked their soft skills on a scale of one to eight, with one being low and eight being high. The soft skills measured included social competence, time management, achievement motivation, active initiative, self-confidence, emotional control, intellectual flexibility, and task leadership. The descriptive analysis resulted in a mean increase in soft skills for students not competing in the contest, indicating that students enrolled in agriculture courses did acquire soft skills. The research analysis

resulted in a mean increase in soft skills for students who competed in the Opening and Closing Ceremonies Contest, compared to those who did not compete, indicating that the career development events had a substantial impact in the overall gain in soft skills.

Paired Sample *t*-Tests ($p < .05$) for Group One determined that significant changes occurred in three soft skills: time management, task leadership, and emotional control.

Meanwhile, Group Two determined that significant changes occurred in six soft skills: time management, social competence, intellectual flexibility, emotional control, active initiative, and self-confidence.

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CHAPTER I

INTRODUCTION

“I love to visit the agricultural education classroom to witness the magic,” stated Dr. Ron Koenig, past superintendent of the Warner Unified School District, in Southern California. When observing Cal Poly University San Luis Obispo students scoring the Opening and Closing Ceremonies Contest, Greg Beard, California Department of Education South Coast Regional Supervisor, stated, “It is truly magic.” What is the “magic” they are talking about? The author believes that the “magic” is present in experiential learning environments where students work together to complete a task. Students working together to solve problems and take leadership roles are examples of soft skill development. This research study focuses on the development of soft skills by Future Farmers of America (FFA) members in the Santa Barbara Section FFA. The soft skills studied include time management, social competence, active motivation, intellectual flexibility, task leadership, emotional control, active initiative, and self-confidence.

The American Association of Agricultural Education’s National Research Agenda for 2016-2020 addressed this soft skills development in Research Priority Area 3: Sufficient Scientific and Professional Workforce that Addresses the Challenges of the 21st Century (Roberts et al, 2016, p. 29). With the broadening range of agriculture issues and subject matters, the educational system is scrambling to keep pace. Employment opportunities in agriculture continue to grow to meet the needs of a global food and

agricultural enterprise (National Research Council, 2009). As a result, employers are demanding employees have soft skills, often referred to as 21st century skills, upon entering the workforce (National Research Council, 2012). “Agriculture education must determine the most effective means for incorporating and assessing soft skills development” (National Research Council, 2009). “Most educational leaders agree education should prepare students to live and work in a global economy and society” (Roberts et al, 2016, p. 32).

Kyllonen (2013), author of *Soft Skills for the Workplace*, explained the history of academic testing and how it has traditionally been based on the cognitive ability of students. He believed that the 21st Century is the era in which society recognize the importance of soft skills, the role education plays in developing soft skills, and that non-cognitive factors – soft skills such as motivation, work ethic, teamwork, organization, cultural awareness, and effective communication – play an important role in determining success in school and in the workplace (Kyllonin, 2013, p. 22).

In *21st Century Skills: Will Our Students Be Prepared?*, Judy Salpeter (2015) shares six key elements of a report from a public-private coalition known as the Partnership for the 21st Century Skills. The key elements were 1) expand policymakers’ focus to understanding the core academic contents at much higher levels, 2) students need to know about critical thinking, applying knowledge to new situations, analyzing information, comprehending new ideas, communicating , collaborating, solving problems, and making decisions, 3) emphasize the importance of incorporating

information and communication technologies into education from the elementary grades up, 4) appropriate context for learning includes experiences that are relevant to students' lives, connected with the world beyond the classroom, and based on authentic projects, 5) the report's authors believe that certain content essential for preparing students for the 21st Century is missing from state and local standards, and 6) recommendations include moving away from standardized testing as the sole measure of student learning, balancing traditional tests with classroom assessments to measure the full range of students' skills, and using technology-based assessments to deliver immediate feedback (Salpeter, 2015, p. 1).

Pat Crawford and Robert Dalton (2012) stated in their study, *Making Our Graduates Competitive in the Workforce: What Soft Skills Do Students, Faculty, Alum and Employers Value?*, "The importance of soft skills are being extolled internationally - from government reports to university research studies. Employers, students, and faculty are aware of the need to complement professional and technical skills with soft skills" (p. 2). The authors also identified that "findings from US national surveys are reporting that employers are encouraging students to place higher importance on their sense of urgency, being a quick study, being a team player and managing one's own time when in the work place" (SCANS, 2000; Agricultural Future of America and Millennium Research, 2009). In their research study, Crawford & Dalton compared the soft skills priorities of students, faculty, alum, and employers (n=1,036) by using a force-rank response system in Landscape Architecture and allied professions. The soft skills

explored in this study included seven soft skills, each including seven separate characteristics. The data set used originated from a larger Association of Public and Land Grant Universities (APLU) study involving 50 states and 31 Land Grant Colleges as part of their Comparative Analysis of Soft Skills (CASS) survey. The APLU serves as a national voice to university concerns: including 221 public, land grant, and state university systems. In 2012, the APLU National Summit theme was Creating Change: Reforming Curricula for a 21st Century Education. “The planning committee discussed the need to address broader ‘soft’ or ‘employability’ skills, in addition to discipline specific skills, as an important issue for 21st century education” (Crawford et al, 2012, p. 2). The seven soft skills explored in the CASS research included: communication, self-management, teamwork, decision making/problem solving skills, experiences, professionalism, and leadership. Ordinal regression was utilized to identify significant differences between the major stakeholder groups with 38.5% students, 22.3% faculty, 36.1% alum and 3.1% employers (p. 4-5). In this study, communication skills ranked the most important, with listening skills ranked as the highest subset of communication. Though employers and students ranked communication the most important soft skill, they differ on the importance of the remaining skills. Employers and faculty ranked self-management, teamwork, and decision making highest, while students placed significant higher rankings in experiences, professionalism, and leadership. The employer rankings tend to focus at one end of the spectrum of soft skills and the student rankings tend to focus at the opposite end, indicating that “employers may be looking for base skills first, while students may be seeking leadership and other experiences more than the base

skills” (Crawford et al, 2012, p. 4). The highest frequency of differences was between faculty and student comparisons. As Crawford and Dalton made clear in their conclusion, differences in priorities in soft skill development could diminish the potential learning that could occur (p. 10).

The original study conducted by the APLU and the University Industry Consortium included 2,669 students, 898 faculty, 4,262 alum, and 282 employers across the United States; 8,111 survey participants rank ordered seven soft skills (Crawford et al, 2011, p. 3). The intended purpose for this research was to provide conference participants information regarding soft skills to help facilitate dialogue among members attending the 2011 APLU National Academics Programs Summit. In addition to ranking the seven soft skill clusters, survey participants also ranked seven descriptive characteristics within each soft skill area. Employers ranked the soft skill clusters in the following order: communication skills, decision making/problem solving skills, self-management skills, teamwork skills, professionalism skills, experiences, and leadership skills. Similar to the Crawford & Dalton study discussed above, this nation-wide study reported, “Communication is the most important soft skill for all the groups, with over half the employers (52.3%) ranking it 1 or 2” (Crawford et al, 2011, p. 11). All of the stakeholder groups identified decision-making/problem solving as the second highest important skill. Although self-management is ranked third by employers, alum, and faculty, it was ranked fourth by students. Teamwork ranked fourth by all groups, with the exception of students, which ranked it in sixth place. Employers ranked

professionalism fifth, alums, and faculty members placed it sixth, and students placed it in seventh place at the bottom. Students valued experiences more than employers did; students ranked it third and employers ranked it sixth place. Students also ranked leadership in fifth place, while employers, faculty, and alum ranked it at the bottom. Findings compared perceptions, identified misconceptions, ranked priorities for soft skill development, and enhanced the understanding of soft skill clusters for curriculum revitalization (Crawford et al, 2011, p. 1).

Rayfield, Murphy, Briers, & Lewis (2012) conducted a Delphi study that identified innovative agricultural education programs across the United States. The purpose of this Delphi study was to identify and showcase characteristics of programs that are innovative in classroom instruction, supervised agricultural experiences, and FFA activities. The specific objectives were 1) describe what an innovative agricultural education program will look like in 2020, 2) describe the purpose, mission, and objectives of an innovative agricultural education program in the future, 3) describe the components/characteristics of an innovative agricultural education program in 2020, and 4) describe the people involved in innovative agricultural education programs in the future (Rayfield et al, 2012, p. 40). A total of 142 agricultural education programs were nominated and 35 of these programs had teachers willing to document their innovative program activities. The researchers evaluated the responses and determined the following characteristics for innovative programs: used innovative technology, had a creative context for teaching agricultural education, delivered content to new/unique

audiences, had a unique setting for delivering their agricultural education program, or had a highly-specialized training program. Fifteen programs were selected based on the characteristics stated above. These programs represented four out of the six regions recognized by the National Association of Agricultural Educators (NAAE) and three of the four regions recognized by the National FFA Organization (p. 40). The study used three rounds of electronic questionnaires. Round one asked participants four open-ended questions, which garnered 12 participants. In round two, participants were asked to rate 48 statements that were compiled from round one on a five-point scale, one = strongly disagree to five = strongly agree. For round three, all the responses were put into a scale for the participants to rate their level of agreement. The top three responses for “What Will an Innovative Agricultural Education Program Look Like in 2020?” included an innovative program will utilize hands-on activities, will be run by highly motivated teachers, and will match industry trends. The top three responses for “Purpose, Mission, and Objectives of an Innovative Agricultural Education Program in the Future” included utilize the current professional community when teaching the skills needed to succeed in the changing industry, to encourage students to think outside the box and challenge themselves, and to develop life-long learners. The top three responses for “Components/characteristics of an innovative Agricultural Education Program in 2020” included hands-on activities, problem solving skills, and critical thinking (p. 41-45). “Agricultural education has always relied heavily on hands-on experiential learning as a method of instruction” (p. 48).

RATIONALE

In recent years, the funding for agricultural education in the state of California has been highly debated. At one point, the Agriculture Incentive Grant that funds the state-wide agriculture education program was removed from the state budget. As reported by the San Joaquin Farm Bureau Federation in an article titled *State Budget Could Kill Ag Classes*, FFA, Gov. Jerry Brown's 2014-2015 budget has eliminated the annual \$4.4 million Agricultural Education Incentive Grant Program. "If it isn't in the budget when the State Legislature adopts it before the constitutional June 30 deadline, thousands of high school students could lose FFA and ag classes" (Anderson, 2014, p. 1). Jim Aschwanden, Executive Director of the California Agricultural Teachers' Association, said, "The elimination of support for high quality, rigorous program standards sends a clear message to schools that agriculture and these programs aren't important for the future of our state's economy. We think this is a terrible mistake." Aschwanden pointed out,

Graduation follow-up data compiled since 1983 shows agricultural education programs currently send more students on to post-secondary colleges and training institutions where they graduate with degrees in larger numbers and in shorter time frames than their peers in general academic programs (Anderson, 2014, p. 3).

It was after a great political battle that the Agriculture Incentive Grant was reinstated into California's State Budget.

In a 2014 personal interview with the author of this study, Aschwanden commented, "Having available research to determine that FFA members are learning

soft skills will increase the awareness by state legislators of the value of agricultural education.” It is his belief that soft skills research could become a bargaining tool to promote the continued funding of agricultural education in the state of California.

PURPOSE

The purpose of this study was to determine that 1) soft skills are included in California’s Agriculture Education Curriculum, 2) soft skill development occurred in agriculture education courses, and 3) a significant change in soft skill development occurred between students who competed in a career development event and those who did not.

The target audience included more than 400 FFA members in the Santa Barbara Section FFA. Many of their FFA members competed in the Opening and Closing Ceremonies Contest in the fall of 2016. As students trained for the contest, they worked collaboratively with teammates and utilized communication skills; they were fully engaged in all four dimensions of Kolb’s Experiential Model. The researcher chose this model to provide the theoretical framework for this study. A pre- and post-survey instrument, the LEQ-H Questionnaire, was used to evaluate the development of soft skills by two groups of FFA members, those who competed in the Opening and Closing Ceremonies Contest and those who do not compete in the contest. Mean, Standard Deviation, Paired Sample T-Tests, and Point Biserial Correlations were used to analyze individual scores and compare group differences.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this study was to determine that 1) soft skills were included in California's Agriculture Education Curriculum, 2) soft skill development occurred in agriculture education courses, and 3) a significant change in soft skill development occurred between students who competed in a career development event and those who did not. Multiple research studies are discussed in the following paragraphs to provide a historical review of soft skills research.

Agriculture Future of America (AFA), in partnership with Millennium Research, Inc., (2009) conducted the Future Leader Preparedness Study to identify the similarities and differences in the career skills students and industry leaders value. Researchers received 150 student responses and 103 corporate responses. More than 90% of students rated these eight attributes as more important to their success: work ethic – (99%), communicate accurately and pleasantly (98%), excellent time management (98%), think through problems (97%), thoroughness (95%), networking (93%), practical approach (93%), and self-starting (92%) (Agricultural Future of America and Millennium Research, 2009, p. 2). Industry leaders and students agreed on the top four skills: work ethic, communicate accurately and pleasantly, excellent time management, and ability to think through problems. The results of the survey conveyed a clear message, “Continued development of human capital and the need to invest in the passion of young people is critical to the success of our industry” (Agricultural Future of America and Millennium Research, 2009, pgs. 3-4).

In *Employer Skills Survey 2013: Wales Report*, 91,000 employers in the United Kingdom explored the skills challenges that employers face. Nearly all of the employers, 97%, said that their hard-to-fill vacancies were a result of skill shortages reported as having an impact on their establishments (UK Commission for Employment and Skills, 2009, pg. 9). The report identified a skills gap in north Wales that has been at least in part due to increased recruitment of new people. Seventy-two percent of the establishments expressed a need to increase or refresh skills with in the next year. Skills lacking among staff included team working skills (56%), problem solving skills (51%), oral communication skills (40%), and customer handling skills (38%) (UK Commission for Employment and Skills, 2009, pg. 45). The 2013 findings report that 63% of the establishments with skills gaps were negatively affected; the most common impact was the increased work load on other staff members (p. 46).

Cangelosi & Petersen (1998) shared similar information in a presentation to the American Vocational Association National Convention. They believed that many students are not equipped with appropriate communication skills to be successful in the 21st Century. At their school site in Logan, Utah, they implemented a six-week training course to teach students assertive communication skills. The training course included a self-assessment survey, reviewing research articles on verbal and nonverbal communication, participating in interactive games, reading books regarding emotional intelligence, and watching videos explaining assertive communication practices. Students responded positively to the training and learned additional soft skills to prepare

them for the workplace. “Thus, teaching students to be team players, tolerant of others, good listeners, and assertive communicators prepares them to deal with the stress and complexity of the workplaces of the future” (Cangelosi & Petersen, 1998, pg. 4).

One hundred and forty young professionals under the age of 40 from different stakeholder groups in agriculture around the world (India, Kenya, Nigeria, Europe, Australia, North America and others) responded to a questionnaire that rated competencies on their level of perceived importance then and five years later. Young Professionals’ Platform for Agricultural Research for Development (YPARD) commissioned *Working Towards a New Generation of Young Professionals in ARD* (Agricultural Research for Development) with the intent of contributing to the agricultural curriculum and policy reform discussion. This study determined, “Curricula must be revised to provide students with training for a career in Agricultural Research and Development (ARD) to acquire soft skills rather than only technical skills and theory” (Percy-Smith & Akkermans, 2012, p. 4). General competence groups identified the following two points. First, communication and research skills were considered more important than business skills and more important than technical skills in five years. Secondly, Western respondents perceived technical skills as being significantly less important than research, communication, or interpersonal skills. YPARD’s recommendations included 1) curriculum developers must involve a range of stakeholders in rapid identification of relevant revision to curricula, 2) internships are crucial to building a cadre of well-prepared young professionals for careers in ARD, 3)

entrepreneurship and links to the private sector are essential for the rejuvenation of the industry, 4) information obtained in this study should be used to inform capacity development strategies for young professionals in ARD, and 5) use this document to take the discussion further, build on the research and stimulate the creation of agricultural curriculum work groups (Percy-Smith & Akkermans, 2012, p. 4-5).

In 2014, Forum for Youth Investment published *From Soft Skills to Hard Data: Measuring Youth Program Outcomes*. The study was funded by the William T. Grant Foundation and offered reflections in four main areas: purpose, logic, design, and language. In addition, they compiled 10 different youth development measurement instruments to assist organizations in measuring soft skills. “Youth-serving programs and systems experience increasing pressure to improve policy-relevant outcomes. And across education, youth development and workforce circles, emphasis on socio-emotional or 21st century skills such as communication, collaboration, critical thinking, and initiative continues to grow” (Wilson-Ahlstrom et al, 2014, p. 2).

A Delphi study, *Entry-level Technical Skills that Teachers Expected Students to Learn through Supervised Agricultural Experiences (SAE's): A Modified Delphi Study*, conducted by Ramsey and Edwards (2012) expressed their concern regarding the high percentage of students not participating in supervised agriculture experience (SAE). SAE's are a major component of the “three-circle model” used in agricultural education, which focuses on the integration of classroom and laboratory instruction, youth development, and experiential learning. The purpose of their study was to describe the

perceptions of an expert panel of agriculture teachers regarding the entry level technical skills that they expected students with SAE's to learn. Nineteen panelists provided 555 original technical skills during round one, of which 260 were retained for round two of the study. Panels rated the 260 technical skills on a scale of one to six, ranging from one = strongly disagree to six = strongly agree. The panel reached consensus on 140 items in the second round. During the third round, the panelists reached consensus on an additional 86 entry level skills, for a total of 161. It was concluded that students acquiring these skills would be competent to work at entry level positions in the agriculture industry. Panelist concluded that SAEs held the most potential for students learning entry-level technical skills as related to the seven Agriculture Food and Natural Resource career clusters (Ramsey & Edwards, 2012, p. 42-51)

In a very similar Delphi study, *Benefits of Career Development Events as Perceived by School-Based, Agricultural Education Teachers*, Lundry, Ramsey, Edwards, and Robinson (2015) expressed concern that agricultural education teachers may not understand fully the technical and non-technical skills learned through career development events (CDEs). "Agriculture is the nation's largest employer with more than 24 million people working in some phase of the agriculture industry; however, the knowledge and skills needed in today's agricultural industry are lacking" (Lundry et al, 2015, p. 43). This Delphi study included three rounds. In round one, 30 participants were asked three open-ended questions: 1) *What skills do students acquire as a result of their participation in CDEs?*, 2) *How do CDEs prepare students for potential*

agricultural careers?, and 3) *How do CDEs improve students' knowledge about potential agricultural careers?* Respondents identified 126 skills and 196 original statements. Thirty-seven statements were retained for round two. In round two, 22 participants rated the 37 statements on a scale of one to six. In round three, participants were asked to rate their level of agreement for three skills derived from the question, *What skills do students acquire as a result of their participation in CDEs?* In addition, they were asked to rate their level of agreement for two statements derived from the question, *How do CDEs prepare students for potential agricultural careers?* Round two and three findings included 23 skills and 11 statements regarding CDEs that reached consensus. The list of skills and statements are on pages 49-50 of the Delphi study. The results determined that agricultural education teachers perceived that CDEs supported career and life skills that are beneficial for employment in the agricultural industry (Lundry et al, 2015, p. 43). "Agricultural education exists, in part, to provide the development of life skills for students to discover their career path and realize success through experiential learning" (Baker, Robinson, & Kolb, 2012, p. 6).

To ensure that Indonesia accountants were able to compete in the global market and uphold international standards of competence, the Directorate of Higher Education demanded a change in the direction of higher education for graduates at Widyatama Accountancy Professional Education (APA) University in Bandugn, Indonesia. Changes in the world of work have altered manpower requirements, namely the requirement that the dominant soft skills are necessary in addition to hard skills (Herawati, 2012, p. 156).

According to data from the marketing department of Widyatama University, the low competitiveness of graduates was mainly due to inadequate soft skills. This report analyzed not only the importance of soft skills, but it also researched how students acquire soft skills. The results determined that instructors using the lecture style of teaching were actually inhibiting the learning of soft skills. After a review by the author, a lack of support in the development of students' soft skills indicated the need for a new teaching method that integrated aspects of scientific ability, hard skills, with affective aspects of soft skills (Herawati, 2012, p. 161).

Research at the University of Southern Indiana regarding project managers determined that “[t]he need for excellent interpersonal, or soft skills, are necessary requisites for success” (Gillard, 2009, p. 723). Project managers oversaw two types of groups, team members assigned to their groups and subject matter experts. Skill and finesse were required to lead a project to success. Leadership, as opposed to management was preferred in directing the outcomes of the project. Gillard's research explained the difference between leadership and management; leadership required different knowledge, a different skill set, and accomplishes a different purpose. He quoted Sampson (2017, p. 41), “The skills required for project management are now often divided 50/50 into traditional ‘hard skills’, such as risk management and scheduling, and ‘soft’ people-oriented skills, such as interpersonal communication.”

Schulz, a Senior Lecturer at the Polytechnic of Namibia, authored *The Importance of Soft Skills: Education beyond academic knowledge*. In his paper, Schulz made a survey of the importance of soft skills in students' lives both at college and after

college, discussed how soft skills complement hard skills, and acknowledged educators' responsibility regarding soft skill development. "For decades employers as well as educators frequently complain about a lack in soft skills among graduates from tertiary education institutions" (Schulz, 2008, p. 146). In identifying the most important soft skills, communication is listed first by Schulz. Communication skills are not only necessary for a person's professional career but also contribute to a person's social competence. Good social skills are required in the work place and necessary for career advancement. Critical thinking and structured thinking go hand in hand with problem solving skills. It is highly important to critically filter incoming information, analyze it, and make informed decisions. The last soft skill that Schulz addressed was creativity, "thinking out of the box" to find innovative approaches to problem solving. Schulz explained that once employed, people who master soft skills have better career opportunities, because employers prefer to promote staff members with superior soft skills. "Soft skills fulfill an important role in shaping an individual's personality" (Schulz, 2008, p. 146).

Knowing that students needed to be prepared for a global market, Attakorn's research objective was to study the soft skills of new teachers within the secondary schools of Khon Kaen Secondary Educational Service Area 25, Thailand. "It is often said that hard skills will enable individuals to obtain an interview, but soft skills enable individuals to secure a job" (Attakorn et al, 2013, p. 1010). Sixty purposive samples determined that new teachers had obtained soft skills at a very high level. The Thailand study identified seven soft skills to be included in the teacher development programs.

“Communication skills ranked highest among the seven soft skills. Next in order, were life-long learning and information management skills, critical and problem solving skills, team work skills, ethics, moral and professional skills, leadership skills, and innovation invention and development skills were lowest in all skills” (Attakorn et al, 2013, p. 1010).

In Penang and Kedah state, Malaysia, researchers investigated the relationship between the head masters’ soft skills and school improvement in high performing schools. They had seen issues related to school leaders lacking in soft skill who were also weak in management. The study involved 205 teachers from six high performing schools. The objectives of the study included 1) to identify the frequency of implementation of eight components of leadership soft skills by the headmasters, 2) to identify the teachers’ perceptions on school improvement, and 3) to examine the relationship between the components of leadership soft skills and school improvement. A five-point Likert scale was used to measure the teachers’ responses toward their headmasters. The mean scores for the eight components are in order from the highest to the lowest: collaboration/teamwork, leadership ability, presentation skills, people development/coaching, communication skills, planning and organizing, personal effectiveness/mastery, and initiative. “School improvement was significant, positive and moderately correlated with all the eight components of leadership; an increase in leadership ability ($r = 0.66$; $p < 0.01$) is associated with an increase in the level of school improvement” (Ngang et al, 2014, p.2130). According to the teachers’ perceptions, the headmasters possessed high soft skills, while at the same time school improvement was

also at a very high level. The author recommended, “Therefore, headmasters are advised to utilize soft skills in their leadership practice in order to enhance school improvement” (Ngang et al, 2014, p. 2127).

In Statesboro, Georgia, the information technology industry (IT) and the Accreditation Board for Engineering and Technology (ABET) demanded soft skills training in Georgia Southern University IT courses. The soft skills included the ability to communicate well, work in teams, and manage conflict. IT courses required massive amounts of hard technical skills leaving little room for soft skills. The objective of this course was to embed soft skills training into a technical skills class and design two peer-evaluation assessment tools for measuring soft skill development. To accomplish this objective, instructors designed a group teaching model that required thorough understanding of the topics and soft skills to communicate the information at different levels, member to member within the group and group-to-group in the class. Based on the theoretical models of cooperating education and deep learning, the IT course randomly assigned 24 students to five topic areas and used group projects to provide soft skills training and group teaching to achieve deep learning. Two peer evaluation tools were designed and administered at the end of group learning and again at the end of group teaching. Statements were selected from the IT students’ final term papers. In the area of “Gained Interpersonal Skills (Soft Skills)”, they reported that the group projects were valuable, they had gained interpersonal skills, and that conflict resolution taught them to learn from their mistakes and admit to being wrong in front of others. Implementing deep learning technics, the group projects’ goal was to teach and help

others to learn; students had to thoroughly understand the topic and were expected to assist students in their group. One student reported,

I learned (Personal Home Page software) PHP the best out of all the topics because when I was helping people who asked questions about the assignments trying to explain it to them helped me to understand and grasp concepts about PHP that I wouldn't have figured out otherwise (Zhang, 2012, p. 74).

Authors at the National University of Singapore published an article in *Nurse Educator* acknowledging the criticism that new nursing graduates lacked soft skills; however, they believed that soft skills could be modified and enhanced through education. They recognized that communication ability, clinical interaction, interpersonal relationships, and social problem solving were additional skills required in the nursing industry. "In line with this, curriculum development should focus on utilizing appropriate pedagogic techniques that enhance the learning and development of soft skills" (Lau & Wang, 2014, p. 246). The objectives of this study included 1) develop a learner-centered educational summer camp program for nursing students, and 2) evaluate the effectiveness of the camp program on enhancing the participants' soft skills. Designed to achieve specific objectives, five experiential learning games provided a positive impact on the learning process and brought a sense of real-life complexity into the teaching environment. Four Chinese validated questionnaires evaluated student performance: Communication Ability Scale (C-CAS), Clinical Interaction Scale (C-CIS), Interpersonal Dysfunction Checklist (C-IDC), and Social Problem Solving Inventory-Revised (C-SPSI-R). Pre-test, post-test, and paired *t*-tests

analyzed the data collected from 59 students. Increased mean scores in all four categories indicated that the camp had a beneficial effect on nursing students' communication skills, clinical interaction skills, interpersonal relationships, and social problem solving. In particular C-CAS ($p < .0001$) scores far exceeded the other categories with an effect size (ES) of 1.43. "It has been shown through this study that the summer camp program, which incorporated sharing sessions with experienced clinical experts and experiential learning games, was effective in improving nursing students' soft skills" (Lau & Wang, 2014, p. 250).

Similar to the nursing program in Singapore, Outward Bound (OB) Programs have utilized experiential learning and outdoor education in their youth development programs for over 40 years. According to Hattie, March, Neill, & Richards (1997, p.44), Kurt Hahn devised the first OB program for the Blue Funnel Shipping Line to reduce the loss of lives due to sinking ships in the Atlantic Ocean. The success of these programs in England led to 48 more programs in five continents. By 1994, over 40,000 students world-wide participated in OB programs. The common features of the OB programs included: a wilderness setting, small groups, mentally and physically challenging objectives, frequent and intense problems solving and decision making interactions, non-intrusive trained leaders, and 2-4 weeks long programs. Hattie, Marsh, Neill, and Richards (1997) addressed the issue of small sample size and the frustration of not detecting statistical significance. "Given the small samples in much of adventure program research, the resulting power must of necessity be low" (p.49). It was for this reason that Hattie and associates utilized a meta-analysis of 96 studies, representing

12,057 participants, outdoor education programs to prove that OB educational programs make notable long-term impacts on people's lives. Over 40 categories were coded into six dimensions by the authors. The dimensions and the overall effect were leadership (.38), self-concept (.28), academic (.46), personality (.37), interpersonal (.32), and adventuresome (.38) (Hattie et al, 1997, p. 43-77). "The Outward Bound method is based on a philosophy of experiential learning" (Neill et al, 2001, p.7). Neill believed that people learn best by doing something, reviewing their performance, and then planning to do the task in the future; thus, creating a powerful learning cycle. Neill based his cycle on a model created by David Kolb (p. 7). In *The Process of Experiential Learning* published in 1984, Kolb explained,

This perspective on learning is called "experiential" for two reasons.

The first is to tie it clearly to its intellectual origins in the work of Dewey, Lewin, and Piaget. The second reason is to emphasize the central role that experience plays in the learning process (Kolb, 1984, p. 20).

As compared to the lecture method, the experiential learning model provided feedback allowing for a continuous process of goal-directed action and evaluation of the consequences of that action (Kolb, 1984, p. 22). "Lecturers do not have the ability to systematically and methodically make learning relevant to the affective aspect (soft skills), because not all lecturers have enough stock in the area of teaching/pedagogy required in performing their duties" (Herawati, 2012, p. 161).

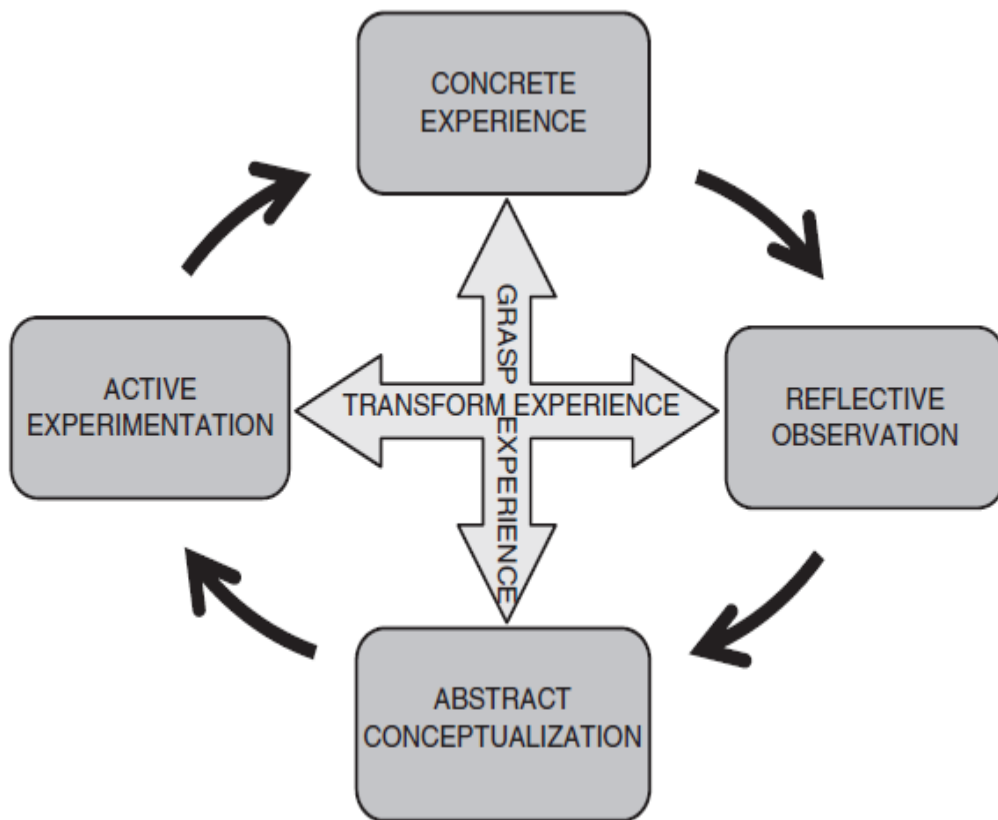
In 2009, Kolb and Kolb revised the Experiential Learning Cycle. "Immediate or concrete experiences are the basis for observations and reflections. These reactions are

assimilated and distilled into abstract concepts from which new implications for action can be drawn (Kolb & Kolb, 2009, p. 299).

Figure 1 illustrates the Experiential Learning Cycle.

Figure 1

Kolb's Experiential Learning Cycle (2009)



As illustrated, experiential learning provided a circular process where students learn through concrete experiences (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE).

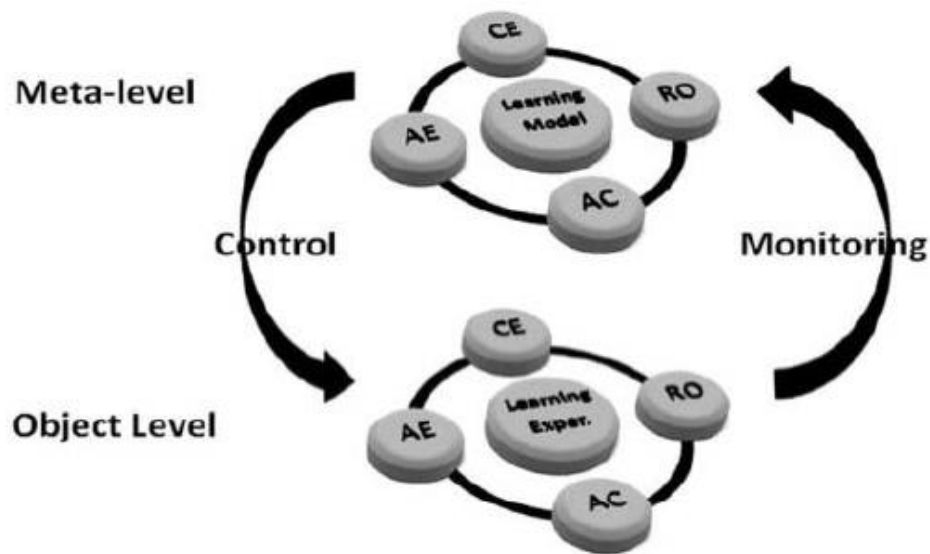
Experiential learning is a process of constructing knowledge that involves a creative tension among the four learning modes. This process is portrayed as an idealized learning cycle or spiral where the learner “touches all the bases” – experiencing, reflecting, thinking, and acting – in a recursive process that is responsive to the learning situation and what is being learned (Kolb & Kolb, 2009, p.298).

In *The Learning Way: Meta-cognitive Aspects of Experiential Learning* (2009),

Kolb and Kolb modified Nelson’s Meta-Cognitive Model to include The Experiential Learning Theory (ELT) Learning Model shown in Figure 2.

Figure 2

Nelson’s Meta-cognitive Model Modified to Include the Experiential Learning Theory Learning Model



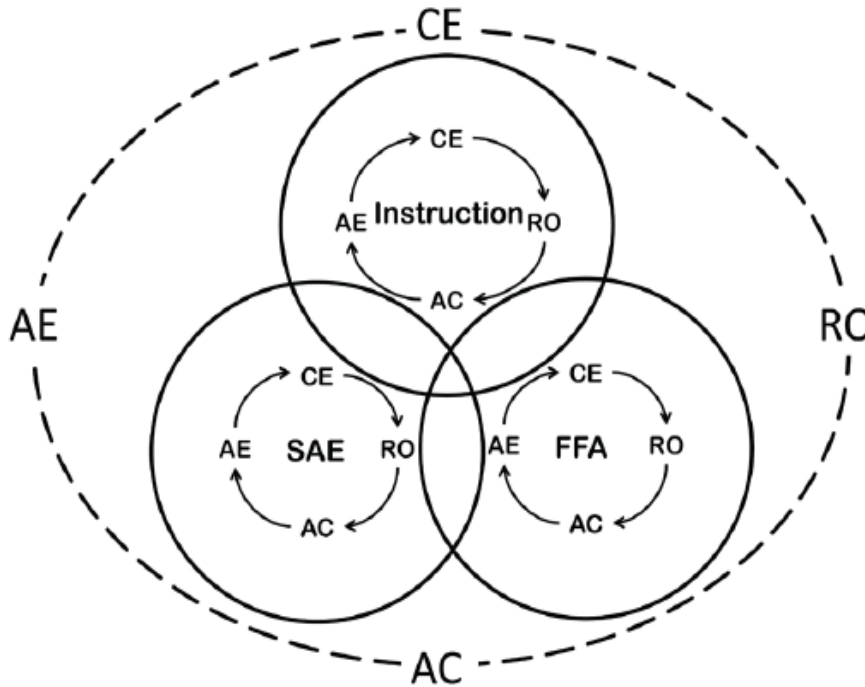
Kolb and Kolb emphasized two cycles of learning: the cycle of learning at the object level represented the learner’s actual concrete learning experience and the cycle at the meta-level described the learner’s normative model of how his or her learning should be. The third cycle of learning, involving the monitoring and control arrows, described how

individuals develop their meta-level model of learning, how they learn about their learning process (Kolb & Kolb, 2009, p. 323).

Baker, Robinson & Kolb (2012) examined Kolb's experiential learning process further in *Aligning Kolb's Experiential Learning Theory with a Comprehensive Agricultural Education Model*. This manuscript sought to explain the specific role experiential learning plays in agricultural education. "The experientail learning cycle provides a good framework to compliment the existing agriculture education model (Baker, Robinson & Kolb, 2012, p. 6). The authors believed that the experiential learning model is embedded in each of the three circles of the Agricultural Education Model (p. 9). Their model is in Figure 3.

Figure 3

Comprehensive Model for Secondary Agricultural Education



Baker & Robinson’s (2016) research study, *The Effects of Kolb’s Experiential Learning Model on Successful Intelligence in Secondary Agriculture Students*, compared experiential learning with direct instruction. “Experiential learning is an important pedagogical approach used in secondary agricultural education” (Baker & Robinson, 2016, p. 129). The purpose of their study was to examine the effects of experiential learning as compared to direct instruction on the successful intelligence of secondary agricultural education students across three domains: practical intelligence, analytical intelligence, and creative intelligence. Of the 80 participants, 38 were assigned to the experiential learning group and 42 were assigned to the direct instruction group. The

results of this study determined that experiential learning had higher creativity and practical scores when compared to those taught through direct instruction. However, experiential learning had lower analytical scores when compared to those taught through direct instruction. “Although the study found experiential learning improves students’ creative and practical skills effectively, and while direct instruction delivered analytical knowledge more effectively, a blended approach is recommended” (Baker & Robinson, 2016, p. 139).

In An Evaluation of a Experiential Learning and Outdoor Education School Program of the Life Effectiveness Skills of Middle School Boys, a group of 104 ninth grade boys were tested over a 10 month period to compare outdoor education (out of school experience) and non-outdoor education (academic) programs. The Pre-Senior Live Effectiveness (PSLE) took place in the east suburbs of Melbourne and was designed specifically to support ninth grade boys’ positive self-concept, increased physical fitness, improved communication skills, and other important life skills (McLeod & Craig, 2004, p. 1-3). “The Life Effectiveness Questionnaire Version H (LEQ-H) was developed by Neill, Marsh and Richards (1997) for the purpose of measuring the changes associated with adventure or other experiential education intervention programs” (McLeod & Craig, 2004, p. 4). The LEQ-H was administered four times over the 10 month period. The results of the LEQ-H determined that participants’ (both groups) overall life effectiveness skills significantly increased ($p < .05$) for all four tests, with the exception from post-test one to post-test two. An ANOVA was performed to determine the difference between the groups. The results determined a significant

difference ($p < .05$) between the outdoor education group and the non-outdoor education group, with the outdoor education group scoring 5% higher mean scores across all life effectiveness skills at each testing time (p. 6). However, the non-outdoor group obtained a greater increase overall from pre-test to post-test. Four t – tests were conducted. The first two tests resulted in significant differences between the two groups ($p < .05$); however, the difference was not significant ($p > .05$) in the final two tests. The outdoor education group obtained high pre-test scores, which may explain why their post-test scores did not increase as much as the non-outdoor education group (p. 7). “This supports the pattern that emerged previously which suggest that if participants’ already believe themselves to obtain high skills in an area, there is less room to improve or vice versa” (McLeod & Craig, 2014, p. 10).

The Life Effectiveness Questionnaire is shown in Appendix A.

THEORETICAL FRAMEWORK

According to Kolb’s Experiential Learning Model, students move through different stages: 1) concrete experiences, 2) reflection and observations, 3) abstract conceptualizations, and 4) active experimentation. In this study of soft skills, some students participated in an FFA competition called the Opening and Closing Ceremonies Contest, which provided an experiential learning activity in which students progressed through these four stages. As shown earlier in the literature review, many research studies have focused on experiential learning as a tool in teaching soft skills. The

learning activities in an Opening and Closing Ceremonies Contest align beautifully with the learning stages of the Kolb's Experiential Learning Model as shown below.

- 1) Concrete Experience - Prior soft skill experience
- 2) Reflective Observation – Reflecting on prior experiences
- 3) Abstract Conceptualization – Prepare for contest and memorization
- 4) Active Experimentation - Participation in the Opening and Closing Ceremonies Contest

When FFA members come together to begin training for the Opening and Closing Ceremonies Contest, they arrive with their own individual skill sets based on their prior experiences. As they begin to process the idea of competing in this public speaking event, they reflect back on their experiences and form an opinion of their skills in this area. Many of these skills are soft skills: communication, teamwork, motivation, emotional control, leadership, self-confidence, social competency and initiative. FFA members then begin to prepare for the contest and start memorizing their parts. After practicing together for weeks, the members compete in the contest. Later, they begin the cycle again with additional prior experiences, which will shape their next learning experience.

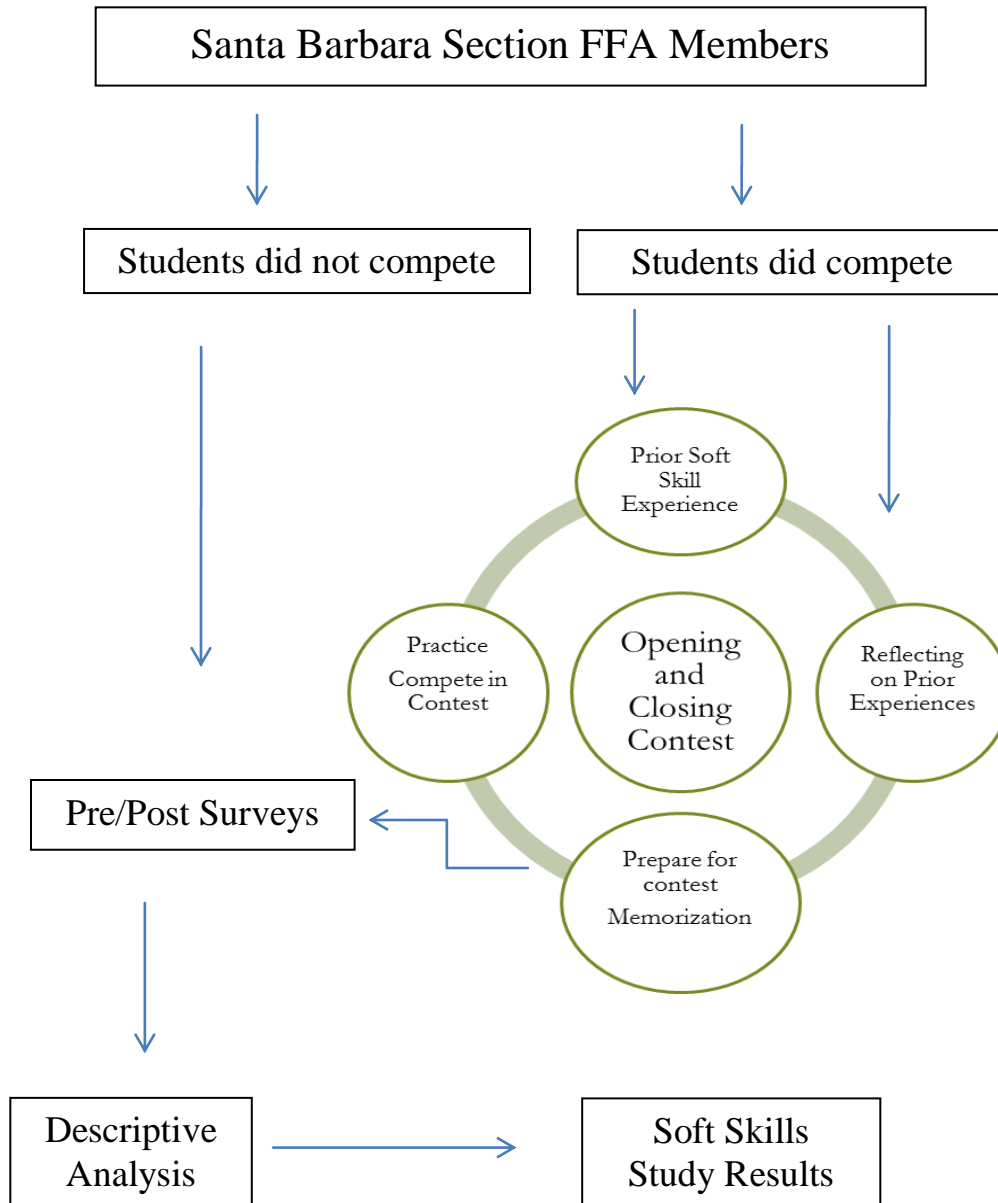
In addition to Kolb's Model, experiential learning was explored by T. Grady Roberts (2006) in his article, *A Philosophical Examination of Experiential Learning Theory for Agricultural Educators*. His manuscript sought to summarize what is known

about experiential learning theory; experiential learning begins with an initial focus of the learner, followed by an experience, then the learner reflects on their observation, formulates a generalization, and then tests the generalization with experimentation. Once completed, the circle starts over in a spiral-like pattern (Roberts, 2006, p.22).

Based on Kolbs' Experiential Learning Cycle, Figure 4 provides a flow chart of each step taken to conduct this soft skills study. FFA members in the Santa Barbara Section FFA participated in pre- and post-soft skill assessments. Their survey results were divided into two groups based on those who competed in the Opening and Closing Ceremonies Contest and those who did not. The researcher evaluated means, standard deviations, and mean differences to determine soft skill development occurring in the agriculture education courses. Mean differences and Paired Sample *t*-Tests analyzed if there were significant differences between FFA members who competed and those that did not compete.

Figure 4

Theoretical Framework: Freeman's Experiential Learning Model



Adopted from Kolb's Experiential Learning Cycle (Kolb & Kolb, 2009, p. 299)

GAP IN SOFT SKILLS RESEARCH

Though there has been tremendous research in the areas of soft skills, 21st Century Skills, and Emotional Intelligence, there is a lack of soft skills research regarding the California Agriculture Education Curriculum and the development of soft skills by California FFA members. Providing this valuable information will heighten the value of agriculture education programs in the state of California. Legislators charged with allocating funds will be able to utilize this research in justifying continued financial support for such valuable programs. In addition, agriculture instructors in the Santa Barbara Section FFA will be able to use the data to show administrators the effectiveness of their programs.

RESEARCH QUESTIONS

The research questions include:

- 1) Is the development of soft skills included in California's Career Technical Education Model Curriculum Framework Standards?
- 2) Are FFA members who are enrolled in agriculture education courses acquiring soft skills?
- 3) Do FFA members' soft skills change more by participating in the Opening and Closing Ceremonies Contest than FFA members who do not compete in the career development event?

CHAPTER III

METHODOLOGY

The purpose of this study was to determine that 1) soft skills were included in California's Agriculture Education Curriculum, 2) soft skill development occurred in agriculture education courses, and 3) a significant change in soft skill development occurred between students who competed in a career development event and those who did not. The methods utilized in this descriptive study are discussed in the following sections.

FFA career development events involve a great deal of experiential learning. Kolb's Experiential Learning Model provided the theoretical lens for this study. Career development events, such as the Opening and Closing Ceremonies Contest, provide experiential learning opportunities for students in California, as well as throughout the nation. The Santa Barbara Section Opening and Closing Ceremonies contest takes place each fall at Cal Poly University in San Luis Obispo, California. Students compete in teams of six, with each student taking on the role of an FFA officer. Their goal is to recite the opening and closing ceremonies flawlessly with correct pronunciation and expression, which requires a great deal of individual and team practice.

The research design would be a descriptive study with three sections: an analysis of California's Career Technical Education Model Curriculum Framework Standards, a descriptive study of how soft skills change through participation in the Opening and Closing Ceremonies Contest, and Paired Sample *t*-Tests to compare students who competed with those students who did not compete. Institutional Review Board (IRB)

approval was obtained on July 22, 2016. IRB approval is found in Appendix B. The strengths of this design include the well-tested LEQ-H Soft Skills Assessment Instrument, an identified target audience made up of high school agriculture education students, the willingness of the Santa Barbara Section agriculture teachers to facilitate the study and collect permissions slips, and the pre-post survey design used to measure the change in soft skills development. The weaknesses of this design include the use of a convenience sample, as opposed to a random sample, the self-evaluation of students regarding their own soft skills, the short timeline to collect and analyze data, and possible threats to internal validity.

The sample for the research project is a convenience sample that consists of 303 FFA members in the Santa Barbara Section FFA. FFA members from five high schools participated in the soft skills study. The researcher administered pre- and post-surveys to all students, whether they competed or not. Analysis of survey results from both groups determined if soft skills had improved and if there was a difference between the groups. If students traditionally competed in the Opening and Closing Ceremonies Contest and their teachers had a working relationship with Cal Poly University was the rationale for sample selection.

The researcher used the LEQ-H Soft Skills Assessment questionnaire as the survey instrument. The questionnaire consists of 24 questions that focus on the following areas; time management, social competence, achievement motivation, intellectual flexibility, task leadership, emotional control, active initiative, and self-

confidence. Table 1 includes a description for each of the eight soft skills included in the LEQ-H Questionnaire. (Retrieved from <http://wilderdom.com/leq.html>)

Table 1

LEQ Factors and Descriptions

| LEQ Factor | Description |
|--------------------------|---|
| Time Management | The extent that an individual perceives that he/she makes optimum use of time. |
| Social Competence | The degree of personal confidence and self-perceived ability in social interactions. |
| Achievement Motivation | The extent to which the individual is motivated to achieve excellence and put the required effort into action to attain it. |
| Intellectual Flexibility | The extent to which the individual perceives he/she can adapt his/her thinking and accommodate new information from changing conditions and different perspectives. |
| Task Leadership | The extent to which the individual perceives he/she can lead other people effectively when a task needs to be done and productivity is the primary requirement. |
| Emotional Control | The extent to which the individual perceives he/she maintains emotional control when he/she is faced with potentially stressful situations. |
| Active Initiative | The extent to which the individual likes to initiate action in new situations. |
| Self Confidence | The degree of confidence the individual has in his/her abilities and the success of their actions. |

The LEQ-H Questionnaire was administered to all students in identified agricultural education classrooms that had FFA members who planned to compete in the Opening and Closing Ceremonies Contest. The researcher presented the on-line Soft Skills Assessment (LEQ-H Questionnaire) to students before and after an FFA Opening and Closing Ceremonies Contest. Students who competed in the contest and those who did not were both invited to participate in the survey. (Qualtrics Survey-Appendix C)

In researching the validity and reliability of the LEQ-H Questionnaire, the following information was unveiled. The LEQ-H had been developed and used in over 20 research projects, including the Measuring and Assessment of Soft Skills (MASS) Project involving six European countries (Aworanti et al, 2015, p. 847). Originally, the design of the MASS was to determine the soft skills gained through educational camping experiences. “Use of the LEQ-H questionnaire resulted in an experiment to introduce a psychometric self-assessment culture in the school and to evaluate the appropriateness of the particular test in the MASS context” (Kechagias, 2011, p. 147). The 24-item LEQ-H was developed by Neill and his colleagues.

As a result, the Life Effectiveness Questionnaires offers a short, reliable, easy-to-use, freely available instrument which has been developed and tested in a wide variety of outdoor education programs and is relevant to the personal development aims which are typical of these programs (Neill, Marsh, & Richards, 2001, p. 22).

Historically, the LEQ-H questionnaire has been utilized for soft skills research in many parts of the world. The reliability and validity of this measurement instrument will be described in the next sections of this study.

A recent study, *Validation of Modified Soft Skills Assessment Instrument (MOSSAI) for Use in Nigeria*, validated a modified version of Measuring and Assessment of Soft Skills for use in the Nigeria setting. A 15-item soft skills instrument was administered to 600 participants in Northern and Southern Nigeria, totaling 1200 participants. Factor analysis was used to analyze data. The results determined that the soft skills needed to enhance performances by Nigerian workers were teachable and examinable. (Aworanti et al, 2015, p. 848).

In 2001, Neill, Marsh, & Richards conducted two studies; administration of the LEQ-G (Study One) and the subsequent version, the LEQ-H (Study Two), took place in a wide variety of field settings, mostly on the first day of various outdoor experience-based programs. The 24-item eight-factor model separately fits well for each of these groups, with Tucker Lewis Index (TLIs) of .94, .95, and .93 respectively (Neill, Marsh & Richard, 2001, p. 32). The table illustrating “Goodness of Fit” is included in Table 2.

Table 2

Dr. James Neill's Goodness of Fit Table

Table 7. Goodness of fit for separate solutions with selected invariance contrasts imposed across gender and age groups for the 24-item 8-factor LEQ model.

| Model | χ^2 | <i>df</i> | TLI |
|---------------------------------|----------|-----------|------|
| No invariance | | | |
| Males | 595.75 | 224 | .960 |
| Females | 528.59 | 224 | .950 |
| 15 to 18 years | 485.13 | 224 | .949 |
| 19 years to 24 years | 548.87 | 224 | .950 |
| 25 years and over | 484.62 | 224 | .937 |
| Gender Invariance | | | |
| Null | 19626.12 | 552 | .000 |
| No invariance | 1124.33 | 448 | .956 |
| NF and FL invariant | 1140.86 | 464 | .958 |
| NF, FL, FCr and FV invariant | 1243.93 | 500 | .957 |
| NF, FL, FCr, FV and U invariant | 1339.15 | 524 | .955 |
| Age Invariance | | | |
| Null | 20183.78 | 828 | .000 |
| No invariance | 1518.63 | 672 | .946 |
| NF and FL invariant | 1566.86 | 704 | .948 |
| NF, FL, FCr and FV invariant | 1680.20 | 776 | .950 |
| NF, FL, FCr, FV and U invariant | 1881.57 | 824 | .945 |

Note: TLI - Tucker-Lewis index; NF = number of factors; FL = factor loadings; FCr = factor correlations; FV = factor variances; U = uniquenesses. The relative noncentrality index (RNI) and the parsimony index (based on the relative noncentrality index) (PRNI) can be calculated from the values presented here. Interpretations based on the RNI are consistent with those based on the TLI. Use of the PRNI would lead to selection of the total invariance models for both gender and age.

In Australia, 16 disadvantaged youth completed the LEQ prior to arriving at Outward Bound (OB) Program (Time 0), on the first day of the program (Time 1), and again on the last day of the program (Time 2). The Colonial Foundation sponsored the 22-day outdoor experience. The results indicated an impressive increase in ES between Time 1 and 2 being .71 and between Time 0 and Time 2 being .86 (Neill, 2001, p 14).

Table 3

LEQ Means, Standard Deviations and Effect Sizes

Table 6

Descriptive statistics, Effect Sizes (in bold), and statistical significance of change for the Life Effectiveness Questionnaire (LEQ) scales ($N=13$)

| LEQ Scale | Time 0 Mean (SD) | Time 1 Mean (SD) | Time 2 Mean (SD) | T1-2 ES | T0-2 ES |
|--------------------------|---------------------|---------------------|---------------------|--------------|---------------|
| Time Management | 5.15 (1.51) | 5.46 (1.33) | 6.51 (1.21) | .84 * | 1.09 * |
| Social Competence | 5.79 (1.81) | 5.77 (1.29) | 6.77 (1.48) | .86 * | .84 * |
| Achievement Motivation | 6.59 (1.22) | 6.59 (1.26) | 7.31 (0.83) | .73 * | .73 * |
| Intellectual Flexibility | 6.26 (1.10) | 6.41 (1.11) | 7.26 (0.89) | .87 * | 1.03 * |
| Task Leadership | 5.10 (1.48) | 5.41 (1.27) | 6.36 (1.65) | .76 * | 1.01 * |
| Emotional Control | 5.59 (1.36) | 5.97 (1.23) | 6.74 (1.33) | .62 * | .93 * |
| Active Initiative | 6.59 (1.50) | 6.74 (1.36) | 7.23 (1.39) | .41 * | .54 |
| Self-Confidence | 6.18 (1.70) | 6.36 (1.33) | 7.00 (1.42) | .57 * | .73 |
| Average LEQ | 5.91 (1.22) | 6.09 (1.00) | 6.90 (1.03) | .71 * | .86 * |

Note. * $p < .05$, based on paired-sample t -tests

The strongest of the program effects appeared to be in the areas of Intellectual Flexibility (openness in thinking and accepting the ideas of others), Task Leadership (capacity to successfully take on leadership roles) and Emotional Control (capacity to remain calm in stressful situations).

The Life Effectiveness Questionnaire was administered three times in the following study, which evaluated the life effectiveness skills of middle school boys. With an average age of 14, 104 ninth grade boys participated from three school campuses in Melbourne. “A one-way repeated measures analysis of variance (ANOVA - for comparing means of more than two groups or levels) was conducted to determine whether differences exist in the overall Life Effectiveness across the test time (pre-test and post-tests) (McLeod & Craig, 2004, p. 5).

Results are in the figure below.

Figure 5

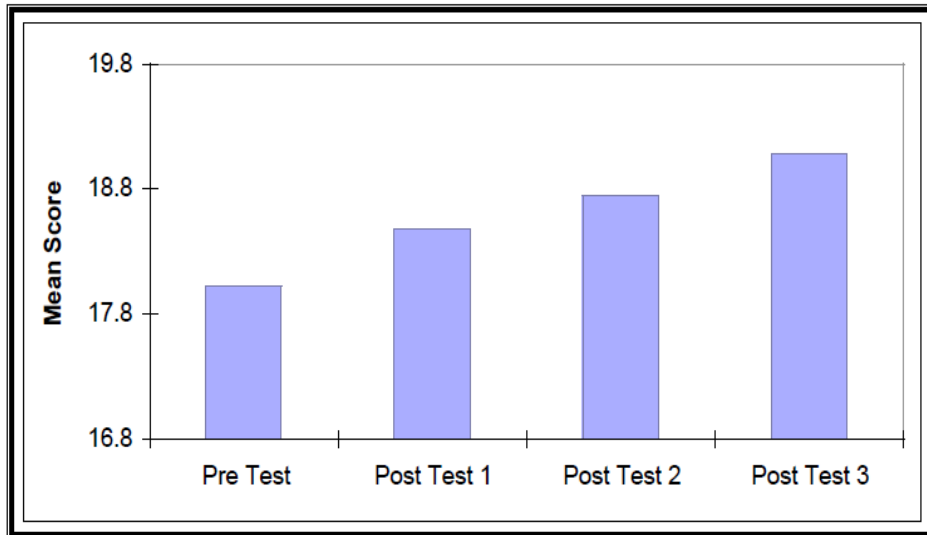
One-way Repeated Measures Analysis of Variance

Figure 1 - Descriptive Statistics for Overall Life Effectiveness from Pre Test to Post Tests.

The participant's overall life effectiveness skills significantly increased ($p < .05$) from the pre test to the post tests. Contrast testing showed significant differences ($p < .05$) from (1) the pre tests to all three post tests, (2) the first post test to the third post test and (3) the second post test to the third post test. However there was no significant difference ($p > .05$) between post test one and post test two.

In 2008, the psychometric properties of the Life Effectiveness Questionnaire-Version H (LEQ-H), examined the life skills in project work (PW) context with Singaporean students. Wang and associates' study examined the internal consistency, as well as discriminant and convergent validity of the subscales in LEQ-H. Five different models were compared: 1) one factor model, 2) eight first-order factors (LEQ-H), 3)

hierarchical nine factor, 4) seven first-order factors, and 5) hierarchical eight factors (p. 33). With the exception of the 1 factor model, all models were acceptable based on the fit statistics. However, based on evidence of the discriminant and convergent validity, the seven- first-order factors model proved to be best. “The test of discriminant validity suggested that Achievement Motivation and Intellectual Flexibility were not independent constructs as the confidence intervals between them exceeded 1.00” (Wang et al, 2008, p. 39).

After reviewing the validity and reliability data from the research studies described above, it was evident the LEQ-H Questionnaire was well tested and would be an acceptable instrument to use in this research study. “There are four main threats to internal validity in survey research: mortality, location, instrumentation, and instrument decay” (Fraenkel, 2012). The duration of time between survey one and survey two was only 60 days; therefore, mortality was not an issue. Students were asked to complete the on-line surveys during their agriculture education classes. They were aware of their need for participation in the survey; however, students did not know the purpose of the research and were not aware data collected was to analyze the effects of the Opening and Closings Ceremonies Contest. The reliability and validity for this instrument (LEQ-H) has already been discussed. Instrument decay is not a threat in this study due to the short on-line survey that students could complete very quickly. Subject characteristics, or selection bias, was considered to be a threat to internal validity. Students in different grades with differing levels of soft skill development may differ on the way they rank their soft skills. For this reason, the researcher used an analysis of the mean differences

between the first and second surveys as opposed to using individual scores. Though measuring the changes in mean scores helped remove some selection bias, it presented another problem; students who already scored themselves very high in some areas on the first survey showed little growth in these areas in the second survey. Further discussion of this problem comes later in the study.

Data collection for this soft skills study began in the fall of 2016. After meeting with the teachers in the summer, students received packets from their teachers in August. The packets contained the student and parental permission slips written in English and Spanish, directions on how to complete the questionnaire, and a link and QR Code for the online Qualtrics LEQ-H survey (Appendices D-G). Teachers were asked to pass the packets out in class prior to the FFA competition. Each agriculture class that had students who planned on competing in the Opening and Closing Ceremonies Contest were asked to complete the surveys. This includes the entire class, students who planned on competing, as well as those who did not. Qualtrics, the online survey tool, reported the results for each survey taken and paired up the pre-test and post-test assessments. By answering the 24 questions on the survey instrument, students identified their soft skills on a scale of one to eight. Data was cleaned to ensure correct pairing of scores and delete incomplete sets of data. An evaluation of each student's results used mean and standard deviation scores. Paired Sample *t*-Tests were also used to determine if there was a significant change between the FFA members who competed in the Opening and

Closing Ceremonies Contest and those who did not compete. A summary of the steps appears in Table 4 below.

Table 4

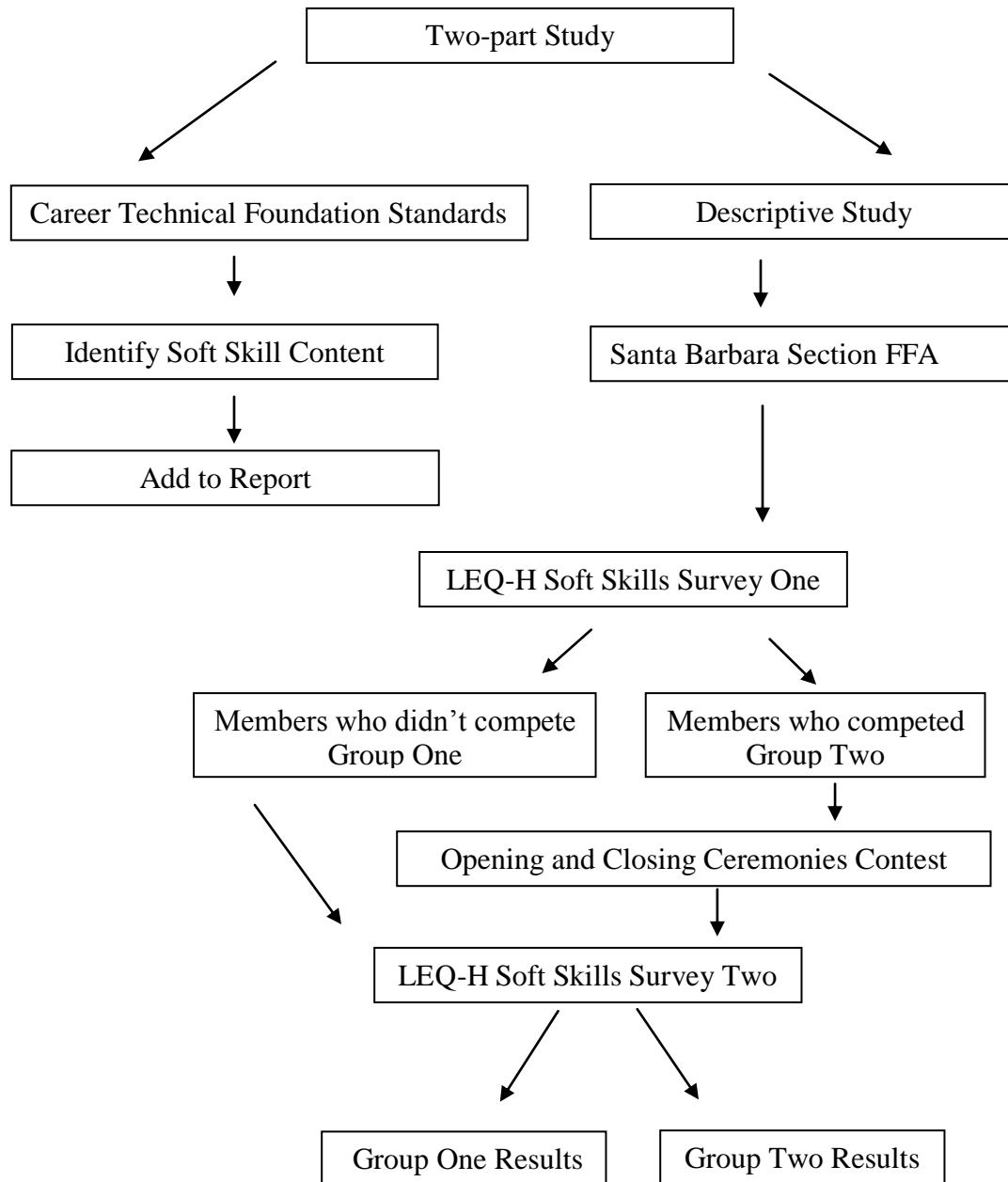
Timeline and Events for the Soft Skill Study

| Who | Date | Event |
|-------------|-------------|--|
| Coordinator | August | Meet with Agriculture Instructors to explain the study and how to introduce the topic to their students |
| Instructor | August | Identify classes that have students who will participate in the FFA Contest |
| Instructor | August | Distribute the study packets |
| Instructor | August | Collect signature pages and ask students to complete the on-line LEQ-H Survey |
| Coordinator | September | Evaluate first round of surveys |
| Cal Poly | October | Provide experiential learning activity (FFA Contest) |
| Instructor | October | Ask students to complete the 2 nd LEQ-H Survey (same questions as the 1 st survey) |
| Coordinator | October | Evaluate 2 nd round of surveys |
| Coordinator | September | Enter data into SPSS and conduct mean, standard deviation, and t-tests |
| Coordinator | Sept-Dec | Analyze data and determine results |

A flowchart for the Operational Framework is shown below.

Figure 6

Operational Framework for the Soft Skills Study



In the past, the LEQ-H Questionnaire was used to evaluate students who have attended outdoor leadership programs. This is the first time that FFA members participated in a study of this kind in California.

The outline of the LEQ-H Survey Analysis is shown below:

I. View Qualtrics Survey Results

A. Download to SPSS and Excel

II. Identify Sample

A. Delete responses from students who did not turn in permission forms

B. Determine overall sample size

C. Pair up surveys from students who completed both surveys

1. Descriptive Statistics – Frequency Table

a. Gender

b. High School

c. Year in the Agriculture Program

d. Year in School

e. FFA Activities

III. Sort Sample into two main groups (Group One and Group Two)

- A. Group One-Students who did not compete in the Opening and Closing Ceremonies and who completed the pre and post surveys.
- B. Group Two-Students who did compete in the Opening and Closing Ceremonies Contest and who completed the pre and post surveys.
(Use registration to verify participation)

IV. Descriptive Statistics for Group One and Two

- A. Frequency Table
 - 1. Gender
 - 2. High School
 - 3. Year in Agriculture Program
 - 4. Year in School
 - 5. FFA Activities

V. Analyze 9th – 12th Grade Scores

- A. Survey One Mean Scores
- B. Survey Two Mean Scores
- C. Mean Difference
- D. Paired Sample and Independent *t*-Tests

VI. Reliability and Data Analysis of LEQ-H Survey

- A. Conduct Cronbach Alpha test to determine reliability

- B. Generate mean difference scores based on student rankings of the following eight soft skills (LEQ-H Questionnaire is shown in Appendix A)
1. Time Management (Questions 1, 9 and 17)
 2. Social Competence (Questions 2, 10 and 18)
 3. Achievement Motivation (Questions 3, 11 and 19)
 4. Intellectual Flexibility (Questions 4, 12, and 20)
 5. Task Management (Questions 5, 13, and 21)
 6. Emotional Control (Questions 6, 14, and 22)
 7. Active Initiative (Questions 7, 15, and 23)
 8. Self Confidence (Questions 8, 16, and 24)
- C. Calculate Mean, Standard Deviation, Standard Error of Mean
- D. Conduct Paired Sample t -Test
- E. Determine Davis Convention for reporting magnitude of correlation

CHAPTER IV

RESULTS AND FINDINGS

The purpose of this study was to determine that 1) soft skills were included in California's Agriculture Education Curriculum, 2) soft skill development occurred in agriculture education courses, and 3) a significant change in soft skill development occurred between students who competed in a career development event and those who did not.

CALIFORNIA CAREER TECHNICAL EDUCATION MODEL CURRICULUM STANDARDS

The California Career Technical Education Model Curriculum Standards serve as the guidelines for the development of Agricultural Education Curriculum throughout the state of California. The Foundation Standards, developed by the California Department of Education in 2006, provide a focus on content—that is, what students actually need to know and be able to do. In 1991, the U.S. Secretary of Labor's report *Secretary's Commission on Achieving Necessary Skills (SCANS)* identified foundation knowledge, skills and abilities, and essential workplace competencies necessary to be competitive in today's global, information-based economy. The Foundation Standards listed below identify standards that support the inclusion of soft skills into the Agricultural Education Curriculum in California: 2.0 Communication, 3.0 Career Planning and Management, 5.0 Problem Solving and Critical Thinking, and 9.0 Leadership and Teamwork. The Framework standards and sub-standards are listed in Appendix H.

DESCRIPTIVE ANALYSIS OF FFA MEMBERS' SOFT SKILLS

The descriptive analysis of the changes in soft skills by FFA members yielded the following results. Four hundred seventy-three FFA members from five high schools within the Santa Barbara Section FFA completed 647 Qualtrics surveys. The five high schools included Nipomo, Pioneer Valley, Righetti, Santa Maria, and Santa Ynez High Schools. The survey responses fell into the following four categories;

- 1) Students who completed the pre-test survey only
- 2) Students who completed the post-test survey only
- 3) Students who completed the pre- and post-surveys, but did not compete in the Opening and Closings Ceremonies Contest
- 4) Students who completed the pre- and post-surveys and did complete in the Opening and Closings Ceremonies Contest

After verification of signatures on the permission slips, it was determined that 472 completed surveys could be included, accounting for 303 students who completed survey one only, survey two only, or both surveys. The descriptive statistics for this group are shown in Tables 5-7.

Table 5

Gender of Students Completing the Soft Skills Survey (N=303)

| Gender | Frequency | Frequency Percent |
|--------|-----------|-------------------|
| Female | 157 | 51.8 |
| Male | 145 | 47.9 |
| Total | 302 | 100 |

Table 1 illustrates the breakdown of gender for the students participating in the soft skills survey. 157 students are female, representing 51.8%, and 145 students are male, representing 47.9%.

Table 6

Year in Agricultural Education for Students Completing the Survey (N=303)

| Year in Agricultural Education | Frequency | Frequency Percent |
|--------------------------------|-----------|-------------------|
| Year 1 | 174 | 57.40 |
| Year 2 | 78 | 25.70 |
| Year 3 | 32 | 10.60 |
| Year 4 | 17 | 5.60 |
| Total | 301 | 100 |

High school students are able to take agriculture courses throughout their high school career. Year in agriculture education refers to the number of years a student is enrolled in agriculture education. Year in school refers to the grade of the student enrolled: freshman, sophomore, junior, or senior. Year 1 in agriculture education could include freshman, sophomores, juniors, or seniors if it is their first year in agriculture education. Table 6 illustrates that the largest group of agriculture education students to participate in the soft skills survey was 174. This represents 57.4% of the total number of students. Year 2 had 78 students (25.7%), year 3 had 32 (10.6%), and year 4 dropped to 17 (5.6%) students.

Table 7

Grade for Students Completing the Soft Skills Survey (N=303)

| Grade in School | Frequency | Frequency Percent |
|------------------------|-----------|-------------------|
| 9 th Grade | 151 | 49.80 |
| 10 th Grade | 89 | 29.40 |
| 11 th Grade | 37 | 12.20 |
| 12 th Grade | 26 | 8.60 |
| Total | 303 | 100 |

Table 7 again illustrates that the majority of students completing the soft skills survey are the younger classmates. 9th graders make up 49.8%, 10th graders make up

29.4%, 11th graders make up 12.2%, and 12th graders represent the smallest amount at 8.6% of the total.

Table 8

Participating Schools for Students Completing the Survey (N=303)

| School | Frequency | Frequency Percent |
|----------------------------|-----------|-------------------|
| Nipomo High School | 168 | 55.40 |
| Pioneer Valley High School | 62 | 20.40 |
| Santa Ynez High School | 47 | 15.50 |
| Righetti High School | 19 | 6.30 |
| Santa Maria High School | 7 | 2.30 |
| Total | 303 | 100 |

According to Table 8, Nipomo High School had the largest group of participating students with 168, which was over half of all the students. Pioneer Valley High School came in second with 62 students, Santa Ynez was third with 47 students, Righetti High School is fourth with 19 students, and Santa Maria High School had the smallest number of participants at seven students.

Survey participants were to identify some of the other FFA activities where they had participated in. The choices included: FFA meetings, leadership conferences, officer positions, FFA competitions, and fundraisers. 4.3% of the students reported

participating in all five FFA activities, 89% of the students attended FFA meetings, and 100% of the students attended at least one FFA activity.

The following statements summarize the sample population. 51.8% of the students are female (only outnumbering the males by 12). 57.4% of the participants are overwhelmingly 1st year agriculture students. 49.8% report that they are incoming freshmen. 55.4% of the participating students are from Nipomo High School. The majority of the student's attend FFA meetings and are active with FFA competitions, conferences, and fundraisers.

Of the total 303 FFA members who qualified to participate in the soft skills survey, 164 students completed the pre- and post-assessments. The grouping of the 164 students was according to their participation in the Opening and Closings Ceremonies Contest. Group One consists of the 94 students who did not compete and Group Two consists of the 70 students who did compete in the contest.

To provide a richer description of two groups, the researcher analyzed descriptive statistics through SPSS. Table 9 illustrates the group characteristics.

Table 9

Characteristics of Students Completing Pre-Post Surveys (N=164)

| Students Characteristics | Who Competed in O/C | | Who did not Compete in O/C | |
|-----------------------------|---------------------|----------------|----------------------------|-------------|
| | Frequency | Frequency % | Frequency | Frequency % |
| Gender | | | | |
| Female | 49 | 69.00 | 45 | 47.40 |
| Male | 20 | 28.20 | 49 | 51.60 |
| Year in Ag Education | | | | |
| Year 1 | 44 | 62.00 | 76 | 80.00 |
| Year 2 | 15 | 21.10 | 14 | 14.70 |
| Year 3 | 6 | 8.50 | 2 | 2.10 |
| Year 4 | 5 | 7.00 | 2 | 2.10 |
| Year in School | | | | |
| 9 th Grade | 42 | 59.20 | 71 | 74.70 |
| 10 th Grade | 16 | 22.50 | 14 | 14.70 |
| 11 th Grade | 7 | 9.90 | 6 | 6.30 |
| 12 th Grade | 5 | 7.00 | 3 | 3.20 |

In comparing the characteristics of these two groups, students who competed in the Opening and Closing Ceremonies Contest with those who did not, it was determined that two groups differ on gender. In the group that competed, 69.00% were female,

whereas, in the group that did not compete, only 47.40% were female. In the group that competed, 28.20% were male, whereas, in the group that did not compete, 51.60% were male. Years one and two, representing the 9th and 10th grades, were the largest sectors in both groups.

The researcher conducted an initial comparison of means and standard deviations for Group One and Group Two using SPSS. These values are in Table 10 and Figure 9. These initial scores determined increases in soft skills by both groups, especially the group of students who competed in the Opening and Closing Ceremonies Contest.

Table 10

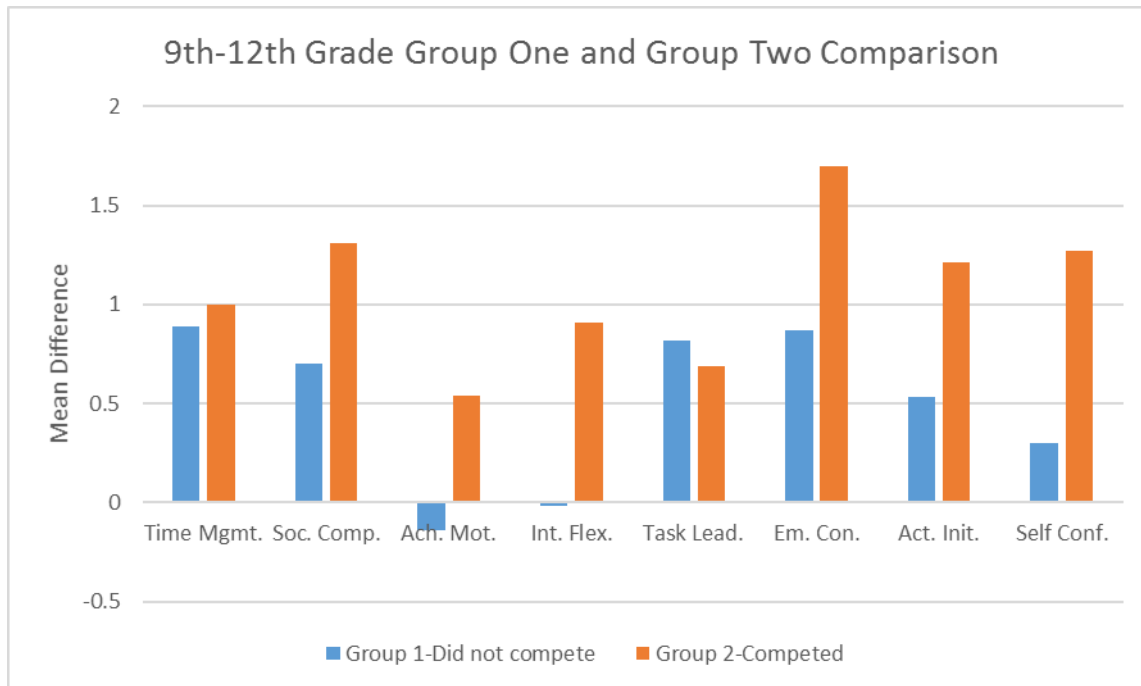
Mean Difference Scores and Standard Deviations for Group 1 and Group 2 (N=164)

| Soft Skills | Group 1 (Did not Competed) | Standard Deviation | Group 2 (Did Compete) | Standard Deviation |
|--------------------------|----------------------------------|-----------------------|--------------------------|-----------------------|
| Time Management | 0.89 | 3.70 | 1.00 | 3.39 |
| Social Competence | 0.70 | 3.35 | 1.31 | 3.65 |
| Achievement Motivation | -0.14 | 2.75 | 0.54 | 2.40 |
| Intellectual Flexibility | -0.02 | 3.27 | 0.91 | 3.26 |
| Task Leadership | 0.82 | 3.61 | 0.69 | 3.11 |
| Emotional Control | 0.87 | 3.41 | 1.70 | 3.66 |
| Active Initiative | 0.53 | 3.60 | 1.21 | 3.71 |
| Self Confidence | 0.30 | 2.93 | 1.27 | 3.27 |

Table 10 shows the mean and standard deviation scores. FFA members who did not compete (Group One) in the Opening and Closing Ceremonies Contest improved scores in six of the soft skill areas. The largest gains were in the areas of emotional control and time management. They experienced decreased scores in the areas of achievement motivation and intellectual flexibility. The fourth column shows the standard deviations are shown for each soft skill. The smallest standard deviation was for achievement motivation and the largest was for time management. FFA members who did compete (Group Two) in the contest improved scores in all eight of the soft skill areas. The largest gains were in emotional control and social competence. Figure 9 illustrates the change in soft skills for each group and a comparison of means.

Figure 7

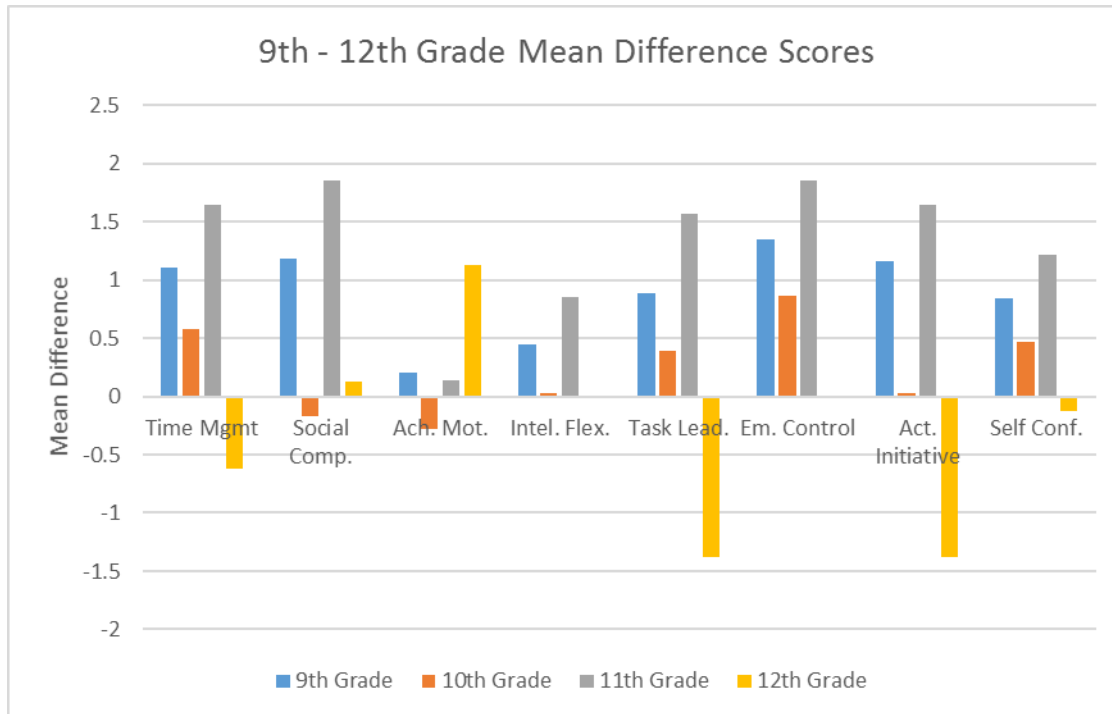
9th-12th Grade Group One and Group Two Comparison (N=164)



By analyzing Figures 7, it was clear to see that there were two areas of weakness, achievement motivation and intellectual flexibility. The rankings of soft skills by the 9th and 12th graders were analyzed in an effort to determine where the weaknesses in achievement motivation and intellectual flexibility originated. Figure 10 illustrates a review of the mean differences by grade levels.

Figure 8

9th-12th Grade Comparison of Mean Difference in Soft Skill Development (N=164)



The analysis of mean scores determined that the 10th graders had the lowest mean difference in achievement motivation and the 12th graders had the lowest mean difference in intellectual flexibility. After locating the weakness in these two areas, the question then became, why are these mean difference scores so low? In addition, why did the 12th graders have the lowest scores in six out of the eight soft skills? It did not seem rational to have such low scores for the most experienced group of students. Comparing the overall mean differences between the grades identified selection bias in the survey and selection bias explained why the 12th graders showed lower mean differences, as they had already ranked themselves very high in survey one. Therefore, it

has been determined that the low mean differences in some areas might be due to pre-existing high rankings by the FFA members in the 1st survey.

Prior to analyzing the mean differences between survey one and two, reliability was evaluated by conducting a Cronbach Alpha test for Group One and Group Two means. With Cronbach Alpha scores above .70, mean scores in all eight soft skills areas were considered to be reliable for Group One and Group Two. The results are in Table 11.

Table 11

Cronbach Alpha for Group One and Group Two

| Soft Skill | Cronbach Alpha Group 1 | Cronbach Alpha Group 2 |
|--------------------------|---------------------------|---------------------------|
| Time Management | .78 | .79 |
| Social Competency | .78 | .77 |
| Achievement Motivation | .78 | .81 |
| Intellectual Flexibility | .79 | .82 |
| Task Management | .76 | .80 |
| Emotional Control | .81 | .79 |
| Active Initiative | .77 | .78 |
| Self Confidence | .78 | .78 |

Tables 12 and 13 compare the mean scores for survey one and survey two for the 9th – 12th grades. The mean scores shown are based on the pooled value of three

questions on the survey. These rankings are pooled based on the following: (The LEQ-H Survey is in Appendix A)

Time Management (Questions 1, 9 and 17)

Social Competence (Questions 2, 10 and 18)

Achievement Motivation (Questions 3, 11 and 19)

Intellectual Flexibility (Questions 4, 12, and 20)

Task Management (Questions 5, 13, and 21)

Emotional Control (Questions 6, 14, and 24)

Active Initiative (Questions 7, 15, and 23)

Self Confidence (Questions 8, 16, and 24)

Each ranking is valued from one to eight. A perfect score would result in a score of 24 (eight times three). In addition to identifying the selection bias, analyzing the mean differences between the 9th-12th graders also discovered an upward trend of soft skill development from freshman to senior year. In Table 8, moving from left to right, there is a general progression of higher scores. For example, time management progresses from 15.88 (9th grade) to 16.75 (10th grade).

Table 12

9th-12th Grade Comparison of Survey 1 Mean Scores (N=164)

| Soft Skills | 9 th Grade | 10 th Grade | 11 th Grade | 12 th Grade |
|--------------------|-----------------------|------------------------|------------------------|------------------------|
| Time Mgmt. | 15.95 | 16.31 | 14.54 | 16.75 |
| Soc. Comp. | 17.05 | 18.78 | 15.31 | 19.25 |
| Ach. Motivation | 19.50 | 20.50 | 18.92 | 20.88 |
| Int. Flexibility | 17.81 | 18.47 | 16.23 | 20.13 |
| Task Leadership | 16.07 | 18.03 | 16.77 | 19.00 |
| Em. Control | 14.69 | 15.78 | 14.77 | 15.38 |
| Act. Initiative | 17.30 | 18.84 | 17.15 | 20.38 |
| Self Confidence | 18.62 | 19.59 | 19.00 | 19.25 |
| Total | 136.99 | 146.30 | 132.69 | 151.02 |

Note: All mean scores increase from 9th to the 12th grades.

As shown in Table 8, all mean scores increase from the 9th grade to the 12th grade. The general progression is upward as students move toward their senior year. The total score for the 9th grade is 136.99 and the total score for the 12th grade is 151.02.

Table 13

9th-12th Grade Comparison of Survey 2 Mean Scores (N =164)

| Soft Skills | 9 th Grade | 10 th Grade | 11 th Grade | 12 th Grade |
|--------------------|-----------------------|------------------------|------------------------|------------------------|
| Time Mgmt. | 16.97 | 17.16 | 16.31 | 16.13 |
| Soc. Comp. | 18.21 | 18.66 | 17.23 | 19.13 |
| Ach. Motivation | 19.70 | 20.25 | 18.85 | 22.00 |
| Int. Flexibility | 18.27 | 18.59 | 17.00 | 20.13 |
| Task Leadership | 16.99 | 18.34 | 18.38 | 17.63 |
| Em. Control | 15.97 | 16.53 | 16.77 | 15.38 |
| Act. Initiative | 18.39 | 18.72 | 18.69 | 19.00 |
| Self Conf. | 19.39 | 20.09 | 20.23 | 19.13 |
| Total | 143.89 | 148.34 | 143.46 | 148.53 |

Note: Total 12th grade score is greater than 9th grade total score

After analyzing 9th through 12th grade students by comparing their rankings in both surveys, a trend emerged. The trend illustrated that as FFA members progress from their freshman year to their senior year, they are reporting an increase in soft skill ability. Data from survey one shows an increase in all eight soft skills from the 9th to the 12th grade. Data from survey two shows that there were slight decreases in three of the categories; however, there was an increase in total scores from 143.89 to 148.53 from freshman to senior year. Tables 8 and 9 also illustrate the point made earlier regarding

the 12th grade students ranking their soft skills at higher levels in survey one as compared to the other students, leaving a smaller margin for improvement. For example, in Group Two, seniors scored achievement motivation at 20.88 for survey one and 22.00 for Survey two. Seniors also scored 20.13 for intellectual flexibility in both surveys. By evaluating the 9th-12th grade results for survey one and survey two, two important facts were uncovered that 1) 12th graders scored themselves very high in two soft skills areas in survey one, causing lower mean difference scores in achievement motivation and intellectual flexibility, and 2) overall soft skills development increases from freshman to senior years.

The researcher conducted Paired Sample *t*-Test Statistics on Groups One and Two to evaluate mean scores in each of the eight soft skill areas and analyze group differences. Due to survey one scores being subtracted from survey two scores during statistical analysis, the negative numbers in the tables below indicate an actual increase in soft skills. Of the 164 FFA members who completed the pre- and post-test surveys, 94 of the members did not compete in the Opening and Closing Ceremonies Contest (Group One).

Table 14

Group 1 (Did not compete) T-Test-Paired Sample Statistics (N=94)

| Pair | Mean | Std. Dev. | Std. Error Mean | <i>t</i> | df | <i>p</i> |
|--------------------------|------|-----------|-----------------|----------|----|----------|
| Time Management | -.89 | 3.69 | .38 | -2.35 | 93 | .02 |
| Social Competence | -.70 | 3.35 | .35 | -2.03 | 93 | .05 |
| Achievement Motivation | .14 | 2.75 | .28 | .49 | 93 | .63 |
| Intellectual Flexibility | .02 | 3.27 | .34 | .06 | 93 | .95 |
| Task Leadership | -.82 | 3.61 | .37 | -2.19 | 92 | .03 |
| Emotional Control | -.87 | 3.41 | .35 | -2.46 | 92 | .02 |
| Active Initiative | -.53 | 3.60 | .37 | -1.41 | 92 | .16 |
| Self Confidence | -.30 | 2.93 | .30 | -.99 | 92 | .32 |

These results are reported as follows:

On average, FFA members in Group One scored higher in time management on the second survey ($M = 16.85$, $SE = .51$) than they did on the first survey ($M = 15.96$, $SE = .52$). This difference, $-.89$, 95% CI $[-1.65, -.14]$, was significant $t(93) = -2.35$, $p = .02$.

On average, FFA members in Group One scored higher in social competence on the second survey ($M = 17.54$, $SE = .45$) than they did on the first survey ($M = 16.84$, $SE = .44$). This difference, $-.70$, 95% CI $[-1.39, -.02]$, was not significant $t(93) = -2.03$, $p = .05$.

On average, FFA members in Group One scored lower in achievement motivation on the second survey ($M = 19.66$, $SE = .43$) than they did on the first survey

($M = 19.80$, $SE = .41$). This difference, $.14$, 95% CI $[-.42, .70]$, was not significant $t(93) = .49$, $p = .63$.

On average, FFA members in Group One scored lower in intellectual flexibility on the second survey ($M = 18.33$, $SE = .40$) than they did on the first survey ($M = 18.35$, $SE = .40$). This difference, $-.02$, 95% CI $[-.65, .69]$, was not significant $t(93) = -.06$, $p = .95$.

On average, FFA members in Group One scored higher in task leadership on the second survey ($M = 16.76$, $SE = .49$) than they did on the first survey ($M = 15.95$, $SE = .45$). This difference, $-.82$, 95% CI $[-1.55, -.08]$, was significant $t(93) = -2.19$, $p = .03$.

On average, FFA members in Group One scored higher in emotional control on the second survey ($M = 16.03$, $SE = .56$) than they did on the first survey ($M = 15.16$, $SE = .55$). This difference, $-.87$, 95% CI $[-1.57, -.17]$, was significant $t(93) = -2.46$, $p = .02$.

On average, FFA members in Group One scored higher in active initiative on the second survey ($M = 17.84$, $SE = .52$) than they did on the first survey ($M = 17.31$, $SE = .53$). This difference, $-.53$, 95% CI $[-1.27, .21]$, was not significant $t(93) = -1.41$, $p = .16$.

On average, FFA members in Group One scored higher in self-confidence on the second survey ($M = 19.53$, $SE = .45$) than they did on the first survey ($M = 19.23$, $SE = .40$). This difference, $-.30$, 95% CI $[-.90, .30]$, was not significant $t(93) = -.99$, $p = .32$.

In summary, FFA members in Group One scored higher on the second survey in six of the eight soft skills. The results shown in Table 9 indicate a mean difference in growth in all areas except achievement motivation and intellectual flexibility. Time management ($p = .02$), task leadership ($p = .03$), and emotional control ($p = .02$)

experienced significant change. The lowest mean scores in Group One were achievement motivation ($p = .60$) and intellectual flexibility ($p = .95$). An evaluation of 12th grade mean difference scores identified that selection bias had affected these last two skills dramatically due to the extremely high scores on survey one.

Group 2 consisted of 70 students who competed in the Opening and Closing Ceremonies Contest. Table 15 shows the results for the t -Test Paired Sample Statistics.

Table 15

Group 2 (Competed) t-Test Paired Sample Statistics (N=70)

| Pair | Mean | Std. Dev. | Std. Error Mean | t | df | p |
|--------------------------|-------|-----------|-----------------|-------|----|-----|
| Time Management | -1.00 | 3.39 | .40 | -2.47 | 69 | .02 |
| Social Competence | -1.31 | 3.65 | .44 | -3.01 | 69 | .00 |
| Achievement Motivation | -.54 | 2.40 | .29 | -1.89 | 69 | .06 |
| Intellectual Flexibility | -.91 | 3.26 | .39 | -2.35 | 69 | .02 |
| Task Leadership | -.69 | 3.11 | .37 | -1.85 | 69 | .07 |
| Emotional Control | -1.70 | 3.66 | .44 | -3.88 | 69 | .00 |
| Active Initiative | -1.21 | 3.71 | .44 | -2.74 | 69 | .01 |
| Self Confidence | -1.27 | 3.27 | .39 | -3.45 | 69 | .00 |

The results are as follows:

On average, FFA members in Group Two scored higher in time management on the second survey ($M = 17.17$, $SE = .61$) than they did on the first survey ($M = 16.17$, $SE = .58$). This difference, -1.00 , 95% CI $[-1.81, -.19]$, was significant $t(69) = -2.47$, $p = .02$.

On average, FFA members in Group Two scored higher in social competence on the second survey ($M = 19.57$, $SE = .40$) than they did on the first survey ($M = 18.26$, $SE = .51$). This difference, -1.31 , 95% CI $[-2.18, -.44]$, was significant $t(69) = -3.01$, $p = .00$.

On average, FFA members in Group Two scored higher in achievement motivation on the second survey ($M = 20.30$, $SE = .49$) than they did on the first survey ($M = 19.76$, $SE = .47$). This difference, $-.55$, 95% CI $[-1.12, .03]$, was not significant $t(69) = -1.89$, $p = .06$.

On average, FFA members in Group Two scored higher in intellectual flexibility on the second survey ($M = 18.61$, $SE = .53$) than they did on the first survey ($M = 17.70$, $SE = .50$). This difference, $-.91$, 95% CI $[-1.69, -.14]$, was significant $t(69) = -2.34$, $p = .02$.

On average, FFA members in Group Two scored higher in task leadership on the second survey ($M = 18.51$, $SE = .53$) than they did on the first survey ($M = 17.83$, $SE = .55$). This difference, $-.69$, 95% CI $[-1.42, .06]$, was not significant $t(69) = -1.85$, $p = .07$.

On average, FFA members in Group Two scored higher in emotional control on the second survey ($M = 16.51$, $SE = .68$) than they did on the first survey ($M = 14.81$, $SE = .66$). This difference, -1.70 , 95% CI $[-2.57, -.83]$, was significant $t(71) = -3.88$, $p = .00$.

On average, FFA members in group 2 scored higher in active initiative on the second survey ($M = 19.59$, $SE = .55$) than they did on the first survey ($M = 18.37$, $SE = .56$). This difference, -1.21 , 95% CI $[-2.09, -.33]$, was significant $t(69) = -2.73$, $p = .01$.

On average, FFA members in Group Two scored higher in self-confidence on the second survey ($M = 19.84$, $SE = .51$) than they did on the first survey ($M = 18.57$, $SE = .52$). This difference, -1.27 , 95% CI $[-2.05, -.49]$, was significant $t(69) = -3.45$, $p = .00$.

In summary, FFA members in Group Two gained soft skills in all eight categories. Significant change was experience in six of the eight soft skills: time management, social competence, intellectual flexibility, emotional control, active initiative, and self-confidence. The largest improvements were in the areas of emotional control ($p = .00$) and social competence ($p = .00$). The smallest areas of gain were in achievement motivation ($p = .06$) and task leadership ($p = .07$). Low scores in achievement motivation identified earlier in Group One remain the same in the Group Two. Achievement motivation had the highest score in the pre-test, leaving less room for gain. In Group Two, achievement motivation had a mean score of 19.76 in the first survey and a mean score of 20.30 in the second survey.

In an effort to better understand the low scores for achievement motivation and intellectual flexibility, further investigation of the original mean scores for these areas identified that students reported extremely high scores in their first surveys, leaving a smaller window of opportunity for improvement for the second surveys. Table 16 illustrates the mean scores and mean difference for each of the eight soft skills measured in this study for Group One.

Table 16

9th – 12th Mean Differences for the Group 1 (N=94)

| Pair | Mean – Survey 1 | Mean – Survey 2 | Mean Difference |
|---------------------------|-----------------|-----------------|-----------------|
| Time Management | 15.96 | 16.85 | .89 |
| Social Competence | 16.84 | 17.54 | .70 |
| Achievement Motivation | 19.78 | 19.65 | -.14 |
| Intellectual Flexibility | 18.35 | 18.33 | -.02 |
| Task Leadership | 15.95 | 16.76 | .82 |
| Emotional Control | 15.16 | 16.03 | .87 |
| Active Initiative | 17.31 | 17.84 | .53 |
| Self Confidence | 19.23 | 19.53 | .30 |

Though students in Group One showed less of an improvement in the areas of achievement motivation, self-confidence, and intellectual flexibility, the FFA members scored the highest in these respective areas in the first survey, leaving less room for overall improvement in achievement motivation (19.78), self-confidence (19.23), and intellectual flexibility (18.35). Group One showed increased mean differences in every category except achievement motivation and intellectual flexibility.

Table 17

9th – 12th Mean Differences for Group 2 (N = 70)

| Pair | Mean – Survey 1 | Mean – Survey 2 | Mean Difference |
|---------------------------|-----------------|-----------------|-----------------|
| Time Management | 16.17 | 17.17 | 1.00 |
| Social Competence | 18.26 | 19.57 | 1.31 |
| Achievement Motivation | 19.76 | 20.30 | .54 |
| Intellectual Flexibility | 17.70 | 18.61 | .91 |
| Task Leadership | 17.83 | 18.51 | .69 |
| Emotional Control | 14.81 | 16.51 | 1.70 |
| Active Initiative | 18.37 | 19.59 | 1.21 |
| Self Confidence | 18.57 | 19.84 | 1.27 |

For Group Two, emotional control (1.70) gained the highest mean difference, followed by social competence (1.31), self-confidence (1.27), and active initiative (1.21). As with the Group One, Group Two experienced the highest mean scores for achievement motivation in the first survey, resulting in the lowest mean difference.

The researcher conducted Paired Sample *t*-Test Statistics on 9th – 12th graders to gain a richer understanding of grade level performance. The results for each grade level are shown in the sections below. Bar graphs illustrating mean differences between Groups One and Two are included at the end of each grade level analysis.

One hundred and fifteen 9th grade FFA members completed the pre- and post-test surveys, 73 of the members did not compete in the Opening and Closing Ceremonies Contest (Group One).

Table 18

9th Grade (Group One) Paired Sample Statistics t – Test (N = 71)

| Pair | Mean | Std. Dev. | Std. Error Mean | <i>t</i> | <i>df</i> | <i>p</i> |
|--------------------------|-------|-----------|-----------------|----------|-----------|----------|
| Time Management | -1.00 | 3.75 | .44 | -2.24 | 70 | .03 |
| Social Competence | -.90 | 3.32 | .39 | -2.27 | 70 | .02 |
| Achievement Motivation | .06 | 2.55 | .30 | .19 | 70 | 1.00 |
| Intellectual Flexibility | -.15 | 3.40 | .40 | -.38 | 70 | .68 |
| Task Leadership | -1.03 | 3.75 | .45 | -2.30 | 69 | .02 |
| Emotional Control | -1.14 | 3.46 | .41 | -2.76 | 69 | .01 |
| Active Initiative | -.83 | 3.55 | .42 | -1.95 | 69 | .05 |
| Self Confidence | -.59 | 3.01 | .36 | -1.62 | 69 | .10 |

The results are as follows:

On average, 9th grade FFA members in Group One scored higher in time management on the second survey (M = 16.97, SE = .61) than they did on the first survey (M = 15.97, SE = .61). This difference, -1.00, 95% CI [-1.88, -.11], was significant $t(70) = -2.24, p = .03$.

On average, 9th grade FFA members in Group One scored higher in social competence on the second survey (M = 17.83, SE = .60) than they did on the first survey (M = 16.92, SE = .50). This difference, -.90, 95% CI [-1.69, -.11], was significant $t(70) = -2.27, p = .03$.

On average, 9th grade FFA members in Group One scored the same in achievement motivation on the second survey ($M = 19.80$, $SE = .49$) than they did on the first survey ($M = 19.80$, $SE = .48$). This difference, .06, 95% CI [-.66, .54], was not significant $t(70) = .18$, $p = .85$

On average, 9th grade FFA members in Group One scored higher in intellectual flexibility on the second survey ($M = 18.47$, $SE = .49$) than they did on the first survey ($M = 18.32$, $SE = .48$). This difference, -.15, 95% CI [-.96, .65], was not significant $t(70) = -.38$, $p = .70$.

On average, 9th grade FFA members in Group One scored higher in task leadership on the second survey ($M = 16.85$, $SE = .60$) than they did on the first survey ($M = 15.82$, $SE = .54$). This difference, -1.03, 95% CI [-1.92, -.13], was significant $t(69) = -2.30$, $p = .03$.

On average, 9th grade FFA members in Group One scored higher in emotional control on the second survey ($M = 16.33$, $SE = .65$) than they did on the first survey ($M = 15.19$, $SE = .65$). This difference, -1.14, 95% CI [-1.97, -.32], was significant $t(69) = -2.76$, $p = .01$.

On average, 9th grade FFA members in Group One scored higher in active initiative on the second survey ($M = 17.89$, $SE = .61$) than they did on the first survey ($M = 17.06$, $SE = .64$). This difference, -.83, 95% CI [-1.68, -.02], was not significant $t(69) = -1.95$, $p = .06$.

On average, 9th grade FFA members in Group One scored higher in self-confidence on the second survey ($M = 19.57$, $SE = .52$) than they did on the first survey

($M = 18.98$, $SE = .45$). This difference, $-.58$, 95% CI $[-1.31, -.13]$, was not significant $t(69) = -1.62$, $p = .11$.

In summary, 9th grade FFA members in Group One scored higher on the second survey in all eight soft skills. The results shown in Table 9 indicate a mean difference in growth in all areas. Time management ($p = .03$), social competence ($p = .03$), task leadership ($p = .03$), and emotional control ($p = .01$) experienced significant change. The lowest mean scores in Group One were achievement motivation ($p = .85$) and intellectual flexibility ($p = .70$).

Ninth Graders in Group 2 consisted of 42 students who competed in the Opening and Closing Ceremonies Contest. Table 18 shows the results for the t -Test Paired Sample Statistics.

Table 19

9th- Grade (Group Two) Paired Sample Statistics t-Test (N = 42)

| Pair | Mean | Std. Dev. | Std. Error Mean | t | df | p |
|--------------------------|-------|-----------|-----------------|-------|------|-----|
| Time Management | -1.07 | 3.17 | .49 | -2.19 | 41 | .03 |
| Social Competence | -1.62 | 3.75 | .58 | -2.80 | 41 | .01 |
| Achievement Motivation | -.48 | 2.36 | .36 | -1.31 | 41 | .20 |
| Intellectual Flexibility | -.86 | 3.53 | .54 | -1.57 | 41 | .12 |
| Task Leadership | -.71 | 2.79 | .43 | -1.66 | 41 | .10 |
| Emotional Control | -1.67 | 4.03 | .62 | -2.68 | 41 | .01 |
| Active Initiative | -1.64 | 3.57 | .55 | -2.98 | 41 | .01 |
| Self Confidence | -1.02 | 2.98 | .46 | -2.22 | 41 | .03 |

The results are as follows:

On average, 9th grade FFA members in Group Two scored higher in time management on the second survey ($M = 17.26$, $SE = .86$) than they did on the first survey ($M = 16.19$, $SE = .84$). This difference, -1.07 , 95% CI $[-2.06, -.08]$, was significant $t(41) = -2.19$, $p = .03$.

On average, 9th grade FFA members in Group Two scored higher in social competence on the second survey ($M = 19.19$, $SE = .54$) than they did on the first survey ($M = 17.57$, $SE = .70$). This difference, -1.62 , 95% CI $[-2.79, -.45]$, was significant $t(41) = -2.80$, $p = .01$.

On average, 9th grade FFA members in Group Two scored higher in achievement motivation on the second survey ($M = 19.90$, $SE = .69$) than they did on the first survey ($M = 19.43$, $SE = .67$). This difference, $-.48$, 95% CI $[-1.21, .26]$, was not significant $t(41) = -1.31$, $p = .20$.

On average, 9th grade FFA members in Group Two scored higher in intellectual flexibility on the second survey ($M = 18.21$, $SE = .74$) than they did on the first survey ($M = 17.36$, $SE = .66$). This difference, $-.86$, 95% CI $[-1.96, .24]$, was not significant $t(41) = -1.57$, $p = .12$.

On average, 9th grade FFA members in Group Two scored higher in task leadership on the second survey ($M = 17.67$, $SE = .73$) than they did on the first survey ($M = 16.95$, $SE = .78$). This difference, $-.71$, 95% CI $[-1.58, .15]$, was not significant $t(41) = -1.66$, $p = .10$.

On average, 9th grade FFA members in Group Two scored higher in emotional control on the second survey ($M = 15.69$, $SE = .96$) than they did on the first survey ($M = 14.02$, $SE = .94$). This difference, -1.67 , 95% CI $[-2.92, -.41]$, was significant $t(41) = -2.68$, $p = .01$.

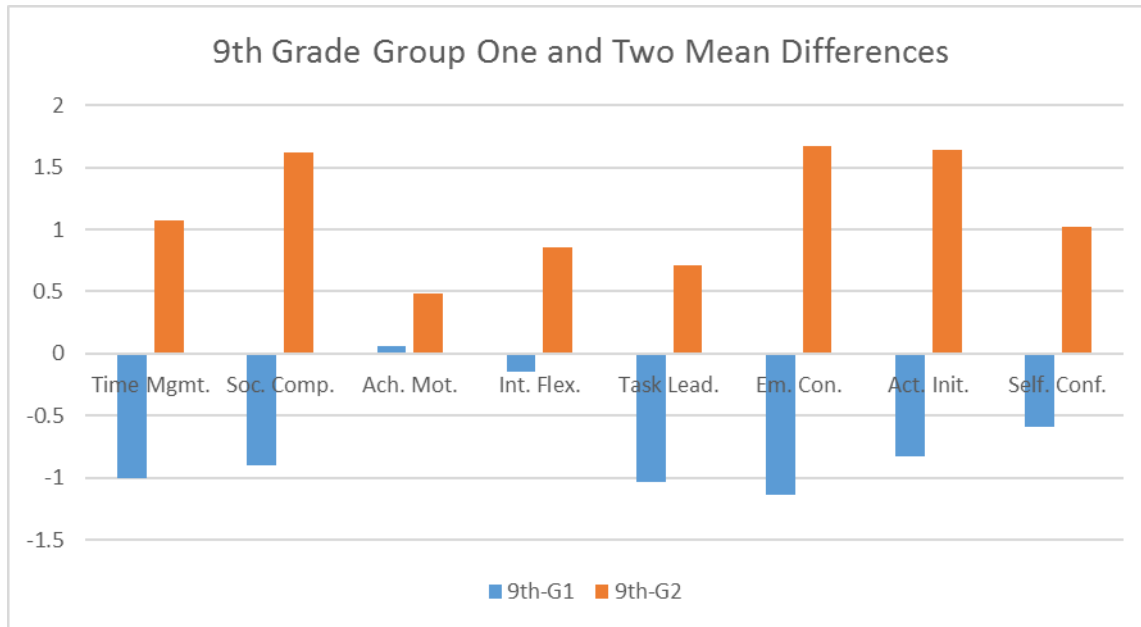
On average, 9th grade FFA members in group 2 scored higher in active initiative on the second survey ($M = 19.45$, $SE = .72$) than they did on the first survey ($M = 17.81$, $SE = .80$). This difference, -1.64 , 95% CI $[-2.76, -.53]$, was significant $t(41) = -2.98$, $p = .01$.

On average, 9th grade FFA members in Group Two scored higher in self-confidence on the second survey ($M = 19.38$, $SE = .68$) than they did on the first survey ($M = 18.35$, $SE = .72$). This difference, -1.02 , 95% CI $[-1.95, -.09]$, was significant $t(41) = -2.24$, $p = .03$.

In summary, 9th grade FFA members in Group Two gained soft skills in all eight categories. Significant change was experience in five of the eight soft skills: time management, social competence, emotional control, active initiative, and self-confidence. The largest improvements were in the areas of emotional control ($p = .01$), active initiative ($p = .01$), and social competence ($p = .01$). The smallest areas of gain were in achievement motivation ($p = .20$), intellectual flexibility ($p = .12$), and task leadership ($p = .10$).

Figure 9

9th Grade Group One and Group Two Comparison (N = 113)



In comparing the 9th grade Groups One and Two mean differences, students who competed in the Opening and Closing Ceremonies Contest improved their scores in all soft skills area, with the exception of task leadership. The largest areas of gain were experienced in social competency, intellectual flexibility, and active initiative.

Table 20

10th Grade (Group 1) Paired Statistical t-Test (N = 14)

| Pair | Mean | Std. Dev. | Std. Error Mean | <i>t</i> | <i>df</i> | <i>p</i> |
|--------------------------|------|-----------|-----------------|----------|-----------|----------|
| Time Management | -.86 | 3.59 | .96 | -.89 | 13 | .39 |
| Social Competence | .00 | 3.13 | .84 | -.84 | 13 | 1.00 |
| Achievement Motivation | .71 | 3.15 | .84 | .85 | 13 | .41 |
| Intellectual Flexibility | .21 | 2.36 | .63 | .34 | 13 | .74 |
| Task Leadership | .43 | 2.82 | .74 | -.57 | 13 | .56 |
| Emotional Control | .07 | 3.15 | .84 | .09 | 13 | .93 |
| Active Initiative | .57 | 3.34 | .89 | .64 | 13 | .53 |
| Self Confidence | .57 | 2.71 | .72 | .79 | 13 | .44 |

The results are as follows:

On average, 10th grade FFA members in Group One scored higher in time management on the second survey (M = 17.50, SE = 1.04) than they did on the first survey (M = 16.64, SE = 1.29). This difference, -.86, 95% CI [-2.93, 1.22], was not significant $t(13) = -.89, p = .39$.

On average, 10th grade FFA members in Group One scored the same in social competence on the second survey (M = 17.79, SE = 1.21) than they did on the first survey (M = 17.79, SE = 1.24). This difference, .00, 95% CI [-1.81, -1.81], was not significant $t(13) = .00, p = 1.00$.

On average, 10th grade FFA members in Group One scored lower in achievement motivation on the second survey ($M = 19.93$, $SE = .90$) than they did on the first survey ($M = 20.64$, $SE = .84$). This difference, $.71$, 95% CI $[-1.10, 2.53]$, was not significant $t(13) = .85$, $p = .41$.

On average, 10th grade FFA members in Group One scored lower in intellectual flexibility on the second survey ($M = 18.21$, $SE = 1.16$) than they did on the first survey ($M = 18.43$, $SE = .93$). This difference, $.21$, 95% CI $[-1.15, 1.58]$, was not significant $t(13) = .34$, $p = .74$.

On average, 10th grade FFA members in Group One scored higher in task leadership on the second survey ($M = 16.86$, $SE = 1.23$) than they did on the first survey ($M = 16.43$, $SE = 1.18$). This difference, $-.43$, 95% CI $[-2.06, 1.20]$, was not significant $t(13) = -.57$, $p = .56$.

On average, 10th grade FFA members in Group One scored lower in emotional control on the second survey ($M = 16.00$, $SE = 1.12$) than they did on the first survey ($M = 16.07$, $SE = 1.13$). This difference, $.07$, 95% CI $[-1.75, 1.89]$, was not significant $t(13) = .09$, $p = .93$.

On average, 10th grade FFA members in Group One scored lower in active initiative on the second survey ($M = 18.14$, $SE = 1.45$) than they did on the first survey ($M = 18.71$, $SE = 1.08$). This difference, $.57$, 95% CI $[-1.36, 2.50]$, was not significant $t(13) = .64$, $p = .53$.

On average, 10th grade FFA members in Group One scored lower in self-confidence on the second survey ($M = 20.21$, $SE = .91$) than they did on the first survey

($M = 20.79$, $SE = .92$). This difference, $.57$, 95% CI $[-.99, 2.14]$, was not significant $t(13) = .79$, $p = .44$.

In summary, 10th grade FFA members in Group One scored higher on the second survey in two of the eight soft skills. Social competence experienced no change. No scores proved to be significant. The lowest mean scores in Group One were achievement motivation ($p = .41$), active initiative ($p = .53$), and self-confidence ($p = .44$)

Table 21

10th Grade (Group 2) Paired Statistical t-Test (N = 16)

| Pair | Mean | Std. Dev. | Std. Error Mean | <i>t</i> | <i>df</i> | <i>p</i> |
|--------------------------|-------|-----------|-----------------|----------|-----------|----------|
| Time Management | -.50 | 3.58 | .89 | -.56 | 15 | .58 |
| Social Competence | -.13 | 3.18 | .80 | -.16 | 15 | .88 |
| Achievement Motivation | -.19 | 2.76 | .69 | -.27 | 15 | .79 |
| Intellectual Flexibility | -.50 | 2.56 | .64 | -.78 | 15 | .45 |
| Task Leadership | -.38 | 3.53 | .88 | -.42 | 15 | .68 |
| Emotional Control | -1.56 | 2.92 | .73 | -2.14 | 15 | .05 |
| Active Initiative | -.38 | 4.52 | 1.13 | .33 | 15 | .75 |
| Self Confidence | -1.63 | 3.81 | .95 | -1.71 | 15 | .11 |

The results are as follows:

On average, 10th grade FFA members in Group Two scored higher in time management on the second survey ($M = 16.88$, $SE = 1.27$) than they did on the first

survey ($M = 16.37$, $SE = 1.10$). This difference, $-.50$, 95% CI $[-2.41, 1.41]$, was not significant $t(15) = -.56$, $p = .58$.

On average, 10th grade FFA members in Group Two scored higher in social competence on the second survey ($M = 20.06$, $SE = .81$) than they did on the first survey ($M = 19.94$, $SE = .81$). This difference, $-.13$, 95% CI $[-1.81, 1.57]$, was not significant $t(15) = -.16$, $p = .88$.

On average, 10th grade FFA members in Group Two scored higher in achievement motivation on the second survey ($M = 20.43$, $SE = 1.00$) than they did on the first survey ($M = 20.25$, $SE = .89$). This difference, $-.19$, 95% CI $[-1.66, 1.28]$, was not significant $t(15) = -.27$, $p = .79$.

On average, 10th grade FFA members in Group Two scored higher in intellectual flexibility on the second survey ($M = 19.50$, $SE = 1.02$) than they did on the first survey ($M = 19.00$, $SE = 1.02$). This difference, $-.50$, 95% CI $[-1.86, .86]$, was not significant $t(15) = -.78$, $p = .45$.

On average, 10th grade FFA members in Group Two scored higher in task leadership on the second survey ($M = 19.81$, $SE = 1.05$) than they did on the first survey ($M = 19.44$, $SE = .97$). This difference, $-.38$, 95% CI $[-2.26, 1.51]$, was not significant $t(15) = -.42$, $p = .68$.

On average, 10th grade FFA members in Group Two scored higher in emotional control on the second survey ($M = 17.50$, $SE = 1.20$) than they did on the first survey ($M = 15.94$, $SE = 1.10$). This difference, -1.56 , 95% CI $[-3.12, -.01]$, was not significant $t(15) = -2.14$, $p = .05$.

On average, 10th grade FFA members in Group two scored higher in active initiative on the second survey ($M = 19.50$, $SE = 1.42$) than they did on the first survey ($M = 19.13$, $SE = .99$). This difference, $-.37$, 95% CI $[-2.79, 2.04]$, was not significant $t(15) = -.33$, $p = .75$.

On average, 10th grade FFA members in Group Two scored higher in self-confidence on the second survey ($M = 20.13$, $SE = 1.27$) than they did on the first survey ($M = 18.50$, $SE = .96$). This difference, -1.63 , 95% CI $[-3.65, .41]$, was significant $t(15) = -1.71$, $p = .10$.

In summary, 10th grade FFA members in Group Two gained soft skills in all eight categories. However, significant change did not occur in any of the soft skill areas. The largest improvement was in the areas of emotional control ($p = .05$).

Figure 10

10th Grade Group One and Group Two Comparison (N = 30)

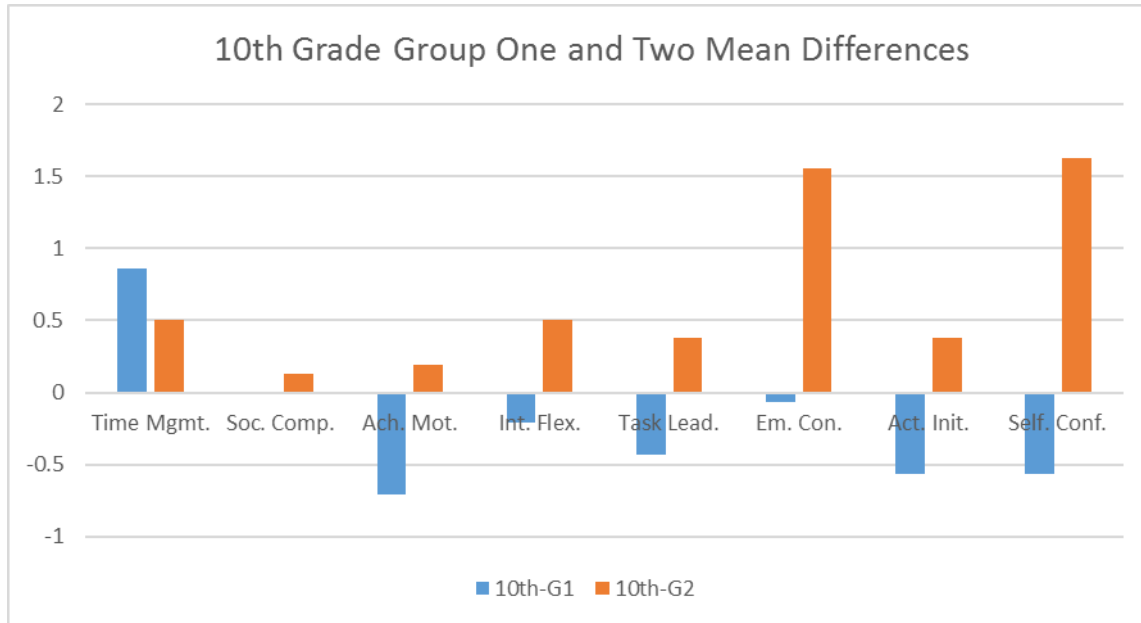


Figure 10 illustrates the mean differences between students who competed in the CDE contest and those who did not. The only category where Group One scored higher was in time management. Though the values are small, graphically it is easy to distinguish the impact that the CDE contest had on the 10th grade members.

Table 22

11th Grade (Group One) Paired Statistical t-Test (N =5)

| Pair | Mean | Std. Dev. | Std. Error Mean | <i>t</i> | <i>df</i> | <i>p</i> |
|--------------------------|-------|-----------|-----------------|----------|-----------|----------|
| Time Management | -1.20 | 2.86 | 1.28 | -.94 | 4 | .42 |
| Social Competence | -2.00 | 3.16 | 1.41 | -1.41 | 4 | .23 |
| Achievement Motivation | 1.60 | 4.93 | 2.20 | .72 | 4 | .51 |
| Intellectual Flexibility | 1.80 | 4.09 | 1.83 | .96 | 4 | .38 |
| Task Leadership | -1.00 | 1.58 | .71 | -1.41 | 4 | .23 |
| Emotional Control | -2.40 | 2.51 | 1.12 | -2.14 | 4 | .10 |
| Active Initiative | -1.40 | 1.95 | .87 | -1.61 | 4 | .18 |
| Self Confidence | -.40 | 1.14 | .51 | -.78 | 4 | .48 |

The results are as follows:

On average, 11th grade FFA members in Group One scored higher in time management on the second survey (M = 15.40, SE = 2.44) than they did on the first survey (M = 14.20, SE = 1.66). This difference, -1.20, 95% CI [-4.75, 2.36], was not significant $t(4) = -.94, p = .40$.

On average, 11th grade FFA members in Group One scored higher in social competence on the second survey (M = 15.00, SE = 1.95) than they did on the first survey (M = 13.00, SE = .95). This difference, -2.00, 95% CI [-5.93, 1.93], was not significant $t(4) = -1.41, p = .23$.

On average, 11th grade FFA members in Group One scored lower in achievement motivation on the second survey ($M = 16.20$, $SE = 3.06$) than they did on the first survey ($M = 17.80$, $SE = 2.94$). This difference, 1.60, 95% CI [-4.52, 7.72], was not significant $t(4) = .73$, $p = .51$.

On average, 11th grade FFA members in Group One scored lower in intellectual flexibility on the second survey ($M = 16.40$, $SE = 2.20$) than they did on the first survey ($M = 18.20$, $SE = 1.77$). This difference, 1.80, 95% CI [-3.27, 6.87], was not significant $t(4) = .96$, $p = .38$.

On average, 11th grade FFA members in Group One scored higher in task leadership on the second survey ($M = 16.60$, $SE = 1.72$) than they did on the first survey ($M = 15.60$, $SE = 1.12$). This difference, -1.00, 95% CI [-2.96, .96], was not significant $t(4) = -1.41$, $p = .23$.

On average, 11th grade FFA members in Group One scored higher in emotional control on the second survey ($M = 15.80$, $SE = 3.56$) than they did on the first survey ($M = 13.40$, $SE = 3.20$). This difference, -2.40, 95% CI [-5.52, .72], was not significant $t(4) = -2.14$, $p = .10$.

On average, 11th grade FFA members in Group One scored higher in active initiative on the second survey ($M = 16.20$, $SE = 2.65$) than they did on the first survey ($M = 14.80$, $SE = 2.13$). This difference, -1.40, 95% CI [-3.82, 1.02], was not significant $t(4) = -1.61$, $p = .18$.

On average, 11th grade FFA members in Group One scored higher in self-confidence on the second survey ($M = 18.40$, $SE = 2.84$) than they did on the first survey

(M = 18.00, SE = 2.97). This difference, -.40, 95% CI [-1.82, 1.02], was not significant $t(4) = -.78, p = .48$.

In summary, 11th grade FFA members in Group One scored higher on the second survey in six of the eight soft skills. No scores proved to be significant. The highest mean scores in Group One were emotional control ($p = .10$) and social competence ($p = .23$).

Table 23

11th Grade (Group 2) Paired Statistical t-Test (N = 8)

| Pair | Mean | Std. Dev. | Std. Error Mean | <i>t</i> | <i>df</i> | <i>p</i> |
|--------------------------|-------|-----------|-----------------|----------|-----------|----------|
| Time Management | -2.38 | 3.12 | 1.10 | -2.16 | 7 | .07 |
| Social Competence | -2.36 | 4.50 | 1.59 | -1.49 | 7 | .18 |
| Achievement Motivation | -.86 | 1.89 | .67 | -1.31 | 7 | .23 |
| Intellectual Flexibility | -2.63 | 2.50 | .89 | -2.97 | 7 | .02 |
| Task Leadership | -2.13 | 3.40 | 1.20 | -1.77 | 7 | .12 |
| Emotional Control | -2.13 | 3.14 | 1.11 | -1.92 | 7 | .10 |
| Active Initiative | -1.63 | 1.99 | .71 | -2.30 | 7 | .06 |
| Self Confidence | -1.50 | 2.39 | .85 | -1.78 | 7 | .12 |

The results are as follows:

On average, 11th grade FFA members in Group Two scored higher in time management on the second survey (M = 17.63, SE = 1.18) than they did on the first

survey ($M = 15.25$, $SE = 1.01$). This difference, -2.38 , 95% CI $[-4.98, .23]$, was not significant $t(7) = -2.16$, $p = .07$.

On average, 11th grade FFA members in Group Two scored higher in social competence on the second survey ($M = 19.13$, $SE = .81$) than they did on the first survey ($M = 16.75$, $SE = 1.62$). This difference, -2.38 , 95% CI $[-6.14, 1.39]$, was not significant $t(7) = -1.49$, $p = .18$.

On average, 11th grade FFA members in Group Two scored higher in achievement motivation on the second survey ($M = 21.00.43$, $SE = 1.09$) than they did on the first survey ($M = 20.13$, $SE = 1.30$). This difference, $-.88$, 95% CI $[-2.45, .70]$, was not significant $t(7) = -1.31$, $p = .23$.

On average, 11th grade FFA members in Group Two scored higher in intellectual flexibility on the second survey ($M = 18.25$, $SE = 1.57$) than they did on the first survey ($M = 15.63$, $SE = 1.43$). This difference, -2.63 , 95% CI $[-4.72, -.53]$, was significant $t(7) = -2.97$, $p = .02$.

On average, 11th grade FFA members in Group Two scored higher in task leadership on the second survey ($M = 18.25$, $SE = 1.08$) than they did on the first survey ($M = 18.00$, $SE = 1.01$). This difference, -2.13 , 95% CI $[-4.97, .72]$, was not significant $t(7) = -1.77$, $p = .12$.

On average, 11th grade FFA members in Group Two scored higher in emotional control on the second survey ($M = 19.13$, $SE = 1.43$) than they did on the first survey ($M = 17.00$, $SE = 1.71$). This difference, -2.12 , 95% CI $[-4.75, .50]$, was not significant $t(7) = -1.92$, $p = .10$.

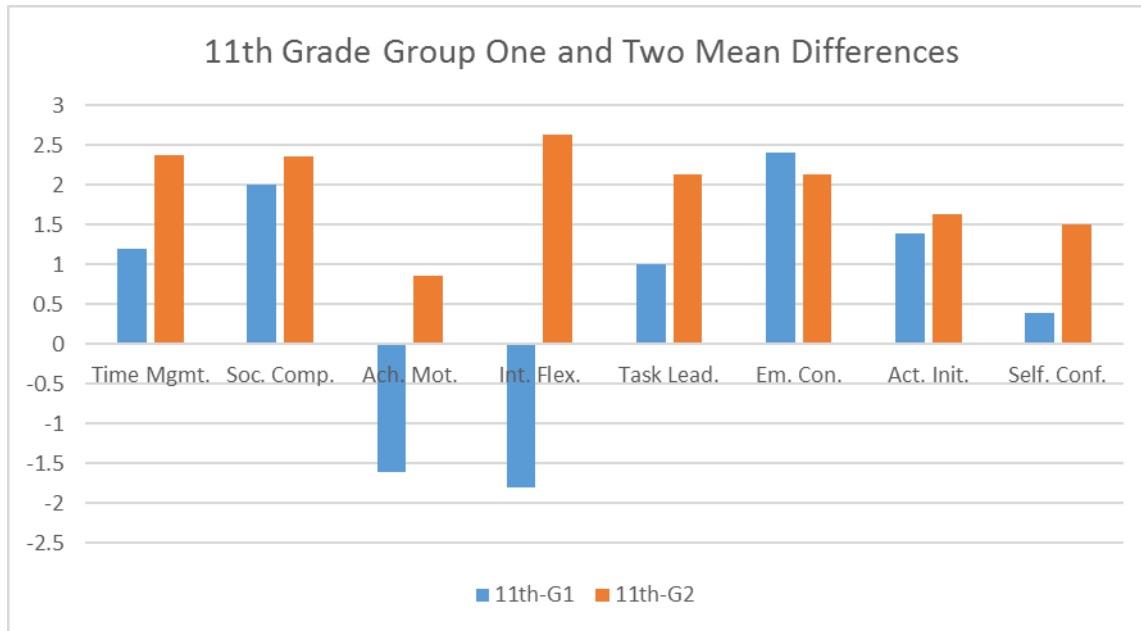
On average, 11th grade FFA members in Group two scored higher in active initiative on the second survey ($M = 20.38$, $SE = .91$) than they did on the first survey ($M = 18.75$, $SE = 1.19$). This difference, -1.63 , 95% CI $[-3.29, .04]$, was not significant $t(7) = -2.30$, $p = .06$.

On average, 11th grade FFA members in Group Two scored higher in self-confidence on the second survey ($M = 21.50$, $SE = .68$) than they did on the first survey ($M = 20.00$, $SE = 1.24$). This difference, -1.50 , 95% CI $[-3.50, .50]$, was significant $t(7) = -1.76$, $p = .12$.

In summary, 11th grade FFA members in Group Two gained soft skills in all eight categories resulting in the highest mean differences for all grade levels. Significant change occurred with intellectual flexibility ($p = .02$). Large improvement in mean difference scores were realized with time management ($p = .07$) and social competence ($p = .18$).

Figure 11

11th Grade Group One and Group Two Comparison (N = 13)



The mean differences between Groups One and Two for the 11th graders are in the soft skill areas of achievement motivation and intellectual flexibility; indicating that the CDE contest had a larger impact in these two areas.

Table 24

12th Grade (Group One) Paired Statistical t-Test (N = 3)

| Pair | Mean | Std. Dev. | Std. Error Mean | <i>t</i> | <i>df</i> | <i>p</i> |
|--------------------------|------|-----------|-----------------|----------|-----------|----------|
| Time Management | 2.00 | 5.29 | 3.06 | .66 | 2 | .58 |
| Social Competence | 3.67 | 2.52 | 1.45 | 2.52 | 2 | .13 |
| Achievement Motivation | -.33 | .58 | .33 | -1.00 | 2 | .42 |
| Intellectual Flexibility | .00 | 3.61 | 2.08 | .00 | 2 | 1.00 |
| Task Leadership | 3.00 | 5.57 | 3.21 | .93 | 2 | .45 |
| Emotional Control | 2.67 | 2.52 | 1.45 | 1.84 | 2 | .21 |
| Active Initiative | 3.67 | 6.03 | 3.48 | 1.05 | 2 | .40 |
| Self Confidence | 3.00 | 1.73 | 1.00 | 3.00 | 2 | .10 |

The results are as follows:

On average, 12th grade FFA members in Group One scored lower in time management on the second survey (M = 13.67, SE = 2.96) than they did on the first survey (M = 15.67, SE = 3.28). This difference, 2.00, 95% CI [-11.14, 15.14], was not significant $t(2) = .65, p = .58$.

On average, 12th grade FFA members in Group One scored lower in social competence on the second survey (M = 13.67, SE = 1.76) than they did on the first survey (M = 17.33, SE = 2.84). This difference, 3.67, 95% CI [-2.58, 9.92], was not significant $t(2) = 2.52, p = .13$.

On average, 12th grade FFA members in Group One scored higher in achievement motivation on the second survey ($M = 20.67$, $SE = 1.76$) than they did on the first survey ($M = 20.33$, $SE = 1.45$). This difference, $-.33$, 95% CI $[-1.77, 1.10]$, was not significant $t(2) = -1.00$, $p = .42$.

On average, 12th grade FFA members in Group One scored the same in intellectual flexibility on the second survey ($M = 19.33$, $SE = .88$) than they did on the first survey ($M = 19.33$, $SE = 2.60$). This difference, $.00$, 95% CI $[-8.96, 8.96]$, was not significant $t(2) = .00$, $p = 1.00$.

On average, 12th grade FFA members in Group One scored lower in task leadership on the second survey ($M = 14.33$, $SE = .67$) than they did on the first survey ($M = 17.33$, $SE = 2.60$). This difference, 3.00 , 95% CI $[-10.83, 16.83]$, was not significant $t(2) = .93$, $p = .45$.

On average, 12th grade FFA members in Group One scored lower in emotional control on the second survey ($M = 11.67$, $SE = 2.67$) than they did on the first survey ($M = 14.33$, $SE = 3.18$). This difference, 2.67 , 95% CI $[-3.58, 8.92]$, was not significant $t(2) = 1.84$, $p = .21$.

On average, 12th grade FFA members in Group One scored lower in active initiative on the second survey ($M = 17.00$, $SE = 2.08$) than they did on the first survey ($M = 20.67$, $SE = 1.45$). This difference, 3.67 , 95% CI $[-11.31, 18.64]$, was not significant $t(2) = 1.05$, $p = .40$.

On average, 12th grade FFA members in Group One scored lower in self-confidence on the second survey ($M = 16.33$, $SE = 2.73$) than they did on the first survey

($M = 19.33$, $SE = 1.76$). This difference, 3.00, 95% CI [-1.30, 7.30], was not significant $t(2) = 3.00$, $p = .10$.

In summary, 12th grade FFA members in Group One scored lower in seven of the eight soft skills. No p values proved to be significant.

Table 25

12th Grade (Group 2) Paired Statistical t-Test (N = 5)

| Pair | Mean | Std. Dev. | Std. Error Mean | t | df | p |
|--------------------------|-------|-----------|-----------------|-------|------|------|
| Time Management | -.20 | 5.07 | 2.27 | -.09 | 4 | .93 |
| Social Competence | -2.00 | 3.32 | 1.48 | -1.35 | 4 | .25 |
| Achievement Motivation | -1.60 | 2.30 | 1.03 | -1.55 | 4 | .20 |
| Intellectual Flexibility | .00 | 3.46 | 1.55 | .00 | 4 | 1.00 |
| Task Leadership | .40 | 3.91 | 1.75 | .23 | 4 | .83 |
| Emotional Control | -1.60 | 3.97 | 1.78 | -.90 | 4 | .42 |
| Active Initiative | .00 | 4.06 | 1.82 | .00 | 4 | 1.00 |
| Self Confidence | -1.60 | 5.32 | 2.38 | -.67 | 4 | .54 |

The results are as follows:

On average, 12th grade FFA members in Group Two scored higher in time management on the second survey ($M = 17.60$, $SE = 2.11$) than they did on the first survey ($M = 17.40$, $SE = 1.96$). This difference, -.20, 95% CI [-6.49, 6.09], was not significant $t(4) = -.09$, $p = .93$.

On average, 12th grade FFA members in Group Two scored higher in social competence on the second survey ($M = 22.4$, $SE = 1.17$) than they did on the first survey ($M = 20.40$, $SE = .98$). This difference, -2.00 , 95% CI $[-6.12, 2.12]$, was not significant $t(4) = -1.35$, $p = .25$.

On average, 12th grade FFA members in Group Two scored higher in achievement motivation on the second survey ($M = 22.80$, $SE = .80$) than they did on the first survey ($M = 21.20$, $SE = 1.32$). This difference, -1.60 , 95% CI $[-4.46, 1.26]$, was not significant $t(4) = -1.55$, $p = .20$.

On average, 12th grade FFA members in Group Two scored the same in intellectual flexibility on the second survey ($M = 20.60$, $SE = 1.36$) than they did on the first survey ($M = 20.60$, $SE = .51$). This difference, $.00$, 95% CI $[-4.30, 4.30]$, was not significant $t(4) = .00$, $p = 1.00$.

On average, 12th grade FFA members in Group Two scored lower in task leadership on the second survey ($M = 19.60$, $SE = 1.63$) than they did on the first survey ($M = 20.00$, $SE = 1.22$). This difference, $.40$, 95% CI $[-4.46, 5.26]$, was not significant $t(4) = .23$, $p = .83$.

On average, 12th grade FFA members in Group Two scored higher in emotional control on the second survey ($M = 17.60$, $SE = 2.27$) than they did on the first survey ($M = 16.00$, $SE = 2.17$). This difference, -1.60 , 95% CI $[-6.54, 3.34]$, was not significant $t(4) = -.90$, $p = .42$.

On average, 12th grade FFA members in Group two scored the same in active initiative on the second survey ($M = 20.20$, $SE = 1.36$) than they did on the first survey

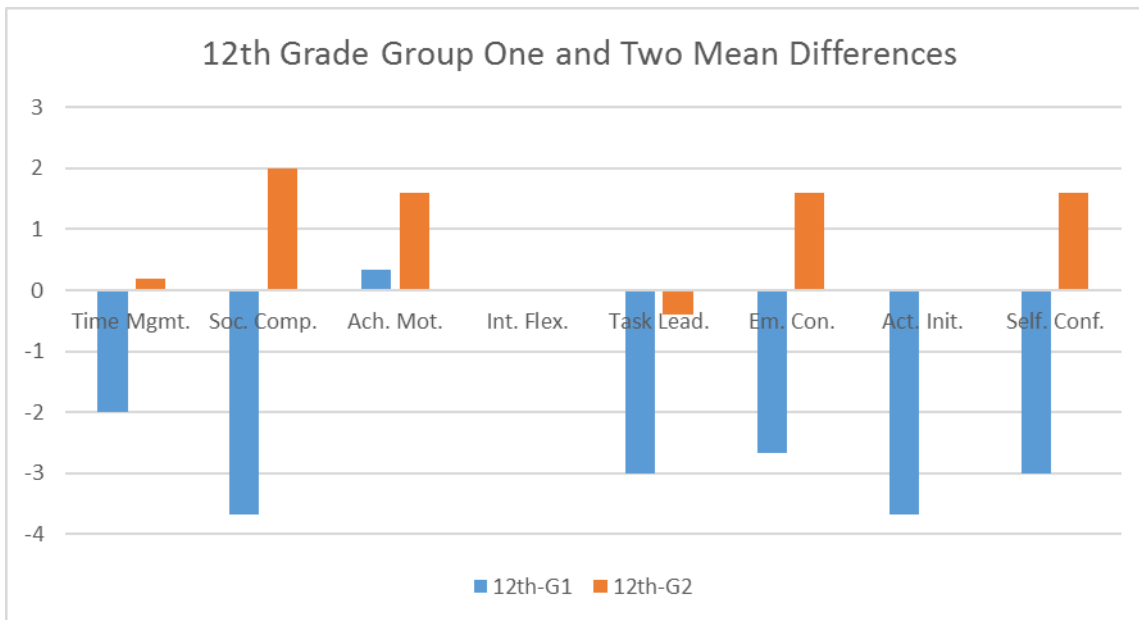
($M = 20.20$, $SE = 1.28$). This difference, .00, 95% CI [-5.04, 5.04], was not significant $t(4) = .00$, $p = 1.00$.

On average, 12th grade FFA members in Group Two scored higher in self-confidence on the second survey ($M = 20.80$, $SE = 1.11$) than they did on the first survey ($M = 19.20$, $SE = 2.20$). This difference, -1.60, 95% CI [-8.20, 5.00], was significant $t(4) = -.67$, $p = .54$.

In summary, 12th grade FFA members in Group Two gained soft skills in five of the eight categories. However, significant change did not occur in any of the soft skill areas. The largest improvement was in the areas of social competence ($p = .25$), emotional control ($p = .41$), and achievement motivation ($p = .20$).

Figure 12

12th Grade Group One and Group Two Comparison ($N = 8$)



Similar to the 11th graders, the 12th graders show a marked difference in mean scores between the members who competed and those who did not. Other than intellectual flexibility, 12th graders who competed in the Opening and Closing Ceremonies Contest ranked themselves higher than those who did not compete.

Figure 13

9th-12th Grade Group One and Group Two Comparison (N=164)

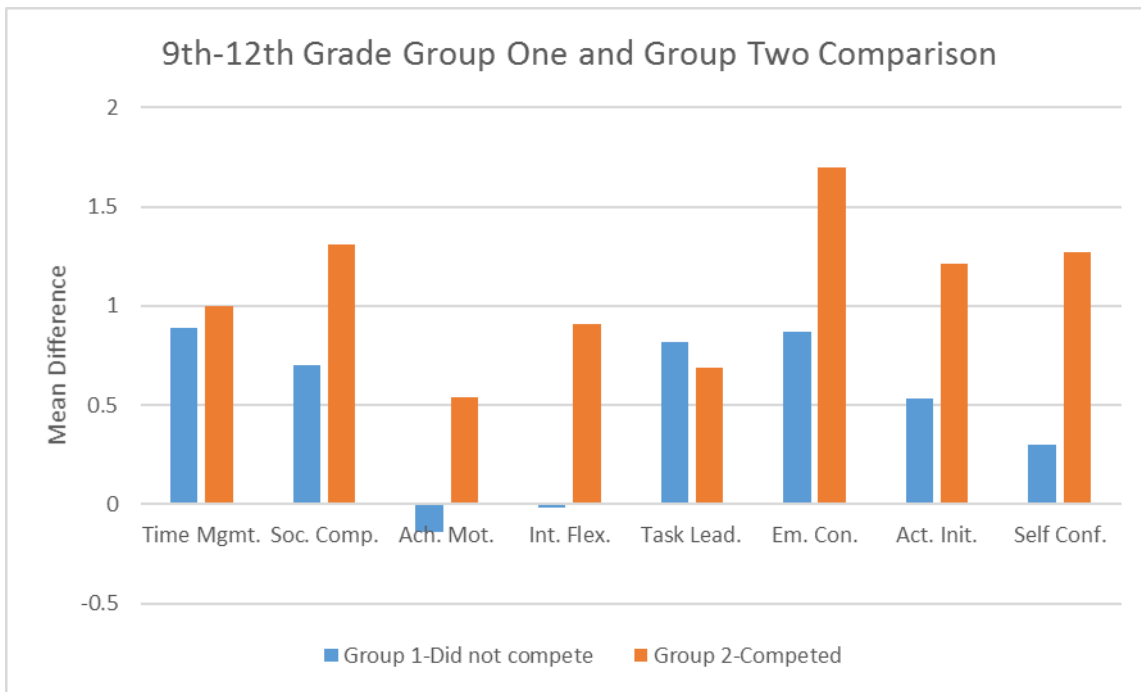


Figure 11 illustrates higher mean differences for Group Two in every category, with the exception of task leadership. This difference could be explained by the rules of this contest that only require students to memorize and deliver a scripted speech; students are not asked to assume leadership roles in the Opening and Closing

Ceremonies Contest. The greatest group differences are in intellectual flexibility, emotional control, and self-confidence. Figures 9 – 12 graphically display the mean differences for each grade level. In all four grade levels, Group Two scored higher than Group One in seven out of the eight soft skill categories. The exceptions were as follows: task leadership for the 9th grade, time management for the 10th grade, emotional control for the 11th grade, and intellectual flexibility for the 12th grade ($M = .00$).

To measure the magnitude that agricultural education and career development events have on FFA members soft skills, the magnitude of correlation is evaluated according to the Davis Convention of Reporting Magnitude of Correlation. The most commonly used statistic for nonparametric correlations is the point biserial correlation (r_{pb}) (Kotrlík et al, 2011). Point biserial correlation coefficients and their descriptors are shown below in Table 26.

Table 26

Point Biserial Correlation Coefficients

| Soft Skill | Group 1 | Descriptor | Group 2 | Descriptor |
|-----------------------------|---------|----------------|---------|------------|
| Time Management | .08 | Negligible | .10 | Low |
| Social Competency | .08 | Negligible | .17 | Low |
| Achievement Motivation | .08 | Negligible | .07 | Negligible |
| Intellectual Flexibility | .00 | No Association | .11 | Low |
| Task Leadership | .08 | Negligible | .08 | Negligible |
| Emotional Control | .08 | Negligible | .15 | Low |
| Active Initiative | .05 | Negligible | .13 | Low |
| Self-Confidence | .08 | Negligible | .15 | Low |

According to the descriptors for reporting and interpreting correlation in quantitative research (Davis, 1971), Group One's correlation was negligible in all categories. Group Two's correlation was negligible in achievement motivation and task leadership, but the remaining six soft skills were in the low category. FFA members who did not compete in the Opening and Closing Ceremonies Contest (Group One) experienced negligible associations. FFA members who did compete (Group Two) experienced larger associations than those that did not compete (Group One), indicating that participating in career development events improved FFA members soft skills.

Point biserial correlations coefficients for 9th graders was evaluated to evaluate students who are competing in the career development event for the first time. The

majority of survey participants were freshmen (49.80 %). Group One and Group Two correlations are in Table 27.

Table 27

9th Grade Point Biserial Correlation Coefficients

| Soft Skill | Group 1 | Descriptor | Group 2 | Descriptor |
|-----------------------------|---------|----------------|---------|------------|
| Time Management | .10 | Low | .10 | Low |
| Social Competence | .10 | Low | .20 | Low |
| Achievement Motivation | .00 | No Association | .06 | Negligible |
| Intellectual Flexibility | .02 | Negligible | .10 | Low |
| Task Leadership | .09 | Low | .07 | Negligible |
| Emotional Control | .10 | Low | .14 | Low |
| Active Initiative | .07 | Negligible | .17 | Low |
| Self-Confidence | .07 | Negligible | .11 | Low |

In group one of the 9th graders, three categories had negligible associations between survey one and survey two: intellectual flexibility, active initiative, and self-confidence. Achievement motivation had no association. Time management, social competence, task leadership, and emotional control experienced low associations. As compared to the Group One scores for 9th-12th grade in Table 26, the 9th grade scores were higher in five areas: time management, social competence, intellectual flexibility, task leadership, emotional control, and active initiative. For 9th grade, Group Two scores for achievement motivation and task leadership remained negligible; however six

out of eight soft skills obtained low association scores. Overall, the 9th graders demonstrated higher association scores than the 9th-12th grade students. Point biserial correlation coefficients were not conducted on grades 10, 11, and 12 due to small sample size and low mean differences.

Table 28 contains the mean difference scores per grade level for groups one and two.

Table 28

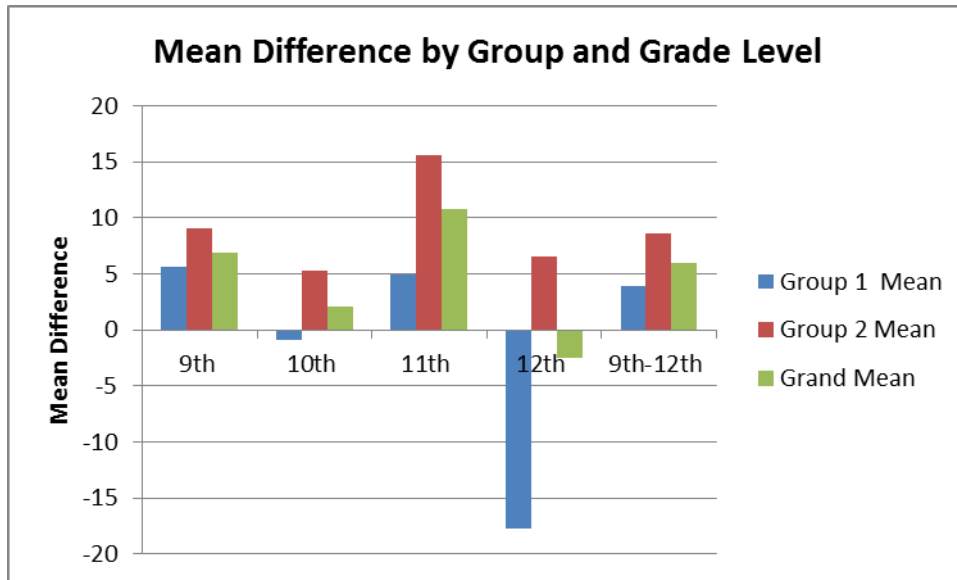
Mean Difference Scores by Group and Grade Level

| Grade | Group 1 Mean | Std. Dev. | Group 2 Mean | Std. Dev. | Grand Mean | Std. Dev. |
|---|-----------------|--------------|-----------------|--------------|---------------|--------------|
| 9 th (n=113) | 5.65 | 17.15 | 9.07 | 16.52 | 6.93 | 16.93 |
| 10 th (n=30) | -.86 | 16.78 | 5.25 | 17.57 | 2.03 | 16.75 |
| 11 th (n=13) | 5.00 | 17.36 | 15.63 | 18.05 | 10.77 | 17.79 |
| 12 th (n=8) | -17.67 | 14.19 | 6.60 | 26.16 | -2.50 | 24.62 |
| 9 th -12 th (N=164) | 3.92 | 17.30 | 8.64 | 17.59 | 5.94 | 17.53 |

The researcher utilized mean difference scores to reduce selection bias by the students. Table 28 and Figure 14 contain the total mean difference scores per grade level. Ranking from highest to lowest, the grand mean difference scores are 11th grade (10.77), 9th grade (6.93), 10th grade (2.03), and 12th grade (-2.50). The 9th and 10th grade mean difference scores were higher than the combined 9th – 12th grades.

Figure 14

Total Mean Difference Scores by Group and Grade Level



The 11th graders showed tremendous growth for the students that competed in the competition, increasing their mean scores by more than 10 points. Group Two had eight members participate in the CDE contest. The difference in growth could be a reflection of student involvement and teacher support. No data was collected beyond the on-line surveys. As previously discussed, 12th grade students scored themselves extremely high in survey one, resulting in very low mean difference scores. Based on the findings that identified increased soft skills development from the freshman to the senior grade levels, the low 12th grade mean differences are understandable. Tables 12 and 13 clearly show that the 12th graders ranked higher in overall mean scores.

To summarize, the findings in this study include: 1) soft skills are included in the Foundation Standards for the California Career Technical Education Model Curriculum. 2) FFA members obtained soft skills in agriculture courses in the Santa Barbara Section FFA. 3) FFA members who competed in the Opening and Closing Ceremonies Contest gained more soft skills than those who did not compete. 4) FFA members showed overall improved soft skill scores from freshman to senior years.

Three hundred three FFA members completed the LEQ-H Survey instrument. From that group, 164 members completed pre- and post soft skills surveys. The LEQ-H Survey measured soft skills prior to and after the Opening and Closing Ceremonies Contest. Seventy of the FFA members participated in the competition and 94 FFA members did not participate in the competition. Descriptive analysis and *t* - Tests for Paired Sample Means determined that changes in soft skills did occur. FFA members in Group One scored higher mean differences on the second survey in six of the eight soft skills. Time management ($p = .02$), task leadership ($p = .03$), and emotional control ($p = .02$) experienced significant change. The lowest mean scores in Group One were achievement motivation ($p = .60$) and intellectual flexibility ($p = .95$). FFA members in Group Two gained soft skills in all eight categories. Six out of eight soft skills experienced $p < .05$: time management, social competence, intellectual flexibility, emotional control, active initiative, and self-confidence. The largest improvements were in the areas of emotional control ($p = .00$) and social competence ($p = .00$). The smallest areas of gain were in achievement motivation ($p = .06$) and task leadership ($p = .07$).

With Cronbach Alpha scores above .70, mean scores in all eight soft skills areas were considered to be reliable for Group One and Group Two. FFA members who did not compete in the Opening and Closing Ceremonies Contest (Group One) experienced negligible association. FFA members who did compete (Group Two) experienced larger effect sizes than those that did not compete (Group One), indicating that participating in career development events improved FFA members soft skills. Though the associations began with negligible and ended with low association, it is worth noting that measurable growth occurred in a very short time period, only 60 days. Correlation coefficients were also analyzed for the 9th grade. Overall, the 9th graders demonstrated higher association scores than the 9th-12th grade students, indicating that the freshman class benefited the most from participating in the Opening and Closing Ceremonies Contest.

Analyzing the mean scores for the 9th-12th grades determined that soft skills increased overall from freshman to senior year. Data from survey one demonstrated an increase in all eight soft skills from the 9th to the 12th grade. Data from survey two demonstrated that there were slight decreases in three of the categories; however, there was an increase in total scores from 143.89 to 148.53 from freshman to senior year.

The researcher conducted individual Paired Sample *t*-Tests for all four grade levels. Group One and Group Two mean difference scores were evaluated by grade to determine grade level performance in each of the eight soft skill areas. In addition, mean difference scores compared students who competed in the CDE contest with those who did not compete. Results for 9th-12th grades, indicated that Group Two experienced higher scores on the second surveys in seven out of the eight soft skills, demonstrating

more soft skill development for students who competed in the Opening and Closing Ceremonies Contest.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The conclusions, implications, and recommendations are based on the following results: 1) soft skills are included in the Foundation Standards for the California Career Technical Education Model Curriculum. 2) FFA members obtained soft skills in agriculture courses in the Santa Barbara Section FFA. 3) FFA members who competed in the Opening and Closing Ceremonies Contest gained more soft skills than those who did not compete. 4) FFA members showed overall improved soft skill scores from freshman to senior years.

CONCLUSIONS

Supported by the information provided in the *Secretary's Commission on Achieving Necessary Skills* report, the development of soft skills is included in the Foundational Standards for Career Technical Education. These standards have identified the knowledge, skills, and abilities that agricultural students will need to be competitive in the 21st Century workplace.

Several leading agricultural associations have identified the benefits of soft skills development. The American Association of Agricultural Education's National Research Agenda for 2016-2020, Agriculture Future of America, Millennium Research, Association of Public and Land Grant Universities, American Vocational Association, and the National Research Council have addressed the specific need for soft skill training for our students to be prepared to work in a global economy. "Agriculture

education must determine the most effective means for incorporating and assessing soft skills development” (National Research Council, 2009). “Most educational leaders agree education should prepare students to live and work in a global economy and society” (Roberts et al, 2016, p. 32).

Soft skills research has been conducted world-wide that supports the demand for soft skill training. Examples of research include employers in Wales, accountants in Indonesia, students in Namibia, teachers in Thailand, headmasters in Malaysia, and information technology students in Statesboro, Georgia. Crawford and Dalton (2012) surveyed students, faculty, alums, and employers to determine how each group values soft skills. They made it clear in their conclusion; differences in priorities in soft skill development could diminish the potential learning that could occur (p. 10). Kyllonen (2013) believed that the 21st Century is the era in which we recognize the importance of soft skills, the role education plays in developing soft skills, and that non-cognitive factors – soft skills such as motivation, work ethic, teamwork, organization, cultural awareness, and effective communication – play an important role in determining success in school and in the workplace (Kyllonin, 2013, p. 22). Research at the University of Southern Indiana regarding project managers determined that “[t]he need for excellent interpersonal, or soft skills, are necessary requisites for success” (Gillard, 2009, p. 723). “For decades employers as well as educators frequently complain about a lack in soft skills among graduates from tertiary education institutions” (Schulz, 2008, p. 146). “It is often said that hard skills will enable individuals to obtain an interview, but soft skills enable individuals to secure a job” (Attakorn et al, 2013, p. 1010). In Statesboro,

Georgia, the information technology industry (IT) and the Accreditation Board for Engineering and Technology (ABET) are demanded soft skills training in Georgia Southern University IT courses.

Research studies have linked soft skills development to experiential learning. Outward Bound Youth Development Programs have been in operation for more than 50 years and have been the leaders in youth development activities and assessments. Their programs are based on outdoor experiential learning and have conducted numerous studies on their effectiveness. The research studies have varied from small sample size comparisons of mean differences to large meta-analysis involving 12,000 students. “The Outward Bound method is based on a philosophy of experiential learning” (Neill et al, 2001, p.7). In Singapore, a nursing program utilized experiential learning when training their students to improve their communication and problem solving skills. “It has been shown through this study that the summer camp program, which incorporated sharing sessions with experienced clinical experts and experiential learning games, was effective in improving nursing students’ soft skills” (Lau & Wang, 2014, p. 250). As compared to the lecture method, the experiential learning model provided feedback allowing for a continuous process of goal-directed action and evaluation of the consequences of that action (Kolb, 1984, p. 22). “Lecturers do not have the ability to systematically and methodically make learning relevant to the affective aspect (soft skills), because not all lecturers have enough stock in the area of teaching/pedagogy required in performing their duties” (Herawati, 2012, p. 161).

Agricultural education studies have linked experiential learning to CDEs and SAEs. As stated in Rayfield, Murphy, Briers, & Lewis (2012), “Agricultural education has always relied heavily on hands-on experiential learning as a method of instruction” (p. 48). Their Delphi study identified characteristics of innovative agricultural programs. The top three responses for “Components/characteristics of an innovative Agricultural Education Program in 2020” included hands-on activities, problem solving skills, and critical thinking (p. 41-45). These characteristics are soft skills that can be taught in an experiential learning environment. Other authors who have linked experiential learning with agricultural education and soft skills development include Ramsey, Edwards, Kolb, Lundry, Robinson, Roberts and Baker. They have made the connections between experiential learning, career development events, and supervised agricultural experiences. Kolb’s Experiential Learning Cycle breaks down the learning cycle and explains how learners go through phases to reach understanding. This model has been widely embraced by agricultural education teachers. Kolb and Kolb modified Nelson’s Meta-Cognitive Model to include the concrete and meta-level learning experiences. Kolb and Kolb’s model supports current research conducted by Baker and Robinson that recommended a blend of direct instruction with experiential learning. “Although the study found experiential learning improves students’ creative and practical skills effectively, and while direct instruction delivered analytical knowledge more effectively, a blended approach is recommended” (Baker & Robinson, 2016, p. 139). In the Comprehensive Model for Secondary Agricultural Education, Baker,

Robinson, and Kolb inserted the four stages of experiential learning into the three-circle model for agricultural education.

The LEQ-H Questionnaire has been widely accepted and an appropriate assessment instrument to measure soft skills development. Numerous studies have determined that the LEQ-H Questionnaire is a reliable and valid instrument. It consists of 24 easy to understand questions that are tailored toward high school students. James Neill, the author of this instrument, has developed a website that provides free access to the LEQ-H survey, information pertaining to soft skills development, links to prior research studies, and an excel spreadsheet that can tabulate survey results. Hattie, March, Richards, McLeod, Craig, and Wang have utilized the LEQ-H Questionnaire in their research studies. At the chapter level, utilizing mean scores serves as an effective way to monitor soft skill growth.

Research results from this study determined that students in agriculture education classes at five different high schools in the Santa Barbara Section FFA improved their soft skills as evidenced by increased mean difference scores on pre- and post-surveys and Paired Sample *t*-Tests. Analysis of 9th-12th grade specific mean difference scores and Paired Sample *t*-Tests were conducted on both groups of students. These grade specific results supported the combined 9th-12th Group One and Two results.

After analyzing the 9th through 12th grades student rankings in both surveys, a trend emerged. The trend illustrated that as FFA members' progress from their freshman year to their senior year; they reported an increase in soft skill ability. Data from survey one shows an increase in all eight soft skills from the 9th to the 12th grade. Data from survey

two shows that there were slight decreases in three of the categories; however, there was an increase in total scores from 143.89 to 148.53 from freshman to senior year.

Two different groups participated in the study, students who competed in the CDE contest called the Opening and Closing Ceremonies Contest, and those students who did not compete in the contest. Consistent increased scores were experienced by students who participated in the contest. All four grade levels experienced the same result, the group that participated experienced higher scores in seven out of the eight soft skills. FFA members who competed in the CDE contest gained soft skills in all eight categories. Six out of eight soft skills experienced significant change $p < .05$: time management, social competence, intellectual flexibility, emotional control, active initiative, and self-confidence.

IMPLICATIONS

The findings of this study suggest the following implications. There is a lack of awareness of the value of soft skill development by students, teachers, parents, and local industry leaders. Even though the Foundation Standards include soft skills content and the National FFA Organization has specialized leadership programs for soft skill development, there may be benefit in providing soft skill development curriculum to every teacher for all students to access. Soft skills need to be discussed and evaluated on a regular basis by teachers, parents, administrators, and advisory committee members. In addition to providing the soft skills curriculum, it would be beneficial to provide agricultural teachers with the Foundation Standards to increase their awareness of soft skill development. The Foundation Standards can easily be overlooked, because they

are listed at the beginning of the Career Technical Education Model Handbook; separately from the pathway content standards. Classroom posters highlighting soft skills, lesson plans, and other curriculum resources would be extremely valuable to agricultural education teachers and their students.

Experiential learning provides opportunities for soft skills development through real-world experiences available in career development events and supervised agricultural experience. The researcher located three studies that looked at the impact that CDE's and SAE's have on agricultural education students. In a Delphi study, *Benefits of Career Development Events as Perceived by School-Based, Agricultural Education Teachers*, Lundry, Ramsey, Edwards, and Robinson (2015) expressed concern that agricultural education teachers may not understand fully the technical and non-technical skills learned through career development events (CDEs). The results determined that agricultural education teachers perceived that CDEs supported career and life skills that are beneficial for employment in the agricultural industry (Lundry et al, 2015, p. 43). Another Delphi study, *Entry-level Technical Skills that Teachers Expected Students to Learn through Supervised Agricultural Experiences (SAE's): A Modified Delphi Study*, conducted by Ramsey and Edwards (2012) expressed their concern regarding the high percentage of students not participating in supervised agriculture experience (SAE). SAE's are a major component of the "three-circle model" used in agricultural education, which focuses on the integration of classroom and laboratory instruction, youth development, and experiential learning. Panelist concluded that SAEs held the most potential for students learning entry-level technical skills as

related to the seven Agriculture Food and Natural Resource career clusters (Ramsey & Edwards, 2012, p. 42-51). Baker, Robinson & Kolb (2012) examined Kolb's experiential learning process further in, *Aligning Kolb's Experiential Learning Theory with a Comprehensive Agricultural Education Model*. This manuscript sought to explain the specific role experiential learning plays in agricultural education. "Agricultural education exists, in part, to provide the development of life skills for students to discover their career path and realize success through experiential learning" (Baker, Robinson, & Kolb, 2012, p. 6). Agricultural education students could benefit greatly in soft skills development through continued participation in CDEs and SAEs.

Teachers could benefit from a soft skills assessment instruments that are easy to administer, readily available, and easy to tabulate. The sooner students learn what soft skills are and how to acquire them; they will be motivated to participate in FFA activities. Students who are aware of the connection between soft skills and career readiness will be better prepared for the 21st Century.

Career Technical Education Programs could benefit from highlighting the need for 'soft' skills, as well as 'hard' or technical skills. CTE programs are designed to teach skills valuable in the workplace. Not all CTE programs have access to FFA leadership activities, and students may benefit from efforts to communicate the need for both types of skills in the workplace. To ensure the successful implementation of soft skills development, agriculture teachers could include the following items in their Agricultural Department Program Plan: soft skills curriculum, an assessment instrument to measure soft skills annually, reflection exercises for students to monitor their personal growth,

and an annual evaluation of students' soft skill development by teachers, administration, and advisory committee members.

RECOMMENDATIONS

The researcher makes the following recommendations based on the conclusions and implications of this study. Encourage the California State Agricultural Education Staff to development of a California strategic plan for the promotion and implementation of soft skills development in agricultural education courses. There may be possible grant funding available to create such a program. Modify the current FFA on-line registration process to include the LEQ-H Questionnaire for students to complete at the beginning of each school year. Include the students' results from the LEQ-H Questionnaire in the AET Record Book and provide a link to add the soft skills to their resume and/or proficiency award applications. Encourage agricultural teachers to complete an LEQ-H questionnaire separately for each of their students based on their perspective of where their students' skills. This assessment will be extremely valuable in assisting students in their future development. The continued inclusion of CDE and SAE experiential learning opportunities for agricultural students is essential for their continued growth of soft skills development.

The results of this study should be provided to the California State Agricultural Education Staff so that they may use the results in their efforts to promote California's agricultural education programs. The State Executive Director for the California Agriculture Teachers Association (CATA), Jim Ashwanden, requested research in the area of soft skills four years ago. Ashwanden represents the CATA at the state level and

works diligently to promote funding for our programs. He is aware of the agricultural industry demand for soft skills training. The results of this study determined soft skill growth for students taking courses in agricultural education. He will be able to utilize this research in his support for continued funding of our programs. The State Supervisor of Agricultural Education for the California Department of Education and the State FFA Advisor, Lloyd McCabe, oversees the curriculum guidelines for agricultural education state wide. The results of this study will provide him with current research that supports in inclusion of soft skills training in the agricultural education curriculum and the continued opportunities in CDEs and SAE's.

Further soft skills research is recommended that includes state-wide randomized sampling that compares agricultural students to non-agricultural students. This broader based research would provide additional support for continued funding in agricultural education. Other areas of recommended soft skills research include, analyzing different skills gained through various CDE and SAE learning activities, comparing the soft skills gained by agricultural education students and the soft skills reported as needed by California agricultural industry representatives, and a closer investigation of soft skills gained by 1st year FFA members.

The 'magic' of experiential learning happens in every agricultural education classroom. The soft skills that students learn by participating in career development events and supervised agricultural experiences provide valuable life lessons that will better prepare them for the workplace in the 21st Century. With today's usage of technology, social media, and increased interface with computer screens, students are at

a disadvantage regarding their development of soft skills, such as communication and teamwork. The more students are aware of their own soft skills and the importance of soft skills in the workplace, the more prepared they will be professionally and personally.

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APPENDICES

Appendix A
L.E.Q. - H©

| STATEMENT | FALSE not like me | TRUE like me |
|--|----------------------|-----------------|
| 01. I plan and use my time efficiently. | 1 2 3 4 5 6 7 8 | |
| 02. I am successful in social situations. | 1 2 3 4 5 6 7 8 | |
| 03. When working on a project, I do my best to get the details right. | 1 2 3 4 5 6 7 8 | |
| 04. I change my thinking or opinions easily if there is a better idea. | 1 2 3 4 5 6 7 8 | |
| 05. I can get people to work for me. | 1 2 3 4 5 6 7 8 | |
| 06. I can stay calm in stressful situations. | 1 2 3 4 5 6 7 8 | |
| 07. I like to be busy and actively involved in things. | 1 2 3 4 5 6 7 8 | |
| 08. I know I have the ability to do anything I want to do. | 1 2 3 4 5 6 7 8 | |
| 09. I do not waste time. | 1 2 3 4 5 6 7 8 | |
| 10. I am competent in social situations. | 1 2 3 4 5 6 7 8 | |
| 11. I try to get the best results when I do things. | 1 2 3 4 5 6 7 8 | |
| 12. I am open to new ideas. | 1 2 3 4 5 6 7 8 | |
| 13. I am a good leader when a task needs to be done. | 1 2 3 4 5 6 7 8 | |
| 14. I stay calm and overcome anxiety in new or changing situations. | 1 2 3 4 5 6 7 8 | |
| 15. I like to be active and energetic. | 1 2 3 4 5 6 7 8 | |
| 16. When I apply myself to something I am confident I will succeed. | 1 2 3 4 5 6 7 8 | |
| 17. I manage the way I use my time well. | 1 2 3 4 5 6 7 8 | |
| 18. I communicate well with people. | 1 2 3 4 5 6 7 8 | |
| 19. I try to do the best that I possibly can. | 1 2 3 4 5 6 7 8 | |
| 20. I am adaptable and flexible in my thinking and ideas. | 1 2 3 4 5 6 7 8 | |
| 21. As a leader I motivate other people well when tasks need to be done. | 1 2 3 4 5 6 7 8 | |
| 22. I stay calm when things go wrong. | 1 2 3 4 5 6 7 8 | |
| 23. I like to be an active, 'get into it' person. | 1 2 3 4 5 6 7 8 | |
| 24. I believe I can do it. | 1 2 3 4 5 6 7 8 | |

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Appendix B
IRB Approval

Steven Frazee
Ag Education and Communication

Re: IRB2016-656 Content Analysis of California's Agriculture Curriculum and a Quantitative Study of Soft Skill Development by FFA Members

Findings: Second reviewer approves.

Expiration Date: *Jun 30, 2017*

Dear Dr. Steven Frazee:

A Texas Tech University IRB reviewer has approved the proposal referenced above within the expedited category of:

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

The approval is effective from Jul 22, 2016 to Jun 30, 2017. The expiration date must appear on your consent document(s).

Expedited research requires continuing IRB review. You will receive an automated email approximately 30 days before Jun 30, 2017. At this time, should you wish to continue your protocol, a **Renewal Submission** will be necessary. Any change to your protocol requires a **Modification Submission** for review and approval before implementation.

Your study may be selected for a Post-Approval Review (PAR). A PAR investigator may contact you to observe your data collection procedures, including the consent process. You will be notified if your study has been chosen for a PAR.

Should a subject be harmed or a deviation occur from either the approved protocol or federal regulations (45 CFR 46), please complete an **Incident Submission** form.

When your research is complete and no identifiable data remains, please use a **Closure Submission** to terminate this protocol.

Sincerely,

Kelly C. Cukrowicz, Ph.D.
Chair, Texas Tech University Institutional Review Board
Associate Professor, Department of Psychological Sciences
357 Administration Building, Box 41075
Lubbock, Texas 79409-1075

T 806.742.2064 806.742.2064 F 806.742.3947

www.hrpp.ttu.edu

[Human Research Protection Program \(HRPP\) | Research Home | TTU](#)

Appendix C
Qualtrics Soft Skills Survey

Q1. What is your first and last name?

Q2. What high school do you attend?

Q3. What grade are you in?

- 9th Grade
- 10th Grade
- 11th Grade
- 12th Grade

Q4. How many years have you taken an agriculture class?

- This is my 1st year.
- This is my 2nd year.
- This is my 3rd year.
- This is my 4th year.

Q5. My gender is

- Male
- Female

Q6. My FFA involvement includes: (check all that apply)

- FFA meetings
- Leadership Conferences
- Officer positions
- FFA competitions
- Fundraisers

Q7.

This is a chance for you to consider how you think and feel about yourself in some ways. This is not a test- there are no right or wrong answers. Please complete the 8 point scale for the following questions. 1 indicates that the statement is not like you at all and 8 indicates that the statement is really like you.

I plan and use my time efficiently.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q8. I am successful in social situations.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q9. When working on a project, I do my best to get the details right.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q10. I change my thinking or opinions easily if there is a better idea.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q11. I can get people to work for me.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q12. I can stay calm in stressful situations.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q13. I like to be busy and actively involved in things.

1 2 3 4 5 6 7 8
1 = (not like me)
8 = (this is like me)

Q14. I know I have ability to do anything I want to do.

1 2 3 4 5 6 7 8
1 = (not like me)
8 = (this is like me)

Q15. I do not waste time.

1 2 3 4 5 6 7 8
1 = (not like me)
8 = (this is like me)

Q16. I am competent in social situations.

1 2 3 4 5 6 7 8
1 = (not like me)
8 = (this is like me)

Q17. I try to get the best results when I do things.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q18. I am open to new ideas.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q19. I am a good leader when a task needs to be done.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q20. I stay calm and overcome anxiety in new or changing situations.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q21. I like to be active and energetic.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q22. When I apply myself to something, I am confident I will succeed.

1 2 3 4 5 6 7 8
1 = (not like me)
8 = (this is like me)

Q23. I manage the way I use my time well.

1 2 3 4 5 6 7 8
1 = (not like me)
8 = (this is like me)

Q24. I communicate well with people.

1 2 3 4 5 6 7 8
1 = (not like me)
8 = (this is like me)

Q25. I try to do the best that I possibly can.

1 2 3 4 5 6 7 8
1 = (not like me)
8 = (this is like me)

Q26. I am adaptable and flexible in my thinking and ideas.

1 2 3 4 5 6 7 8
1 = (not like me)

1 2 3 4 5 6 7 8

8 = (this is like me)

Q27. As a leader, I motivate other people well when tasks need to be done.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q28. I stay calm when things go wrong.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q29. I like to be an active, 'get into it' person.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Q30. I believe I can do it.

1 2 3 4 5 6 7 8

1 = (not like me)

8 = (this is like me)

Appendix D

Soft Skills Development Survey for FFA Members

Thank you for giving me an opportunity to speak to you today. As part of my dissertation, I am very excited about conducting a research study to determine if FFA members are able to increase their soft skill development through participating in the Opening and Closing Ceremonies Contest coming up in October at Cal Poly. The study includes two online surveys, one to be completed at the beginning of the school year and one in October after the competition. I would be very grateful if you could encourage your students to participate. The study would include the following steps:

- 1) Identify which of your classes have members who sign up to compete in the Opening and Closing Ceremonies Contest-survey the entire class.
- 2) Read a script that explains the study (script is attached).
- 3) Pass out the permission packets and collecting all of the returned signature pages.
- 4) Provide an explanation of how to access and complete the online survey- a link to the on-line surveys will be emailed to each teacher.
- 5) Notify the students when it is time to complete the surveys
Survey #1-August 19 to September 30
Survey #2-October 1-October 15
- 6) Remind them that their participation is voluntary and that learning about their own soft skills could help increase their leadership ability in the future.
- 7) Return all permission slips to the study coordinator.

A study like this to determine if soft skills are being learned in agriculture education classes in the state of California has never been done before . The results of this study could be used to encourage our state legislators to continue their support of agriculture education programs.

Thank you so much for allowing me to speak to you today.



Appendix E

Script to Read to your Students

I am very glad that you have chosen to take this agriculture course. The FFA leadership activities that you will have in this course will help prepare you for a bright future. Some of these activities include, (teachers should include current FFA events coming up, such as, FFA meetings, leadership conferences, and competitions). Some of the skills you will have an opportunity to learn include communication, time management, self-confidence, motivation and teamwork. These types of skills are called soft skills and they are an essential part of being a leader. Being aware of your own soft skills will help better prepare you for your future. A graduate student at Texas Tech University is requesting your participation in an on-line survey pertaining to soft skill development. If you are willing to volunteer, you and your parents will be asked to review and sign permission slips acknowledging your willingness to participate. There will be two on-line surveys, one to be completed soon and then the second one toward the end of October. Participation in the survey is not part of your grade in this class and you can decide to not participate at any time. The surveys will ask a few questions to help identify who you are and then it will ask you to read 24 questions that ask you how you feel about particular soft skills. You will be asked to rank the questions from 1 to 8 depending on how much you relate to the question. 1 meaning that the statement does not relate to who you are and 8 meaning that the statement really does relate to who you are. The survey will take less than 30 minutes of your time and will be very much

appreciated. All students who participate will have their names placed in a random drawing for 10- \$20 gift cards.

Appendix F
PARENTAL PERMISSION FORM FOR CHILD'S RESEARCH PARTICIPATION

This form provides important information about participating in research. If you are a parent or legal guardian of a child who may take part in this study, permission from one or both parents is required. The assent (agreement) of your child may also be required.

This research study is optional and participation is completely voluntary. Please read this form carefully. You and your child have the right to take your time in making decisions about your child's participation in this research. If you or your child has any questions about the research or any portion of this form, please ask us. If you decide your child can participate in this research you will be asked to sign this form.

STUDY TITLE: Soft Skills Development for FFA Members

INVESTIGATOR:

Sherri Freeman
18751 21st Avenue
Stratford CA 93266
(805) 756-2973
freeman@calpoly.edu

INSTITUTION:

Texas Tech University
Human Research Protection Program
Administration Building, Room 357
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hrpp@ttu.edu

- 1. Why is this study being done?** This study is being done to determine if FFA members are able to improve their soft skills through participation in an FFA Contest.
- 2. How many people will take part in this study?** FFA members from 8 other high schools in the Santa Barbara Section FFA will be asked to participate. This could add up to several hundred FFA members.
- 3. Why is my child being asked to take part in this research study?** Your child is enrolled in an agriculture education class and is a member of the FFA.
- 4. What will happen during this study?** Students will be asked to voluntarily participate in two on-line surveys, one now and one toward the end of October. Participation in this study is not part of your child's grade.
- 5. How much of my child's time will this study take?** The survey will take

about 25-30 minutes to complete each time. **How long will my child be in the study?** The study will be completed by the end of October.

6. **Are there any benefits to my child if s/he takes part in this study?** The benefit to participating in this study is the understanding of what soft skills are, how your child ranks their own soft skills, and how they might improve them in the future.
7. **What are the risks and/or discomforts to my child if s/he joins this study?** Your child might possibly feel discouraged about their ranking of their own soft skills.
8. **What other choices does my child have if s/he does not take part in the research study?** Your child does not have to take part in this study.
9. **What about confidentiality and the privacy of my child's records?** Study results that are used in publications or presentations will not use your child's name.
10. **Will it cost me or my child anything to take part in this research study?** No
11. **Will my child receive anything for taking part in this research study?** Participant names will be included in a random drawing with the opportunity of winning 10 - \$20 gift cards.

Your signature indicates:

- **this research study has been explained to you;**
- **you give permission for your child to take part in this study.**

You will be given a signed copy of this form.

| | |
|---|--|
| <hr/> | |
| Printed Name of Subject | Age of Subject |
| <hr/> | |
| Printed Name of Parent/Guardian/ Authorized Representative | Relationship to the student |
| <hr/> | |
| Signature of Parent/Guardian/ Authorized Representative | Date AM/PM Time |

Appendix G
ASSENT TO TAKE PART IN A RESEARCH STUDY

STUDY TITLE: Soft Skills Development for FFA Members

We are trying to learn about how FFA Members rank their soft skills because we believe the more they are aware of their soft skills the more they will try to develop them. If you would like, you can be in our study.

If you decide you want to be in our study, you will need to get the forms signed in the packet, return them to your teacher, and complete the online surveys. Part 1 can be completed now and part 2 will be open toward the end of October. The only risk you will have in participating in this study is possibly being discouraged about how you feel about your soft skills. However, participating in this study will help you determine what soft skills you have now and provide you with encouragement to improve your soft skills in the future.

Other people will not know if you are in our study. We will put things we learn about you together with things we learn about other high school agriculture students, so no one can tell what things came from you. When we tell other people about our research, we will not use your name, so no one can tell who we are talking about.

Your parent(s) or guardian has to say it's OK for you to be in the study. After they decide, you get to choose if you want to do it too. If you don't want to be in the study, no one will be mad at you. If you want to be in the study now and change your mind later, that's OK too. You can stop being in the study at any time.

You can call Sherri Freeman, if you have questions about the study at (805) 756-2973, or you can contact Texas Tech University Human Research Protection Program at hrpp@ttu.edu.

We will give you a copy of this form in case you want to ask questions later.

Your Agreement

I have decided to be in the study. I know that I don't have to do it. My questions have been answered.

Printed Name of Subject Age of Subject

Signature of Subject Date

I have discussed this research study with the subject and his or her authorized representative, using language that is understandable and appropriate. I have given a copy of this form to the subject.

Signature of authorized research personnel who conducted the informed consent discussion. Date Time

Appendix H

CALIFORNIA CAREER TECHNICAL EDUCATION MODEL CURRICULUM STANDARDS

2.0 Communications

Students understand the principles of effective oral, written, and multimedia communication in a variety of formats and contexts.

2.4 Listening and Speaking

Specific applications of Listening and Speaking Strategies and Applications standards (grades nine and ten):

1.1 Formulate judgments about the ideas under discussion and support those judgments with convincing evidence.

Specific applications of Listening and Speaking Strategies and Applications standards (grades eleven and twelve):

1.8 Use effective and interesting language, including:

- a. Informal expressions for effect
- b. Standard American English for clarity
- c. Technical language for specificity

3.0 Career Planning and Management

Students understand how to make effective decisions, use career information, and manage personal career plans:

3.1 Know the personal qualifications, interests, aptitudes, information, and skills necessary to succeed in careers.

3.2 Understand the scope of career opportunities and know the requirements for education, training, and licensure.

3.3 Develop a career plan designed to reflect career interests, pathways, and postsecondary options.

3.4 Understand the role and function of professional organizations, industry associations, and organized labor in a productive society.

3.5 Understand the past, present, and future trends that affect careers, such as technological developments and societal trends, and the resulting need for lifelong learning.

3.6 Know important strategies for self-promotion in the hiring process, such as job applications, résumé writing, interviewing skills, and preparation of a portfolio.

5.0 Problem Solving and Critical Thinking

Students understand how to create alternative solutions by using critical and creative thinking skills, such as logical reasoning, analytical thinking, and problem-solving techniques:

5.1 Apply appropriate problem-solving strategies and critical thinking skills to work-related issues and tasks.

5.2 Understand the systematic problem-solving models that incorporate input, process, outcome, and feedback components.

5.3 Use critical thinking skills to make informed decisions and solve problems.

7.0 Responsibility and Flexibility

Students know the behaviors associated with the demonstration of responsibility and flexibility in personal, workplace, and community settings:

7.1 Understand the qualities and behaviors that constitute a positive and professional work demeanor.

7.2 Understand the importance of accountability and responsibility in fulfilling personal, community, and workplace roles.

7.3 Understand the need to adapt to varied roles and responsibilities.

7.4 Understand that individual actions can affect the larger community.

7.5 Understand the importance of time management to fulfill responsibilities.

7.6 Know how to apply high-quality craftsmanship to a product or presentation and continually refine and perfect it.

9.0 Leadership and Teamwork

Students understand effective leadership styles, key concepts of group dynamics, team and individual decision-making, the benefits of workforce diversity, and conflict resolution:

9.1 Understand the characteristics and benefits of teamwork, leadership, and citizenship in the school, community, and workplace settings.

9.2 Understand the ways in which pre-professional associations, such as the Future Farmers of America (FFA), and competitive career development activities enhance academic skills, promote career choices, and contribute to employability.

9.3 Understand how to organize and structure work individually and in teams for effective performance and the attainment of goals.

9.4 Know multiple approaches to conflict resolution and their appropriateness for a variety of situations in the workplace.

9.5 Understand how to interact with others in ways that demonstrate respect for individual and cultural differences and for the attitudes and feelings of others.

9.6 Understand leadership, cooperation, collaboration, and effective decision-making skills applied in group or team activities, including the student organization