AN INDUSTRY ASSESSMENT OF EMPLOYABILITY SKILLS

NEEDED IN CONCENTRATED ANIMAL FEEDING OPERATIONS

OF THE SWINE, DAIRY, AND FED-BEEF INDUSTRIES

By

Nathan J. Wolf

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Major Subject: Agriculture

West Texas A&M University
Canyon, Texas
May 2019

ABSTRACT

Many employers rate new entrants with a high school diploma deficient in their preparation for entry-level jobs. Research indicated that the majority of employees throughout the workforce in the study have a high school level education. That said, there is a large number of employment in concentrated animal feeding operations (CAFO's), and the vast economic contributions they deliver to local communities, the need for individuals with employable skills are in high demand. The purpose of the study was to identify the desired employability skills needed by entry-level employees entering the profession in CAFO's within the swine, dairy, and fed-beef industries. The target population of the study consisted of corporate office managers, general managers, assistant general managers, and departmental managers within the top 26 counties of the Texas Panhandle and the adjacent counties including of New Mexico and Oklahoma.

Industries referenced 'Honesty/Integrity' as an important skill, if not the greatest interpersonal skill, identified. Another valued skill that employers desired among their employees was 'Dependability/Dedication to the Job'. Employer's desire employees that show reliability and dependability to the industry not only do the right thing, but accomplish the goals of the enterprise in a timely manner.

Among the three industries, one of the largest mean weighed discrepancy scores throughout the CAFO's studied was the need for 'Animal Management/Animal Welfare'. This indicated that employers in all industries of the CAFO's desired that their employees

were properly trained on how to properly manage animals of a particular species and that an animal's well-being takes priority. The safety and humane treatment of all animal species is of the upmost importance to any CAFO. Closely related trainings that was observed as needs for all industries were proper 'Livestock Handling Procedures' and 'Proper Safety Procedures'. Many times in CAFO's, these two skill areas coincide with one another. As mentioned above, the safety of the animal is priority to any CAFO industry, likewise is the safety to all of an industries employees.

A chi-square statistical test was used to determine if differences existed among the swine, dairy, and fed-beef industries as they relate to the importance level of interpersonal, communication, computer, and technical skills. The test revealed that there was not a significant difference among the three industries. The results indicated that all three industries in the study desired entry-level employees that attain the same type of skill sets throughout the observed CAFO's.

In the measurement of life skills needed, all industries unanimously ranked the opportunity of general work experience and/or manual labor as the most valued skill area an employee could possess. Many students can develop these skills desired in an entry-level by acquiring employment through general work placement programs, internships, or on-the-job trainings.

Room for improved curriculum, education, and trainings at the secondary and post-secondary levels will always have a need in order to educate the future workforce. The results of the study should be shared with graduates, undergraduates, and high school age students prior to entering any type of scholastic programs and/or job workforce training. The study provided baseline data in regard to the perception of employers in the

swine, dairy, and fed-beef industries that manage people a daily basis on the preparedness level of their employees. A qualitative research study such as one on one interviews and focus groups throughout each swine, dairy, and fed-beef industry should be considered as to gather specific skills and traits needed from employees.

ACKNOWLEDGEMENTS

This journey would not have been possible without the support and guidance of so many people. I would like to acknowledge and thank them at this time.

First, I would like to thank Dr. Lance Kieth for allowing me to be a part of the WTAMU Ag Science family. Thank you for your guidance, mentorship, encouragement, and most of all support. Without your leadership and praise, I would not be where I am today.

Next I would like to thank my friend, colleague, and committee chair, Dr. Kevin Williams. Kevin did not hesitate to assume the duties as my chair. I am truly grateful for his willingness to help without question, providing guidance when I didn't know which direction I should go, and his enormous amount patience as I went through this process.

I want to thank my committee members, Dr. Tanner Robertson, Dr. Mallory Vestal, and Dr. Angela Burkham. Tanner was always eager and willing to provide his knowledge whenever needed. Mallory provided valued industry insight that assisted in the development to this study. Angela was always willing to help in any way possible and was very supportive when family activities sometimes took precedence.

Lastly, I would like to thank my family. To my wife Adriana, thank you for being the foundation of my inspiration, motivation, and encouragement. I could not have done any of this without your support, your extreme patience, and your willingness to take this journey with me. To my children Mason and Myles, thank you for your support and

encouragement to be a better father. I am very proud that I can share this moment with

you. May you always dream big and live life to its fullest.

APPROVAL

Approved:

_____
Chairman, Doctoral Committee   Date

_____
Member, Doctoral Committee   Date

_____
Member, Doctoral Committee   Date

_____
Member, Doctoral Committee   Date

_____
Member, Doctoral Committee   Date

_____
Head, Department of Agricultural Sciences   Date

_____
Dean, Paul Engler College of   Date
Agricultural and Natural Sciences

_____
Dean, Graduate School   Date

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Background and Setting

Over 40% of employers rate new entrants with a high school diploma as "deficient" in their general preparation for entry-level jobs (Casner-Lotto & Barrington, 2006). An unprecedented shortage of skilled workers (Gray & Herr, 2006) is projected to lead to a five percent decrease in our nation's gross domestic product. Smith, Jones, and Lane (1997) found employers in a study perceived a greater gap between desired behavioral skills and current skill level than the gap between desired academic skills and current skill level.

Historically, technical skills, also known as hard skills, were the only skills necessary for career employment; however in today's workplace these technical skills are not enough to keep individuals employed when organizations are down-sizing (reducing number of employees) and cutting positions (James & James, 2004). Industry employers who participated in a study by Williams, Kieth, Robertson, and Deal (2014), proved employers valued the importance of integrity, honesty, and dependability over all other skills. Professionalism and work ethic, defined as "demonstrating personal accountability, effective work habits, punctuality, working productively with others, time and workload management" is rated "very important" for high school graduates'

1

successful job performance by 80.3% of employer respondents (Casner-Lotto & Barrington, 2006).

Of the 154 million people that are active participants in the labor force, many do not have appropriate skills nor do they understand how to obtain skills required to remain employed in 21st Century manufacturing jobs (Stone, Kaminski, & Gloechner, 2009). With a workforce deficient in the skills desired by employers, industry is left dissatisfied. The dissatisfaction expressed is not on the basis of applicants' technical abilities but rather because of competencies in other areas (Alpern 1997; Murnane & Levy 1996). Despite the acceptance of these skills and competencies by employer groups, these same groups continue to express dissatisfaction with job applicants (Smith, 2002).

Need for Study

A constantly changing labor market has created new challenges; students must acquire adaptable, transferable skills as well as specific content knowledge to be adequate employees (Wise, 2008). The uncertain nature of today's demanding times heightens the importance of identifying workplace competencies graduates should possess (Eisner, 2010). The rapid occurrence of these new expectations has created a disparity between workforce skills required and skills available (Cappelli, 1992a; Judy & D'Amico, 1998). The average manufacturer rejects five out of every six job applicants; one-fourth of them lack the skills to fill out an application form (Smith, 2002).

Employability skills are commonly termed as generic skills, non-technical skills, capabilities, key competencies, personal transferable skills, soft skills and attributes, and considered relevant to both entry-level and established employees (Watty, Jackling, &

Wilson, (2012). Employability is a set of achievements, skills, understandings and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy (Yorke & Knight, 2004). Employers expect high school graduates to have technical and discipline competencies from their education, but require these graduates to demonstrate a range of broader skills and attributes that include team-working, communication, leadership, critical thinking, problem solving and managerial abilities (Lowden, Hall, Elliot, and Lewin, 2011).

Reflecting concern on new employees' work habits, situational and attitudinal aspects of the test would probe possession of soft skills like punctuality, openness to supervision, decision making, conflict resolution, responsibility, and teamwork (Eisner, 2010). Since human capital is more valuable than resources such as land, labor, and other capital, it is vital to help individuals develop skills specific to their sector (Maiga, Cartmell, Edwards, & Robinson, 2013; Zubović, Domazet, & Stošić, 2009).

In order to evaluate academic curriculum and ensure it is meeting the relevant needs of the current workforce, researchers must collect data from industry leaders to identify the skills expected from entry-level employees (Maiga et al., 2013; Morgan, 2010; Morgan, 2012). Employers in the United States complain that young adults are not entering the workforce with the skills necessary to compete in the 21st century (Symonds, Schwartz, & Ferguson, 2011). While not a new problem, deficiencies in basic workplace skills is a growing one (Carnevale, 1988).

Unless students have taken some type of career and technical education in high school, less than 20 % of those who go to work will receive formal on-the-job training,

suggesting the fate of the majority is low-skill/low-wage work (Gray, 2009). Many of the

front-line workers within the food industry are non-degreed high school graduates

(Napoleon, Freedman, Seetharaman, & Sharma, 2006). More than half of all workers in

the food industry are in the production environment as front-line supervisors, managers

of production and operation, bakers, slaughterers and meat packers, food batch makers,

inspectors, testers, sorters, and samplers (Napoleon, Freedman, Seetharaman, & Sharma,

2006). A recurring theme from agricultural employers is their difficulty in recruiting

professionals, particularly for rural postings (Pratley, 2008). There seems to be a 'skills

gap' among high school graduates within the agriculture industry.

As the population of the world continues to increase and the available land for

food production decreases, the need for highly successful agricultural production and

marketing becomes even more important (Barrick, Samy, Gunderson, & Thoron, 2009).

As the land availability for food production decreases, the need for concentrated animal

feeding operations (CAFO) will increase, particularly for the Texas High Plains. Due to

its unique diversity, agriculture is one of the primary drivers of the Texas High Plains

economy. The temperate weather conditions and the availability of irrigation water have

made the area well suited to a number of agricultural enterprises, including more than 25

commercially grown crops and one of the most concentrated regions for confined-

livestock operations in the world (Amosson, Almas, McCorkle, & Hanselka, 2005). The

most common CAFOs in the Texas High Plains are in the swine, dairy, and fed-beef

industries.

These industries not only help feed the world, but have large economic impacts in

the area as well. The swine production industry (which is the process of farrowing,

nursery, and the finishing of the swine animal) within the Texas High Plains and surrounding areas (Texas Panhandle to Northwest Kansas) accounts for more than 17,000 jobs (Guerrero & Amosson, 2013). The swine production sector alone had a wealth generated economic contribution of an estimated $1.1 billion (Guerrero & Amosson). Likewise, in the milk production sector (which is the process of producing milk), dairies in the same regional location attributes to over 10,000 jobs and a wealth generating economic contributing estimate of $1.1 billion (Guerrero & Amosson, 2012). Lastly, the fed-beef industry (which is the process of finishing the fed-beef animal for an average of 140 days before processing), within the same regional location from the Texas Panhandle to Northwest Kansas, accounts for over 12,000 jobs and an economic contribution of over $14 billion (Guerrero, Amosson, & McCollum, 2013).

With such large numbers of employment within these CAFOs, and the vast economic contributions they deliver to local communities, the need for individuals with employable skills are in high demand. Employers in the U. S. argue young adults are not entering the workforce with the skills necessary to compete in the 21st Century (Symonds, Schwartz, & Ferguson, 2011). This study seeks to determine specific employability skills needed in CAFOs within the swine, dairy, and fed-beef industries.

Statement of the Problem

In a brief time frame, America has evolved from an industrial economy to a knowledge-based economy (Hyslop, 2008). Nobel laureate James Heckman reported the skills measured by workforce readiness credentials are just as important to a student's future workplace success as are more publicized academic indicators (Americas Promise

Alliance, 2006). According to the U. S. Census Bureau (2018), 35% of adults received a bachelor's degree or higher, and the other 65% of Americans sought other pathways or gained technical skills through alternative and additional educational endeavors to be successful in the workforce.

In several surveys, employers expressed disappointment in the skills of high school graduates (Wise, 2008). In 2005, 60% of U. S. manufacturing companies surveyed stated that high school graduates were poorly prepared for entry-level jobs (National Association of Manufacturers, 2005). The U. S. is moving toward a knowledge-based workforce (Smith, 2002).

Studies have shown that many entry-level graduates are not equipped with the transferable skills necessary for employment, therefore are not prepared to enter the workforce (Becker, 1993; Brown, Hesketh, & Williams, 2003; Crebert, Bates, Bell, Carol-Joy, & Cragnolini, 2004b; Peddle, 2000; Tetreault, 1997). However, Robinson and Garton (2008) found college graduates entering the workforce do not believe they can perform the employability skills at the level required for success in their positions.

Numerous studies have detailed the importance for graduates from higher education establishments to possess transferable skills before entering the workforce (Atkins, 1999; Billing, 2003; Candy & Crebert, 1991; Evers, Rush & Berdrow, 1998; Hofstand, 1996). Employers tend to find competent workers from other countries because of local graduates lack of employability skills (Husain, Mokhtar, Ahmad, & Mustapha, 2010). Even though many graduates possess excellent academic qualifications, a major concern from employers is these graduates do not have the right combination of skills and personal attributes (Daud, Sapuan, Abidin, & Rajadurai, 2011).

These changes include jobs that require at least some technical training or post-secondary education (Carnevale, 2003). Studies prove employability skills are a need in the education system to ensure that graduates are competent and competitive (Husain et. al., 2010). By incorporating the desired skills into the college curriculum, graduates will be more qualified to adapt to the high-tech, fast paced jobs of the future (Graham, 2001).

Public schools of the early 1900s, funded by the Smith-Hughes Act of 1917, bore the responsibility for preparing compliant and reliable workers to meet the demands of factories, mills, offices, and stores (Perry & Wallace, 2012). Career and technical education (CTE) is an educational strategy for providing young people with the academic, technical, and employability skills and knowledge to pursue postsecondary training or higher education and enter a career field prepared for ongoing learning (Partnership for 21st Century Skills, 2010). Career academies differ from traditional academic and vocational education high schools by preparing students for both college and careers (Delano & Hutton, 2007). CTE courses are frequently offered as dual enrollment opportunities, which allow high school students to take college-level courses that result in both high school and postsecondary credit (Brand, Valent, & Browning, 2013). Classes that use project-based learning incorporate "rigorous projects [that] are carefully planned, managed, and assessed to help students learn key academic content, practice 21st Century Skills (such as collaboration, communication and critical thinking), and create high-quality, authentic products and presentations" (Ravitz, Hixson, English, & Megendoller, 2012, pg.5). CTE courses give students rich educational opportunities, equipping them for the dramatic transition from high school to postsecondary education and career options (Brewer, 2004). The rigor and relevant curriculum of career technical

education makes the case that there is a great need in today's classrooms for high-quality CTE that incorporates rigorous coursework with an occupational curriculum, highlight applied teaching and learning styles, use the setting of careers to help make learning relevant to the student, connect with the labor market and employers, provide ongoing counseling and exposure to the world of work (Kazis, 2005).

State leaders and stakeholders are collaborating to develop rigorous, high-quality standards that are built on industry expectations for the competencies required for success in each field (Brand, Valent, & Browning, 2013). Workforce development must be focused on literacy requirements needed to manage innovation through teams using advanced communication and problem-solving skills.

Purpose and Objectives

The purpose of the study was to identify the desired employability skills needed by entry-level employees entering the profession in concentrated animal feeding operations within the swine, dairy, and fed-beef industries.

1. Describe the demographics (position of placement, number of employees supervised, formal education of employees) of individuals that manage people in CAFOs within the swine, dairy, and fed-beef industries.

2. Describe the level of preparation of skills, knowledge, and abilities perceived for employability which are desired in CAFOs within the swine, dairy, and fed-beef industries.

3. Describe the importance of skills, knowledge, and abilities needed for employability which are desired in CAFOs within the swine, dairy, and fed-beef industries.

4. Analyze employers' perceptions of an entry-level employee's preparedness level in conjunction to importance of skills, knowledge and abilities needed for employability desired by CAFOs in the swine, dairy, and fed-beef industries.

5. Determine if differences exist between swine, dairy, and fed-beef industries as they relate to importance levels of interpersonal, communication, computer, and technical skills.

6. Identify the value of life experiences as it applies to the preparation of individuals within the swine, dairy, and fed-beef industries.

7. Identify trainings that are of interest by employers of CAFOs within the swine, dairy, and fed-beef industries.

Definition of Terms

CAFO – A concentrated animal feeding operation (CAFO), as defined by the United States Department of Agriculture (USDA) is an animal feeding operation (AFO)—a farm in which animals are raised in confinement.

Employability skills – Employability skills are the skills and capabilities that make graduates more likely to gain employment and be successful in their chosen occupations as they navigate their way through a dynamic labor market.

Soft skills – Soft skills include any skill that can be classified as a personality trait or

habit. Interpersonal skills and communication skills are more specific categories

of soft skills that many employers look for in job candidates.

Hard skills – Hard skills are specific abilities, or capabilities, that an individual can

possess and demonstrate in a measured way. Hard skills are part of the skill

set that is required for a job. They include the expertise necessary for an

individual to successfully do the job. They are job-specific and are typically listed

in job postings and job descriptions.

Communication – Communication is a process by which information is exchanged

between individuals through a common system of symbols, signs, or behavior.

Work Ethic – Work Ethic is a belief in work as a moral good**:** a set of values centered

on the importance of doing work and reflected especially in a desire or

determination to work hard

Teamwork – Teamwork is done by several associates with each doing a part but all

subordinating personal prominence to the efficiency of the whole

Problem solving – Problem solving is the process of working through details of a

problem to reach a solution. Problem solving may include mathematical or

systemic operations and can be a gauge of an individual's critical thinking skills.

Skill Gap – Skill Gap is the difference in the skills required on the job and the

actual skills possessed by the employees. Skill gap presents an opportunity for

the company and the employee to identify the missing skills and try to gain them.

Limitations of the Study

The research was restricted to the following limitations:

     1. Data from this study was collected from CAFOs located in a specific geographical area, caution should be utilized when interpretation of results and any generalizations to other populations of industries should not be made.

     2. The was a descriptive study that generated baseline data for assessing skills needed in the CAFOs relative to the employee's level of preparation, as well as importance, within each industries' workforce. Caution should be applied in interpretation of results and generalities of the study should not occur.

     3. The study was confined to departmental managers who oversee employees and tasks on a daily basis for entry-level positions. The study did not account for employee retention or efficacy of their job positon.

Basic Assumptions

For the study, the following assumptions were regarded to be true:

     1. Departmental managers provided true and accurate responses, to the best of their ability, on instrumentation administered in the study.

     2. Settings in which departmental managers completed the instrumentation were similar in nature.

     3. Departmental managers were representative of managers from a variety of CAFOs located in the Texas Panhandle and surrounding areas.

Significance of the Problem

The current social system embodies a culture where agriculture is ever changing, therefore changes in its educational platform are warranted. Work force industries are in need of professionals that obtain the necessary knowledge and skills in order to be successful. Many employers have indicated our students are intelligent, however, lack the skills that come from being exposed to real situations (Graham, 2001). Andelt, Barrett, and Bosshamer (1997) suggested the more that is known about the competencies required for an industry, the more employable graduates there will be in the marketplace.

Employment in the agricultural sector has provoked a need to determine what skills an entry-level employee needs in order to be successful in this sector. The more that is known about competencies needed in agriculture careers and is incorporated into curriculum development, the more employable agriculture graduates will be in the marketplace (Graham, 2001). This study was designed to gather information about the competencies required for the industry as well as an increased understanding of the employability skills required for the workplace in a CAFO. There has been a limited amount of research completed that are specific to the needs of CAFOs in the Texas Panhandle, thus making the study a benchmark in data.

CHAPTER II
REVIEW OF RELATED LITERATURE

The Need for Employability Skills

Teaching and learning employability skills contributes to optimal learning because such a workplace is characterized by five principles that correspond to five principles of effective learning (Bailey 1997, pp. 39-40):

- Tasks and jobs are integrated through broad job definitions or cross-functional teams. (Knowledge and curriculum are integrated: head and hand, knowing and doing.)

- Workers are given more initiative and take more responsibility. (Learning is active or engaged, a process of discovery rather than a dissemination of information.)

- Employees solve problems in non-routine situations. (Deeper understanding is encouraged. Allows responses to stimuli the learner has not already encountered.)

- There is an emphasis on continuous improvement. (New approaches to learning focus on thought processes that generate learning rather than the "right answer" and provide multiple opportunities for collaborative learning.)

- Workers are expected to understand their functions within the context of the broader purposes of the organization. (New strategies are grounded in solid research that calls for learning in context.)

Employers want employees who can think on their feet (problem-solving) and who can come up with innovative solutions when needed (creative thinking) (Carnevale, 1988). Candy and Crebert (1991) concluded that many graduates are not prepared in these areas. New graduates are falling short of employers' expectations (National Union of Students, 2011). Klaus (2010) noted she frequently finds senior managers complaining that their newest employees lack the interpersonal skills needed for success in the business world. These results confirmed a skills gap exists between employer demands and employee capabilities (Andelt et. al., 1997; Robinson & Garton, 2008; Symonds et. al., 2011).

Theoretical Framework

The theoretical framework for the study was based on the Human Capital Theory (Swanson & Holton, 2001).

Human Capital Theory
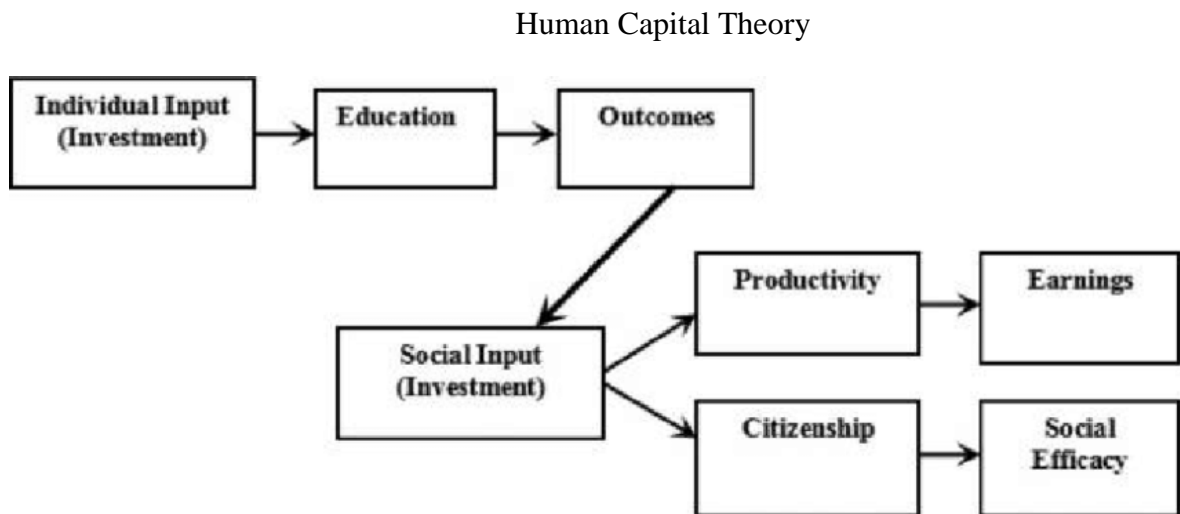
Figure 1: Human Capitol Theory

Schultz (1963) defined human capital as an important element for upgrading company performance toward improving productivity of employees and sustainability in order to be more competitive. Since human capital is developed through education and is valued by employers, studies should consistently reconsider the needs of industry to inform educational institutions so the establishments can overcome the skills gap and prepare graduates (Andelt et.al., 1997; Hurst, 2015; Kaufman & Geroy, 2007; Knight & Yorke, 2003; Maiga et. al., 2013; Morgan, 2010; Morgan, 2012; Morgan & Rucker, 2013; Robinson & Garton, 2008; Symonds et. al., 2011; Zubović et. al., 2009).

Sleezer and Denny (2004) acknowledged the important role human capital, specifically knowledge and innovation capacities, will play in the new economy. They noted the number of highly qualified workers is declining, which will continue to be problematic over the coming years, creating a high demand for college-educated workers. An investment in higher education should increase human capital, thus enhancing the workforce for economic success (Hurst, Conner, Stripling, Blythe, Giorgi, Rubenstein, & Roberts, 2015; Knight & Yorke, 2003). Effective interaction involves knowing how to influence others within the organization's culture (Carnevale, 1988). Data demonstrates that employers value the human relations' skills higher than the conceptual and technical skills (Wilhelm, Logan, Smith, & Szul, (2002). Smith (2010) posited that it is important to assist individuals in acquiring skills that are "sector specific, i.e., sector-specific human capital: (p. 42) in an effort to prepare people for specific jobs".

There are two ways in which human capital skills required for survival (success) in any occupation may be acquired: on-the-job training and formal or informal education (Laband & Lentz, 1983). Human capital is referred to as a process involving training,

education and professional initiatives to improve the knowledge, skills, abilities, values and social assets that will lead to employee job satisfaction and performance while improving the performance of the company (Marimuthu, Arokiasamy, & Ismail, 2009). The cost of developing human capital is increasing (Husain et.al., 2010). Employers expect educational institutions to produce graduates with employability skills required by the market without additional training from the industry.

Swanson (2001) defined human capital as an investment in people, while van Loo and Rocco (2004) stated that it "is an investment in skills and knowledge" (p. 99). Becker (1993) suggested that "education and training are the most important investments in human capital" (p. 17). Zubović et al. (2009) defined human capital as the "accumulated knowledge, created in the long term process of human resources development, which begins in early stages and lasts all through the life" (p. 1).

Collection of Industry Needs

According to Eisner (2010), the qualities employers expect are energy, communication (verbal and written), technological aptitude, fresh perspectives/new ideas, teamwork, willingness to learn, work ethic, analytical thinking, and adaptability/embrace change. A study from the National Association of Colleges and Employers (NACE, 2008) indicated that employers seek new college graduates with the 'go-to-work' skills: ability to work with other people, drive, and motivation. Findlay (1993) gathered that regardless of the profession, "competence in one's professional work role is important in the overall learning process" (p. 46). Industry expects workers at all levels to solve

problems, create ways to improve the methods they use, and engage effectively with their coworkers (Bailey, 1997; Packer, 1998).

Employers want employees who can get along with customers, suppliers or co-workers (interpersonal and negotiation skills); who can work with others to achieve a goal (teamwork); who have some sense of where the organization is headed and what they must do to make a contribution (organizational effectiveness); and who can assume responsibility and motivate coworkers when necessary (leadership) (Carnevale, 1988). Employers are also looking more and more for trainable recruits and less for trained recruits, who may be trained in ways of the profession that have recently been superseded (Maclean & Ordonez, 2007). Tullier (n.d.) noted that core ability to think, communicate, and interact with others are central to the hiring decisions, after which technical skills will be trained. Many employers have indicated our students are intelligent, however, lack the skills that come from being exposed to real situations (Graham, 2001).

Businesses expect college graduates to enter the workforce prepared with the skills needed to be successful employees (Knight & Yorke, 2003; Robinson & Garton, 2008; Sargent, Pennington, & Sitton, 2003). Employers want a new kind of worker with a broad set of workplace skills or at least a strong foundation of basics that will facilitate learning on the job (Carnevale, 1988). There is an increasing number of entry-level workers will come from groups where historically, human resource investments have been deficient.

Advocates of 21st century skills favor student-centered methods such as problem-based learning and project-based learning that allow students to collaborate, work on authentic problems, and engage with the community (Rotherham, & Willingham, 2009).

According to Clagett (1997) among the abilities desired by today's employers are: learning to learn; reading, writing, and computation; listening and oral communication skills; creative thinking and problem solving; self-esteem, goal-setting/motivation, and personal and career development; interpersonal skills, negotiation, and teamwork; and organizational effectiveness and leadership.

The career path of many students of leadership can be wide ranging since the nature of leadership is transferable to many, if not all types of industry (Gifford, Cannon, Stedman, & Telg, 2011). Students' high school experiences too often fail to prepare them for postsecondary education or for the rigors of work in an information-based economy (Bangser, 2008). That means that an increasing number of entry-level workers will come from groups where historically human resource investments have been deficient.

The research for the 21st century shows that potential employers desire to employ applicants with strong interpersonal skills (Kakepoto, 2004; Glenn, 2008; Mitchell, Skinner, & White, 2010; Perreault, 2004; Wilhelm, 2004). Simmons-McDonald (2009) stated lifelong learning is a critical factor in the employability of an individual. At the outset, it is crucial in the face of a fast changing workplace to make a distinction between training for employment and training for employability, between a trained recruit for the workforce and a trainable recruit (Maclean & Ordonez, 2007). Workers who lack some kind of postsecondary educational credential or training have increasing difficulty finding good jobs (Holzer, 2012).

Employers want employees who have pride in themselves and their potential to be successful (self-esteem); who know how to get things done (goal setting/motivation); and

who have some sense of the skills needed to perform well in the workplace (personal and career development) (Carnevale, 1988). Employers increasingly need workers with analytical skills, independent judgment, and the ability to work closely with others in complex operations (Szabo, 1993).

Employers reported the greatest training needs to update employees' skills and productivity, in addition to technical skills, were in interpersonal communications and teamwork, individual responsibility and work habits, basic academic skills, and life skills such as time management, punctuality, and courtesy (Clagett, 1997). Radhakrishna and Bruening (1994) found employees and students value interpersonal, business, and communication skills.

Harvey (2000) listed two sets of attributes employers' desire in their employees: interactive and personal. Communication, teamwork and interpersonal skills were described as interactive attributes required by employers. Industry has developed a high performance workplace that goes beyond a step-by-step task performance, but expects workers at all levels to solve problems, create ways to improve the methods they use, and engage effectively with their coworkers (Bailey 1997; Packer 1998).

Workforce Skills Needed

Klein (1990) declared educating students for a career in agriculture and natural resources demands greater skills plus a more holistic perspective on its interaction with society. A study by United States Department of Agriculture expects the strongest job market for plant scientists, food scientists, sustainable biomaterials specialists, water resources scientists and engineers, precision agriculture specialists, and farm-animal

veterinarians (Goecker, Smith, Fernandez, Ali, & Theller, 2015). Five skills that can be related to functional skills are resource management, information management, social interaction, understanding of systems behavior and performance, and human and technology interaction (Robinson & Garton, 2007). A study by Kubler and Forbes (2005) suggested employability comprises certain levels of cognitive skills, generic competencies, personal capabilities, technical ability, business/organization awareness, and critical evaluation, reflection and review abilities.

Morgan (2010) found many of the agriculture competencies desired by employees, such as ability to meet deadlines, reliability, dependability, and strong work ethic, were taught indirectly through university structure as opposed to being taught through curriculum. In summation, soft skills for the workplace require critical thinking and interpersonal skills that are applicable to many different work contexts (Logan, 2002). Morgan (2010) reported industry leaders valued soft skills and a holistic approach to communication rather than finite competencies related to specific communication modes. To adapt quickly to new workplace demands, employees must know how to learn; they need problem-solving skills to overcome barriers that arise in new situations; and in addition to feeling comfortable with innovation, they must be able to think creatively as they cope with new challenges (Carnevale, 1988). Holzer (2012) also underscored the deficit of middle and highly skilled workers to fill the good-paying positions and suggested education and skills of prospective employees fail to keep pace with employer needs.

Every person may need time to influence his or her work group and to provide a vision of what the organization as a whole or the specific task at hand requires

(Carnevale, 1988). The researcher found a commonality of thinking in his literature review as to the importance of "soft skills" (Murray, 1994). Employability skills are transferable core skill groups that represent essential functional and enabling knowledge, skills, and attitudes required by the 21st century workplace (Overtoom, 2000). Poor basic skills limit individuals' choices and their potential for earning (Carnevale, 1988).

The team approach has been linked conclusively to higher productivity and product quality, as well as to increased quality of work life (Carnevale, 1988). The National Center on Education and the Economy (1990) report argued that higher levels of skills in the workforce were necessary in order to develop new, more productive systems of work organization to compete successfully with other nations. Agricultural and natural resources leaders value individuals who can think critically and communicate clearly in all situations, including during a crisis or when solving a problem (Easterly, Warner, Myers, Lamm, & Telg, 2017).

The Need for Soft and Hard Skills

Employers want new employees to have strong soft skills, as well as hard skills (Robles, 2012). Wellington (2005) described the soft skills of success based on his experiences in different management positions, primarily within human resources. Archer and Davison (2008) found regardless of the size of the company, 'soft skills' (communication skills and team-working) were perceived to have more weight than technical or 'hard skills' (good degree qualification or skills). The term soft skills has been around a long time in both business and educational settings, in corporate meetings, and in curriculum development (Evenson, 1999). Hard skills are the technical expertise

and knowledge needed for a job (Robles, 2012). Hard skills are easily justified and quantified, but preparing students with soft skills could make the difference in whether they find and keep the job for which they earned a degree (Evenson, 1999).

Hard skills are acquired through formal education and training programs, including college, apprenticeships, short-term training classes, online courses, certification programs, as well as by on-the-job training (The Balance Careers, 2012). Graham (2001) determined a need for graduates to better demonstrate the ability to work in groups, show leadership, dedication and initiative. MonsterTRAK identified the key workplace skills to be communication, self-motivation, teamwork, critical thinking, visionary qualities (brainstorm, look to the future, set goals), proficiency with information (inquire, research, be resourceful), and global mindedness (Tullier, n. d.). Eisner (2010), stated that those preparing students for the workplace, it is important to identify core attributes paralleling those identified by industry.

According to the 1999 Hudson Institute study, Workforce 2020 (Judy & D'Amico, 1998), the number of low skilled jobs (not having or needing a high level of skill or education) have declined, and the number of jobs requiring higher math, language, and reasoning skills are increasing. According to the National Center on the Educational Quality of the Workforce (1995) survey, 56% of the 3,347 corporate respondents reported an increase in skill requirements among production or support personnel. In addition to the traditional concerns about the quality of educational attainment, many employers report a lack of employees with good behavioral skills (Cappelli, 1992; Kelly, 1992). Employers reported interpersonal skills and poor attitudes toward work as the most serious deficiencies (Clark, Test, & Konrad, 2019). Although the study did not separate

the SCANS skills and competencies into categories, the resulting data clearly show "soft skills" at the top of the rankings (Harris, 1996).

Corporate trainers are implementing in house training that teaches how to read people, draw out clients, and build relationships: skill-oriented executive education that fills in the holes of their employees' formal educations "all while bringing their humanity and personality into the mix" (Klaus, 2010). The findings again demonstrate the importance of the interpersonal "soft skills" in relation to the other SCANS skills, having received the highest ratings after basic skills (Wilhelm et. al., (2002). Although not of sole importance for successful employment, the skills that consistently emerge as the most critical for successful employment are the "soft skills," those personal competencies and interpersonal skills not of a technical nature (Wilhelm et. al., 2002). Soft skills are defined as nontechnical skills, abilities, and traits required to function in a specific employment environment and can be placed in categories. One of those categories can be identified into oral communication skills. Oral communication skills include the ability to speak well and listen well. Problem solving and other cognitive skills involve identifying problems and formulating and evaluating alternative solutions by weighing risks and benefits.

The types of basic skills employers expect their employees to possess have been researched on several occasions (Carnevale, Gainer, & Meltzer 1988). A study by Van Shelhamer and Bishop (1984) concluded that the personal characteristics most desired by agribusinesses are honesty; willingness to fulfill obligations and promises; ability to listen, speak, and write effectively; ability to, follow orders; being on time-and using time effectively; and friendliness and cleanliness (pgs 15-16).

Skills such as critical analysis, planning, problem solving, oral communication, decision making, and negotiating report a slightly higher level of mismatch between employers' and undergraduates' perception on their importance and development in the University (Husain et. al., 2010). According to Rasul, Ismail, Ismail, Rajuddin, & Rauf (2009) skills of 'employability' is the ability of non-technical and occupational skills that are just as important as technical skills. One of the main challenges of soft skills training faced by educators is that we still have not figured out how to teach soft skills, nor have we figured out how to assess them and capture the impact of such programs on learners (Holtom & Bowen, 2007; Zehr, 1998).

Giving students soft skills could make the difference in their being hired for a job in their field (Evenson, 1999). Soft skills are interpersonal qualities, also known as people skills, and personal attributes that one possesses (Robles, 2012). Soft skills are continually developed through practical application during one's approach toward everyday life and the workplace (Arkansas Department of Education, 2007; Magazine, 2003). Soft skills are employability skills that are transferrable in many jobs (Robles, 2012). The lack of soft skills can sink the promising career of someone who has technical ability and professional expertise but no interpersonal qualities (Klaus, 2010).

Even though some money is devoted to training managers to comply with workplace rules and teaching them the financial basics, oftentimes little attention is given to soft skills (White, 2005). Industry employers should keep in mind all new employees no matter age or experience will require some level of training (Graham, 2001). Soft skills must be quantifiable and measured in returns, with the benefit translated into the bottom line (Onisk, 2011). Measuring the impact of soft skills training on the Return on

Investment (ROI) versus the impact of hard skills training is a challenge (Georges, 1996; Redford, 2007). However, Moad (1995) noted that the impact of softer skills on ROI much more than justifies the money spent on training.

The Need for Curriculum Education

As the array of issues facing the agriculture community and the content imperative to the solving emerging problems continues to expand, the agricultural education system must broaden and refine itself to address the challenges associated with supplying food globally while sustaining a natural system (Easterly et al., 2017). The primary goal of vocational education is to prepare youth and adults for employment. To an extent, Career Technical Education (CTE) courses, such as agricultural education exist to help prepare individuals for careers (Castellano, Stringfield, & Stone, 2003). All societies have an obligation to provide young citizens with the required education and skills to become productive and prosperous members of society (Symonds, Schwartz, & Ferguson, 2001). Evers, Rush, & Berdrow (1998) stated "there is a need for a fundamental shift toward an emphasis on general skills in education" (p. 12). The more that is known about competencies needed in agriculture careers and is incorporated into curriculum development, the more employable agriculture graduates will be in the marketplace (Graham, 2001). Education systems do not exist in social and economic isolation, but function to meet the particular needs of a particular society at a particular time (Maclean & Ordonez, 2007).

Some are advocating that competence of new workforce entrant should be certified by credentials, separate from educational degrees, that when earned, validate the

prospective employee's relevant qualifications (Eisner, 2010). Providing a curriculum in which students can acquire technical skills is essential and should be initiated during high school (Lynch, 2000). For the individual worker, basic skills are the keys to greater opportunity and a better quality of life (Clagett, 1997). Whenever people work together, successful interaction depends upon effective interpersonal skills, focused negotiation, and a sense of group purpose (Carnevale, 1988).

Some states have moved to create such a nationally recognized "work readiness" credential, signifying one's ability to perform entry-level work, with performance attributes defined by employers (Eisner, 2010). The Developing a Curriculum (DACUM) approach uses experts employed in an occupation to determine the "outcomes" for inclusion in the curriculum (Szul & Moore, 1999). However, more in-depth research with employers should be performed to add to the pool of data (Graham, 2001).

Career Technical Education Courses

Public schools of the early 1900s, funded by the Smith-Hughes Act of 1917, bore the responsibility for preparing compliant and reliable workers to meet the demands of factories, mills, offices, and stores (Perry & Wallace, 2012). Vocational courses help students develop analytical, synoptic and presentational skills which are highly valued in the modern economy (Lowden et al., 2011). The agricultural education system plays a vital role in achieving the goal by supplying a workforce prepared to fit into the current needs of the global system (Hurst et. al., 2015; Zubović et al., 2009). The attributes that the Department of Labor reported as core competencies are the abilities to be information

management, resource management, social interaction, systems behavior and performance, human and technology interaction, and affective skills (Kane, Berryman, Goslin, & Meltzer, 1990).

The 2017 State of the Industry report completed by the Association for Talent Development reported industries spent an average of $1,273 per employee learning the jobs various skills in 2016, a 1.8% increase from 2015 (ATD Research, 2017). Hurst et al. (2015) took an extensive look at the components which lead to the development of a productive agricultural workforce in the developing country of Trinidad and Tobago, noting the importance of a comprehensive agricultural education system as a major resource in the development of a skilled workforce.

Governments, employers, and other stakeholders have expected higher-education institutions to increase human capital by developing a collection of vital skills employees can use to maximize productivity (Knight & Yorke, 2003). The high level of importance of the personal and leadership skills highlights the need for developing those skills, which is supported by the findings of Sargent, Pennington, & Sitton (2003) who recommended incorporating leadership training throughout an entire curriculum.

Industry Challenges Higher Education

According to the Partnership for 21st Century Skills (2006) and American Management Association's (AMA) 2010 survey, many employers believe that higher education is failing in its role to adequately develop needed skills in students (Partnership for 21st Century Skills, 2008). If agricultural industries are to survive, the agriculture curriculum must be dynamic and able to adjust to new situations and environments that

help to improve on-the-job effectiveness of future graduates (Coorts, 1987; Slocombe & Baugher, 1988). The industry voices illustrate that universities need to equip graduates with 'deep' intellectual capabilities and a battery of applied practical skills which make them more 'work-ready' (Archer & Davison, 2008). In particular, it is stressed that a need for more systematic opportunities for students to undertake work-related learning opportunities (Harvey, Moon, Geall, & Bower, 1997).

The quality of college undergraduate programs must be tied to the abilities of its graduates to be hired within their industry (Andelt et al., 1997). For programs to produce employable graduates, the program and learning environment must be considered purposefully and systematically (Knight & Yorke, 2003). It is vital for university professors who develop program requirements and coursework to remain up-to-date with the current demands of the workforce and integrate feedback from students, researchers, practitioners, and the community (Hurst et al., 2015; Maiga et al., 2013).

Since college professors play a vital role in the development of their own curriculum, the disconnect between professors' perceptions of industry needs and the actual needs of the industry can be problematic in preparing employment ready graduates (Morgan & Rucker, 2013). The partnerships between higher education and business and industry have huge implications for agriculture (Graham, 2001). Schools must do a better job of teaching "soft skills" if students are to succeed in the evolving American economy (Zehr, 1998). Andelt et al. (1997) posited the more is known about the competencies required for an industry the more employable graduates there will be in the marketplace.

Although informal conversations occur between personnel in private industry and our educational institutions, discussions might provide a formal avenue to address best opportunities to enhance and update curriculum along with other educational activities (Wachenheim & Lesch, 2002). It is widely recognized that academia should prepare students for the job market as well as provide general education (Urutyan & Litzenberg, 2010). From feedback, institutes of higher education can make decisions about coursework, competencies, and objectives of undergraduate programs to connect them to relevant industry needs (Andelt et al., 1997; Maiga et al., 2013; Morgan, 2010; Morgan, 2012; Zubović et al., 2009). Holzer (2012) underscored the deficit of middle and highly skilled workers to fill the good-paying positions and suggested education and skills of prospective employees fail to keep pace with employer needs. Employers want employees who will hear the key points that make up a customer's concerns (listening) and who can convey an adequate response (oral communications) (Carnevale, 1988).

In the SCANS 2000 report (1999), the message was good jobs will increasingly depend on people who can put knowledge to work. Recommendations were made for all stakeholders to promote character education along with leadership and communication skills through both formal and non-formal means (Williams, Robertson, Kieth, & Deal, 2014). Business professionals should recall education of students or even employees does not just include training associated with technical skills, but also personal attributes such as honesty and integrity (Harvey, 2000).

Employability Skills

Practitioners appear to be in wide agreement on the importance of today's college graduates possessing interpersonal, conceptual and information ability, coupled with drive and adaptability (Eisner, 2010). An article in Human Resource Magazine, summarized the key workplace skills for new graduates to communication, work ethic, teamwork, initiative, and leadership, and explained their value as helping a newly hired employee succeed and contribute to an organization (Owens, 2009). Scheetz (1995) reported that upon entering the workforce, the most necessary competencies college graduates should have are communication, teamwork, technology, willingness and ability to learn, organizational, leadership, analytical thinking/problem-solving, foreign language, and flexibility/adaptability. The characteristics of new graduates most important to employers were communication (verbal and written), strong work ethic, teamwork (works well with others), initiative, interpersonal (relates will to others), problem-solving, analytical, flexibility/adaptability, computer, technical, detail-oriented, organizational (Eisner, 2010).

The characteristics many new graduates lack are communication (presentation and written), teamwork, interpersonal, work ethic, time management, multitasking, meet deadlines, realistic job expectations, job loyalty, professionalism (Eisner, 2010). Since employees must do more to help the company be successful, students seeking jobs need skills that emphasize innovation and cultural competency, as well as critical thinking, problem solving, communication, teamwork, ethical and social responsibility, and foundational skills like reading and basic math (Schuele & Madison, 2010). However, before higher education institutions can be held accountable for providing such skills, a

series of basic questions should be answered: What skills are most important for graduates in performing their job?; How competent are graduates at performing these skills? (Robinson & Garton, 2007). Some graduates and their employers say more could be done to develop students' wider skills and attributes, including team-working, communication, leadership, critical thinking and problem solving (Lowden et al., 2011).

Numerous studies have produced particular skills and attributes required to promote graduate employability such as core skills; key skills; common skills; transferable skills; essential skills; functional skills; skills for life; generic skills and enterprise skills (Lowden et al., 2011). According to Harvey et al. (2002) most employers are looking for graduates who are proactive, can use higher-level skills including; analysis, critique, synthesis and multi layered communication to facilitate innovative teamwork in catalyzing the transformation of their organization. The literature indicates that employers want graduates who can adapt to the workplace culture, use their abilities and skills to evolve the organization and participate in innovative teamwork (Lowden et al., 2011).

Holzer (2012) noted even graduates with degrees do not possess the sector-required skills to receive good-paying jobs, placing the blame on disconnection between the labor market and the school systems. Although employers want college graduates to come prepared with transferable skills, many graduates have not demonstrated these skills at their jobs, creating a skills gap between employer expectations and employee competencies (Andelt et al., 1997; Symonds et al., 2011).

The Power of an Attitude

Ingbretsen (2009) reported that capable people can learn new skills, but those with poor attitudes can rarely be changed, and efforts to attempt such change are likely to be costly as well as counterproductive. A positive outlook and confidence will affirmatively capture employer attention and interest in a person being considered (Tullier, n. d.). Cappelli and Iannozzi (1995) reported that employers listed work attitudes, such as punctuality, following instructions, and showing a genuine concern for task outcome, as the primary causes of poor job performance.

Employers are more concerned in finding positive work attitudes and motivation among potential employees than that of technical skills that they possessed (Gruenhagen, 1982; Scholoss & Scholoss, 1982; Stewart, 1977). Personality measures are equally important predictors of work success such as cognitive ability and work accuracy (Robles, 2012).

An Increasing Skills Gap

Indicators at the state, national, and international levels reported that assessments in math and reading skills, high school graduation rates, college attendance, and employer surveys all state that too many high school students are dropping out, and too many graduates are unprepared for college and/or employment (Wise, 2008). Data demonstrates that individuals learn human relations skills less thoroughly do to three possibilities (Murray, 1994):

- the students do not understand the importance of the "soft skills" to employers, and/or

- educators do not understand the importance of the "soft skills" to

  employers, and/or

- educators are not effectively teaching the "soft skills" important to

  employers

A study designed to provide educators and industry personnel with validated standards for entry-level office-related positions utilized a method for verification called Developing A Curriculum (DACUM) (Szul & Moore, 1999). Motivated to improve the academic and technical skills of the future work force, businesses and schools joined in partnerships of various sizes and types to achieve their common and separate goals (Lankard, 1995). Our graduates need to demonstrate the ability to work in groups, show leadership, dedication, and initiation more than they are now doing (Graham, 2001).

Another report, analyzing data from the U. S. Department of Labor, indicated that even though managers value interpersonal skills most in new employees, business graduates were not being taught the people skills they needed (Mangan, 2007). Oftentimes, educators are already trying to cover more content than reasonably possible in the classroom, so asking for a unit on soft skills can be burdensome to those teachers who are already dealing with a tight curriculum schedule (Evenson, 1999).

In a study titled "Are They Really Ready to Work", more than 90% of respondents reported oral communication, teamwork/collaboration, professionalism/work ethic, written communication, and critical thinking/problem solving, to be very important skills for graduates to possess (Lee & Pilossoph, 2006). Interpersonal, conceptual, informational, motivational/drive, and adaptability competencies are qualities identified as expected and identified as deficits when absent (Eisner, 2010). Professionalism and

work ethic, defined as "demonstrating personal accountability, effective work habits, e.g., punctuality, working productively with others, time and workload management" is rated "very important" for high school graduates' successful job performance by 80.3% of employer respondents (Casner-Lotto & Barrington, 2006). Deficits employers find are entitlement attitude/unrealistic expectations, work ethic/laziness, lack of loyalty/commitment to company, work-life balance, immaturity, lack of confidence, understanding work required, communication skills, need for instant gratification (Eisner, 2010). Ken Kay, President of the Partnership for 21st Century Skills expressed the importance of these skills directly: "There isn't a lack of employees that are technically proficient but a lack of employees that can adequately communicate and collaborate, innovate and think critically" (Partnership for 21st Century Skills, 2008).

Research by Gray and Herr showed that 30% of high school graduates seeking employment were not provided the necessary skills in high school, which has resulted in high unemployment rates of high school graduates (Bureau of Labor Statistics, 2014). The condition creates a rapid depletion of employees in the job market, thus, prompting a massive need to fill these vacated positions (Carnevale, 2003). Research has shown that skills such as solving problems, communicating effectively, working on a team, thinking critically, and possessing interpersonal skills (Biling, 2003; Schmidt, 1999) are the employability skills most desired by employers. Employers also value critical thinking (reflection) as it is required for innovation and anticipating and leading change (Harvey et al, 1997; Little, 2001; Lees, 2002). In the United States, young adults suffer from a skills gap where they do not have the necessary competencies and work ethic to obtain employment (Easterly et al., 2017).

Increasingly, skills such as problem-solving, listening, negotiation and knowing how to learn are being seen as essentials (Carnevale, 1988). Businesses want resourceful employees with soft skills at all levels (Kakepoto, 2004; John, 2009). Companies are continuing to rate their employees' interpersonal skills as more important than their analytical abilities (Klaus, 2010). Many agree that work placements and internships make a huge difference to employability skills, however, access to placements is patchy (Lowden et al., 2011).

Interpersonal skills training is directed toward assisting the employee to recognize and improve the ability to judge and balance appropriate behavior, cope with undesirable behavior in others, absorb stress, deal with ambiguity, listen, inspire confidence in others, structure social interaction, share responsibility, and interact easily with others (Carnevale, 1988). "Hiring decisions clearly focus on skill sets, but firing decisions shift to other (attitudinal) concerns" (Hansen, 2009b). Employers said interpersonal ability, ethics, and responsibility/accountability are top attributes for an individual to possess (Tanyel, Mitchell, & McAlum, 1999). In a study by Robinson and Garton (2008), the top five employability skills identified were solving problems, ability to work independently, functioning well in stressful situations, maintaining a positive attitude, and listening attentively. Individual employees also need the basic skills that allow them to interact effectively with other members of the working team (Carnevale, 1988). Employer complaints focus on serious deficiencies in areas that include problem solving, personal management, and interpersonal skills.

Personal qualities important to job performance include self-esteem, self-management, responsibility, and motivation. Interpersonal and teamwork skills are those

needed to negotiate with others, to participate as a member of a team, to serve clients and customers in a way that meets their expectations, and to resolve conflicts maturely (Conrad & Leigh 1999). The area of interpersonal skills was found to be the area where improvements were needed overall (Graham, 2001). Andelt, Barrett, and Bosshamer (1997) found that employers needed employees with leadership abilities, especially in the areas of problem solving and team work.

Foundation skills including basic skills, thinking skills, and personal qualities along with workplace competencies are identified across many organizations as being fundamental requirements for new jobs (North & Worth, 2004). In a study by Clagett (1997), there is a need for employee improvement in interpersonal relations and team building, with 44% of the respondents indicating classes in these topics were substantially needed. Also essential are interpersonal skills, the ability to work in teams, goal- and priority-setting skills, problem-solving skills, and basic computer skills such as word processing, spreadsheets, and accessing the Internet (Clagett, 1997).

Work engagement is a positive, fulfilling, and work-related state of mind characterized by vigor, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006). A logical question that may arise is, "Is it possible for education to affect these personal characteristics that make people good employees?" While technical skills are a part of many excellent educational curricula, soft skills need further emphasis in the university curricula so that students learn the importance of soft skills early in their academic programs before they embark on a business career (Wellington, 2005). One study found that 75% of long-term job success depends on people skills, while only 25% is dependent on technical knowledge (Klaus, 2010). Another study indicated that hard

skills contribute only 15% to one's accomplishments, whereas 85% of success comes from soft skills (Watts & Watts, 2008; John, 2009). As employers are progressively looking for employees who are mature and socially attuned, they rate soft skills as number one in importance for entry-level success on the job (Wilhelm, 2004). Researchers note that interpersonal skills are the most important skills at all levels of the job (Sheikh, 2009).

People skills are the foundation of good customer service, and customer service skills are critical to professional success in almost any job (Evenson, 1999; Zehr, 1998). People skills promote a positive attitude, effective communication, respectful interaction, and the ability to remain composed in difficult situations (Evenson, 1999). Communication, or the lack thereof, has been the reason for many calamities and disasters that have taken place within the economic industry, health care, and the wider environments in recent years (Jelphs, 2006).

Soft skills are as important as cognitive skills (John, 2009; Zehr, 1998). Cobanoglu, Dede, and Poorani (2006) concluded that soft skills were among the most important skills in the job requirements for a hotel information technology manager: Communication was the most important, followed by critical thinking, and then the knowledge of information technology. In fact, soft skills are so important that they are ranked as number one and extremely important for potential job hires in many occupations and industries (Sutton, 2002). Soft skills are critical in the technical workplace (James & James, 2004), and business professionals need these skills because employers value them (John, 2009). Some will say that hard skills, such as those in construction, computer programming, or accounting, take precedence over knowing how

to be diplomatic with an upset customer or show finesse as an effective team member (Evenson, 1999).

Most of a person's learning is done informally, this is generally focused on soft skills that can include self-confidence and communication skills (Holtom & Bowen, 2007). Today, the national concern among business executives and professors is that high school graduates do not have the set of soft skills they need to be successful in college or in the workplace (Gewertz, 2007; National Union of Students, 2011). Success is based not only on what you know but also on how you can communicate it (Klaus, 2010).

The worker of tomorrow will be obligated to re-train and re-cycle for as many as four or five different occupations (Maclean & Ordonez, 2007). The Labor Secretary's Commission on Achieving Necessary Skills (SCANS) has identified many leadership skills and qualities among groupings of basic skills, thinking skills, personal qualities, resource allocation skills, interpersonal skills and organizational skills that will be needed by workers for "productive and meaningful employment in today's workforce." (Brock, 1992, p. 22).

Pool and Sewell (2007, p. 280) defined employability as "a set of skills, knowledge, understanding and personal attributes that make a person more likely to choose and secure occupations in which they can be satisfied and successful". Intellect, knowledge, willingness and ability to learn and continue learning are all personal attributes needed to be successful in the ever-changing work place (Harvey, 2000). Harvey added the willingness to continue learning has become far more important than knowledge to employers. Williams, et.al. (2014) found that employers regarded

listening as the most valuable communication skill. Singh & Singh (2008) found

employability skills are not job specific, but are applicable across all domains as well as

all levels of employment. The skills which provide the basic foundation to get, keep, and

progress on a job, to achieve the best results are communication, thinking critically,

continue to learn, have a positive attitude, have responsibility, be adaptable, and work

well with others (McLaughlin, 1995).

CHAPTER III

METHODOLOGY

Purpose

The purpose of the study was to identify the desired employability skills needed by entry-level employees entering the profession in concentrated animal feeding operations within the swine, dairy, and fed-beef industries.

Research Design

This quantitative study was non-experimental and was descriptive in nature. The study evaluated factors associated with identifying the preparedness and importance level of employable skills of current employees within the swine, dairy, and fed-beef industries. The variables explored included interpersonal skills, communication skills, computer skills, technical competencies, life experiences, and trainings needed. Data pertaining to these variables were recorded in a descriptive questionnaire adapted from Graham (2001).

Population and Sample

The target population for the study consisted of corporate office managers, general managers, assistant general managers, and departmental managers. A census was taken from the population that consisted of employers who make hiring decisions within the swine, dairy, and fed-beef industry. The group consisted of private industry employers.

An eight-person panel of unbiased industry stakeholders was formed to assist in the development of the descriptive questionnaire. The group consisted of both private industry employers and post-secondary education faculty. Although the panel members were stakeholders within the focus of the study, they only helped design the questionnaire and did not participate in the study.

The geographical area in which the study was conducted pertained to the top 26 counties of the Texas Panhandle and the adjacent counties located in New Mexico and Oklahoma. The number of subjects contacted to participate in the study included six swine, 108 dairy, and 117 fed-beef operations. The number of responses within each industry comprised of 30 swine, 18 dairy, and 35 fed-beef operations. The overall response for all CAFOs surveyed was 83. Therefore, the response rate for each industry was 500.00% swine, 16.67% dairy, and 29.91% fed-beef. The overall response rate for all CAFO questionnaires was 35.93%. A large response rate in the swine industry was represented by contact list of six swine operations, however, by using a snowball sampling technique, 30 responses returned.

Instrumentation

Carnevale (1990) stated that a questionnaire can be used to get workers to provide written answers to questions and can be distributed to many workers, thereby resulting in the collection of a large amount of data and offers an opportunity for comparative analysis. Therefore, a questionnaire (Appendix A) was modified following an extensive review of literature to assess the employability skills desired. The questionnaire was designed in and disseminated to participants with the Qualtrics survey platform. A link to the questionnaire was distributed to all selected participants via email. A number of questionnaires were mailed to participants in the dairy industry as email addresses were not publicly accessible.

Swine Industry – A total of six questionnaires were sent via email to corporate offices and managers distributed the questionnaire internally. No questionnaires were mailed out to the swine industry.

Dairy Industry – Ninety-one paper copies were sent through mail, and 14 were sent via email. A total of 105 questionnaires sent out.

Fed-Beef Industry – A total of 117 questionnaires were sent via email.

Those participants who were able to access the questionnaire by email did so through the electronic link and were sent a thank you email following completion. Those questionnaires that were mailed, were sent a paper copy accompanied by a self-addressed and postage paid envelope for return.

The instrument used in the study was adapted from the Graham (2001) study. A panel of four university faculty, an extension specialist, and three industry professionals reviewed the instrument to establish face and content validity within the questionnaire

(Appendix B). The instrument used in the study consisted of three sections to determine

the employability skills needed by entry-level employees entering the profession of the

swine, dairy, and fed-beef industries.

Section one was separated by four domains. Section one measured the self-

perceived preparedness and importance level of the employability skills within the

domains of interpersonal skills (13 items), communication skills (4 items), computer

skills (3 items), and technical skills (11 items). Employers rated the entry-level

employees on their preparedness level along with a perceived importance level in these

four areas. The preparedness category was measured on a five-point, Likert-type

response scale. The response scale used was:

> 1 – Unprepared
> 2 – Somewhat Prepared
> 3 – Prepared
> 4 – Well Prepared
> 5 – Thoroughly Prepared

The importance category was measured on a five-point response scale. The

response scale used was:

> 1 – Unimportant
> 2 – Somewhat Important
> 3 – Important
> 4 – Very Important
> 5 – Extremely Important

Section two of the questionnaire was comprised of questions about the importance

of different life experiences for an entry-level employee. The section had six different

items that were rated on a perceived importance level and was measured on a five-point, Likert-type response scale.

Section three consisted of ranking the perceived importance level of eight different employee trainings that may be needed for employee growth. These rankings were valued as the most important to a specific industry.

When evaluating the results of the of the preparedness categories, the following rubric was used to categorize their preparedness level:

    1.00 to 1.50 equaled unprepared
    1.51 to 2.50 equaled somewhat prepared
    2.51 to 3.50 equaled prepared
    3.51 to 4.50 equaled well prepared
    4.51 to 5.00 equaled thoroughly prepared

Likewise, when evaluating the results of the of the importance categories, the following rubric was used to determine each variables importance level:

    1.00 to 1.50 equaled unimportant
    1.51 to 2.50 equaled somewhat important
    2.51 to 3.50 equaled important
    3.51 to 4.50 equaled very important
    4.51 to 5.00 equaled extremely important

Results were also entered in Microsoft Excel prior to being moved to Statistical Package for Social Sciences (SPSS) Version 24.0.

Validity and Reliability

Validity is defined as the ability of a questionnaire to measure what it purports to measure (Ary, Jacobs, & Razavieh, 2002). Face validity ensures the questionnaire is

appealing to the eye and that it appears valid for its intended purpose. Content validity is used to assess whether or not the items in the questionnaire represents what the objectives dictate (Gall, Gall, & Borg, 2003). Faculty from an accredited agricultural department in a non-land grant university and industry stakeholders were used as the panel; five agricultural education professors from a department of agriculture and three industry stakeholders reviewed the instrument to establish content and face validity (Appendix C). The panel was used to gain insight as to clarity, readability, appropriateness, and validity. After suggestions were considered by the panel of experts, modifications to the questionnaire were made. The reliability for the questionnaire used in the study was adapted for the Graham (2001) and Deal (2012) study. A Chronbach's alpha was used to calculate reliability of the scaled items in this instrument at 0.93.

Snowball Sampling Technique

The responses by the participants in the study were provided by using a snowball sampling technique. Heckathorn (2015) stated snowball sampling, or chain-referral-sampling, of a hidden population begins with a convenience sample of initial subjects. These initial subjects serve as "seeds," through which wave one subject is recruited; wave one subjects in turn recruit wave two subjects; and the sample consequently expands. The sampling procedure may be defined when the researcher accesses informants through contact information that is provided by other informants (Noy, 2008). Snowball sampling was developed as a solution to overcome problems when collecting data from hidden populations (Faugier & Sargeant, 1997). Snowball sampling is a technique where every recruited participant in the research work recruits another participant while

knowing that not every recruited participant is going to recruit another participant (Explorable, 2010). One of the most important uses of the technique is the possibility for the researchers to comprise people in the questionnaire that they would not have known locating members of a specific population (Etikan, Alkassim, & Abubakar, 2015).

Identified respondents in the study were asked to distribute the questionnaire (with survey link) to owners, general managers, assistant managers, and department managers throughout their industries enterprise. The request was asked to all identified respondents in the three industries studies. Emailed questionnaires were asked to be sent to the second wave of respondents. Paper mailed questionnaires asked participants to make appropriate copies to be distributed to subsequent waves. In addition to the paper questionnaires being mailed, the information provided asked for an email address so that the questionnaire could be emailed to each participant.

Data Collection Procedures

Elements of Dillman's Tailored Design Method (Dillman, Smyth, & Christian, 2014) was used to utilize an optimal response rate. Prior to the questionnaire being administered, an introductory letter was sent to prospective participants explaining the purpose of the questionnaire and its importance (Appendix D). Within the initial letter, all prospective participants were informed participation in the study was voluntary and anonymous. After an introductory letter was sent, an email informing the participants of how the questionnaire system would work was sent.

According to Dillman (2014) repeated contact with respondents will increase response rates by 20-40%. Approximately two weeks after the introductory letter was

sent, an email was sent that included the link to complete the questionnaire. Paper copies were mailed to participants without an email address. Data collection started September 2018 and ended October 2018. Two follow-up emails, as well as paper letter, were sent out by the researcher. These letters thanked participants who had responded to the questionnaire instrument and encouraged non-respondents to participate in the study (Appendix E, and F). A final letter was sent to each manager thanking all participants who had responded to the instrument and encouraged any non-respondents that their participation in the study was appreciated (Appendix G).

Data collection methods were based on Dillman's Tailored Design Method (2014). The questionnaire was distributed to known contacts (swine – Texas Pork Producers member directory, dairy – Texas Dairymen's Association directory/Dairy Spotter Publication, fed-beef – Texas Cattle Feeders Association directory/Beef Spotter Publication) who were asked to distribute to other managers within their organization. Using this snowball sampling technique, a total of 83 participants completed the administered questionnaire out of a total population of 231 individuals in the swine, dairy and fed-beef operations.

Data Analysis

Research objectives guided the data analysis procedures utilized in this study. Data were analyzed using Statistical Package for Social Sciences (SPSS) Version 24.0. Data were imported into SPSS from Microsoft Excel from which data were initially entered. For the objectives of the study, frequencies, percentages, means, mean weighted

discrepancy scores (MWDS), and standard deviations (SD) were used for descriptions and comparison of factors.

Garton and Chung (1997) stated "utilized questionnaire methodology in which respondents provided data that could be weighted and ranked in order of priority" (p. 52). To determine the perceived level of importance of the employability skills needed in industry and the perceived level of competence at performing the skills, discrepancy scores were taken from the data on the employability skill constructs. The employability skill constructs were ranked from high to low to determine the greatest discrepancies, which would signify where the curriculum should be enhanced.

To determine where discrepancies exist for what is/what should be, a discrepancy score is determined by taking the desired level (*what should be*) minus the perceived level (*what is*) for each respondent for each competency. A weighted discrepancy score is then calculated by multiplying each discrepancy score by the associated mean desired level (*what should be*) rating of the competency. A MWDS was calculated by taking the sum of the weighted discrepancy scores for each competency and dividing it by the number of respondents (McKim & Pope, 2010).

A discrepancy score for each employability skill construct was calculated by taking the mean importance rating minus the mean preparedness rating. A weighted discrepancy score was then calculated for every employability skill by multiplying the discrepancy score by the mean importance rating. A mean weighted discrepancy score for each of the employability skills was then calculated by taking the sum of the weighted discrepancy scores, divided by the number of respondents (*swine, n=30 ; dairy, n=18 ; fed-beef, n=35*). The employability skill constructs were then ranked, from high to low;

using the mean weighted discrepancy scores. Items with a high discrepancy score indicated areas needed for curriculum enhancement and improvement.

In order to determine if differences existed between the swine, dairy, and fed-beef industries as they relate to importance level of interpersonal, communication, computer, and technical skills, a chi-square goodness of fit test was used. A null hypothesis of no difference among industries when comparing the four skill areas was assumed. A probability value less than 0.05 was used to determine significant differences.

CHAPTER IV

RESULTS AND FINDINGS

Purpose

The purpose of the study was to identify the desired employability skills needed by entry-level employees entering the profession in concentrated animal feeding operations within the swine, dairy, and fed-beef industries.

Population and Sample

The target population for the study consisted of corporate office managers, general managers, assistant general managers, and departmental managers. A census was taken from the population, consisting of employers who make hiring decisions within the swine, dairy, and fed-beef industry. The group consisted of private industry employers.

The geographical area in which the census was conducted pertained to the top 26 counties of the Texas Panhandle and the surrounding border counties which included counties in New Mexico and Oklahoma. The data collection method used in the questionnaire was approached using the snowball sampling technique. Snowball sampling was developed as a solution in overcoming problems of data sampling in hidden populations (Faugier & Sargeant, 1997). The technique allowed the researchers to access informants through contact information that was provided by other informants (Noy, 2008). One of the most important uses of the technique is the possibility for

researchers to comprise people in the questionnaire that they would not have known

locating members of a specific population (Etikan et. al., 2015).

Findings Related to Objective One

Objective one: Describe the demographics (position of placement, number of employees supervised, formal education of employees) of individuals that manage people in CAFOs within the swine, dairy, and fed-beef industries.

Respondents were asked to identify the size and capacity of workforce within each of their respected industries. Being able to identify the demographics of each industry, the data collected can give an insight about the position of the respondent relative to their job title, the number of people each respondent supervised, and the level of formal education by majority of their employees.

Respondents were asked to identify their placement among their industry (Table 1). The number of subjects contacted to participate in the study included six swine, 108 dairy, and 117 fed-beef operations. The number of responses within each industry comprised of 30 swine, 18 dairy, and 35 fed-beef operations. The overall response for all CAFOs surveyed was 83. Therefore, the response rate for each industry was 500.00% swine, 16.67% dairy, and 29.91% fed-beef. The overall response rate for all CAFO questionnaires was 35.93%. A large response rate in the swine industry was represented by contact list of six swine operations, however, by using a snowball sampling technique, 30 responses returned.

The highest percentage of respondents in the swine industry consisted of Department Managers *(n = 18)* with a rate of 60%. The highest percentage of respondents in the dairy industry consisted of General Managers *(n = 14)* with rate of

51

77.78%. Also, the highest percentage of respondents in the fed-beef industry consisted of General Managers *(n = 22)* with rate of 64.71%.

Table 1

Respondents by Position Placement

	Swine		Dairy		Fed-Beef	
Position Placement	f	%	f	%	f	%
Corporate	1	3.33	0	0.00	4	11.76
General Manager	11	36.67	14	77.78	22	64.71
Assistant General Manager	0	0.00	1	5.56	2	5.88
Department Manager	18	60.00	3	16.67	6	17.65
Total	30	100	18	100	34	100

In addition to the position of placement, the participants were asked to identify number of individuals each respondent supervised on a daily basis. In the swine industry, participants most often selected that they tend to supervise six to ten employees (f =8, 26.67%). In the dairy industry, participants most often selected that they tend to supervise twenty-six to fifty employees (f =7, 38.89%). In the fed-beef industry, participants most often selected that they tend to supervise twenty-six to fifty employees (f =11, 32.35%).

Two (f=2, 6.67%) respondents within the swine industry reported that they supervised over four hundred employees. The largest number supervised in the dairy industry was reported to be one hundred-one to one hundred fifty employees (f=1, 5.56%). Likewise, in the fed-beef industry, the largest supervising number was reported as being one hundred fifty-one to two hundred (f=2, 5.88%) employees. These are most notably contributed to the infrastructure of the organization and the responsibility of the

individual respondent partaking in the questionnaire. Information is represented in Table 2.

Table 2

Respondents by Number of People Supervised

	Swine		Dairy		Fed-Beef	
Number of People Supervised	f	%	f	%	f	%
1-5	3	10.00	2	11.11	3	8.82
6-10	8	26.67	2	11.11	6	17.65
11-15	5	16.67	0	0.00	3	8.82
16-20	1	3.33	1	5.56	0	0.00
21-25	0	0.00	1	5.56	3	8.82
26-50	1	3.33	7	38.89	11	32.35
51-100	3	10.00	4	22.22	5	14.71
101-150	2	6.67	1	5.56	1	2.94
151-200	1	3.33	0	0.00	2	5.88
201-300	4	13.33	0	0.00	0	0.00
301-400	0	0.00	0	0.00	0	0.00
400+	2	6.67	0	0.00	0	0.00
Total	30	100	18	100	34	100

The questionnaire also asked the respondents to identify the type of formal education that the majority of their employees obtained (Table 3). The particular question gave the respondents the ability to choose multiple variables for the education level of their employees. The majority of formal education obtained by employees under each respondent's supervision across all industries was identified to be a high school level education. In the swine industry, most employees (f=16) had high school education at 31.37% of those surveyed. In the dairy industry, most employees (f=11) had high school education at 36.67% of those surveyed. In the fed-beef industry, most employees (f=26) had high school education at a percentage rate of 45.61% of those surveyed.

Table 3

Formal Education of Employees Supervised

Type of Formal Education	Swine		Dairy		Fed-Beef	
	f	%	*f*	%	*f*	%
No Formal Education	7	13.73	10	33.33	6	10.53
High School	16	31.37	11	36.67	26	45.61
Some Technical Training / Education after High School	7	13.73	5	16.67	7	12.28
Some College	8	15.69	4	13.33	7	12.28
Associate Degree	5	9.80	0	0.00	3	5.26
Bachelor Degree	8	15.69	0	0.00	6	10.53
Master Degree	0	0.00	0	0.00	1	1.75
Doctoral Degree	0	0.00	0	0.00	1	1.75
Total	51	100	30	100	57	100

Findings Related to Objective Two

Objective two: Describe the level of preparation of skills, knowledge, and abilities perceived for employability that are desired in CAFOs within the swine, dairy, and fed-beef industries*.*

Employee preparation was divided into four sections titled: interpersonal skills, communication skills, computer skills, and technical skills. The first section found in objective two consisted of thirteen interpersonal skills. Respondents were asked to evaluate the perceived preparedness level of their employees when entering the workforce. The 13 interpersonal skills were ranked in order of preparedness based on their mean preparedness for each industry.

The swine industry (Table 4) identified eight interpersonal skills that were found to have a mean importance greater than 2.51 indicating employees were perceived to be *Prepared* (RL = 2.51-3.50) in these areas. The top four items in the category consisted of 'Honesty/ Integrity' *(M=3.27)*, 'Working Well with Fellow Employees' *(M=3.07)*,

54

'Maintaining a Positive Attitude' *(M=2.97)*, and 'Dependability/Dedication to the Job'

(M=2.93).

Table 4

Employer Mean Values of Perceived Preparedness of Interpersonal Skills in the Swine Industry (n=30)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Honesty/Integrity	1	3.27	0.96
Working Well with Fellow Employees	2	3.07	0.96
Maintaining a Positive Attitude	3	2.97	0.84
Dependability/Dedication to the Job	4	2.93	1.08
Open-minded to new experiences or ideas	5	2.67	0.83
Ability to Work Independently	6	2.63	1.08
Professionalism	7	2.60	1.08
Possess a desire to see the business be successful	8	2.53	1.20
Initiative	9	2.47	1.06
Management/Overseeing several tasks at once	10	2.40	1.20
Organizational skills	11	2.37	0.80
Decision Making/Problem Solving	12	2.30	1.00
Setting Priorities	13	2.27	1.00

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

The dairy industry (Table 5) identified four interpersonal skills with a mean

importance greater than 2.51, indicating employees were perceived to be *Prepared* (RL =

2.51-3.50) in these areas. These four items consisted of 'Maintaining a Positive Attitude'

(M=3.17), 'Honesty/Integrity' *(M=3.06)*, 'Working Will with Fellow Employees'

(M=2.72), and 'Open-minded to new experiences or ideas' *(M=2.61)*. In addition, one

item possessed a mean preparedness of less than 2.50 indicating a perception of

Somewhat prepared (RL = 1.51-2.50). The item was 'Decision Making/Problem

Solving; *(M=1.78)*.

Table 5

Employer Mean Values of Perceived Preparedness of Interpersonal Skills in the Dairy Industry (n=18)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Maintaining a Positive Attitude	1	3.17	0.90
Honesty/Integrity	2	3.06	0.97
Working Well with Fellow Employees	3	2.72	0.93
Open-minded to new experiences or ideas	4	2.61	0.83
Possess a desire to see the business be successful	5	2.50	1.12
Dependability/Dedication to the Job	6	2.44	1.26
Initiative	7	2.39	1.06
Setting Priorities	8	2.33	1.00
Ability to Work Independently	9	2.28	0.99
Professionalism	10	2.28	0.93
Organizational skills	11	2.06	0.87
Management/Overseeing several tasks at once	12	2.00	0.88
Decision Making/Problem Solving	13	1.78	0.92

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

The fed-beef industry (Table 6) identified eleven interpersonal skills that were found to have a mean importance greater than 2.51 indicating employees were perceived to be *Prepared* (RL = 2.51-3.50) in these areas. However, the top four items consisted of 'Honesty/Integrity' *(M=3.37)*, 'Working Well with Fellow Employees' *(M=3.23)*, 'Open-minded to new experiences or ideas' *(M=3.14)*, and 'Dependability/Dedication to the Job' *(M=2.97)*.

Table 6

Employer Mean Values of Perceived Preparedness of Interpersonal Skills in the Fed-Beef Industry (n=34)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Honesty/Integrity	1	3.37	1.02
Working Well with Fellow Employees	2	3.23	0.96
Open-minded to new experiences or ideas	3	3.14	1.10
Dependability/Dedication to the Job	4	2.97	1.18
Initiative	5	2.94	1.01
Maintaining a Positive Attitude	6	2.91	0.84
Possess a desire to see the business be successful	7	2.83	1.25
Professionalism	8	2.74	1.02
Ability to Work Independently	9	2.63	0.90
Management/Overseeing several tasks at once	10	2.57	1.18
Organizational skills	11	2.53	0.98
Setting Priorities	12	2.49	1.05
Decision Making/Problem Solving	13	2.40	1.05

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Communication skills were the second section found in objective two and consisted of four skills. Respondents were asked to evaluate the preparedness level of their employees in the area of communication skills when entering the workforce. The four communication skills were ranked in order of preparedness based on their mean preparedness.

The swine industry (Table 7) identified two communication skills that were found to have a mean importance greater than 2.51 indicating employees were perceived to be *Prepared* (RL = 2.51-3.50) in these areas. These two items consisted of 'Understand and Follow Instructions' *(M=2.72)* and 'Indulging/Responding to Others Comments during Conversation' *(M=2.55)*. In addition, one item possessed a mean preparedness of less than 2.50 meaning that employers viewed these individuals within these variables as

Somewhat prepared (RL = 1.51-2.50). The item was the 'Ability to Speak a Second Language' *(M=*1.80).

Table 7

Employer Mean Values of Perceived Preparedness of Communication Skills in the Swine Industry (n=30)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	2.72	0.94
Indulging/Responding to Others Comments during Conversation	2	2.55	0.67
Technical Writing	3	2.21	0.85
Ability to Speak a Second Language	4	1.80	0.83

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

The dairy industry (Table 8) identified one communication skill that was found to have a mean importance greater than 2.51 indicating employees were perceived to be *Prepared* (RL = 2.51-3.50) in the area. The item consisted of 'Understand and Follow Instructions' *(M =*2.83). In addition, two items possessed a mean preparedness of less than 2.50 meaning that employers viewed these individuals within these variables as *Somewhat prepared* (RL = 1.51-2.50). These items were the 'Indulging/Responding to Others Comments' *(M=*2.33), 'Ability to Speak a Second Language' *(M =*1.89), and 'Technical Writing' *(M =*1.59).

Table 8

Employer Mean Values of Perceived Preparedness of Communication Skills in the Dairy Industry (n=18)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	2.83	0.83
Indulging/Responding to Others Comments during Conversation	2	2.33	0.88
Ability to Speak a Second Language	3	1.89	0.87
Technical Writing	4	1.59	0.69

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

The fed-beef industry (Table 9) identified two communication skills that were found to have a mean importance greater than 2.51 indicating employees were perceived to be *Prepared* (RL = 2.51-3.50) in these areas. These two items consisted of 'Understand and Follow Instructions' *(M=2.91)*, and 'Indulging/Responding to Others Comments during Conversation' *(M=2.62)*. In addition, two items possessed a mean preparedness of less than 2.50 meaning that employers viewed these individuals within these variables as *Somewhat prepared* (RL = 1.51-2.50). These items were the 'Ability to Speak a Second Language' *(M=2.09)*, and 'Technical Writing' *(M=1.91)*.

Table 9

Employer Mean Values of Perceived Preparedness of Communication Skills in the Fed-Beef Industry (n=34)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	2.91	0.97
Indulging/Responding to Others Comments during Conversation	2	2.62	0.84
Ability to Speak a Second Language	3	2.09	0.97
Technical Writing	4	1.91	1.05

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Computer skills was the third section found in objective two and consisted of

three skills. Respondents were asked to evaluate the preparedness level of their

employees in the area of computer skills when entering the workforce. The three

computer skills were ranked in order of preparedness based on their mean preparedness.

The swine industry (Table 10) identified zero computer skills that were found to

have a mean importance greater than 2.51 indicating employees were perceived to be

Prepared (RL = 2.51-3.50) in these areas. No item possessed a mean preparedness above

2.51. In addition, three items possessed a mean preparedness of less than 2.50 meaning

that employers viewed these individuals within these variables as *Somewhat prepared*

(RL = 1.51-2.50). These items were the 'Computerized Record Systems' *(M=2.13)*,

'Computer Control Systems' *(M=1.93)*, and 'Spreadsheets/Word Processing' *(M=1.93)*.

Table 10

Employer Mean Values of Perceived Preparedness of Computer Skills in the Swine Industry
(n=30)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	2.13	0.72
Computer Control Systems	2	1.93	0.74
Spreadsheets/Word Processing	3	1.93	0.81

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

The dairy industry (Table 11) identified zero communication skills that were

found to have a mean importance greater than 2.51 indicating employees were perceived

to be *Prepared* (RL = 2.51-3.50) in this areas. In addition, all three items possessed a

mean preparedness of less than 2.50 meaning that employers viewed these individuals

within these variables as *Somewhat prepared* (RL = 1.51-2.50). These items were the

'Computerized Record Systems' *(M=1.82)*, 'Computer Control Systems' *(M=1.65)*, and

'Spreadsheets/Word Processing' *(M=1.53)*.

Table 11

Employer Mean Values of Perceived Preparedness of Computer Skills in the Dairy Industry
(n=18)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	1.82	0.98
Computer Control Systems	2	1.65	0.90
Spreadsheets/Word Processing	3	1.53	0.92

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

The fed-beef industry (Table 12) identified two communication skills that were

found to have a mean importance greater than 2.51 indicating employees were perceived

to be *Prepared* (RL = 2.51-3.50) in these areas. These two items consisted of

'Computerized Record Systems' *(M=2.63)* and 'Computer Control Systems' *(M=2.57)*.

Table 12

Employer Mean Values of Perceived Preparedness of Computer Skills in the Fed-Beef Industry
(n=34)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	2.63	1.02
Computer Control Systems	2	2.57	0.99
Spreadsheets/Word Processing	3	2.49	1.18

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

The fourth section found in objective two consisted of 11 skills. Respondents

were asked to evaluate the preparedness level of their employees in the area of technical

skills when entering the workforce. The 11 computer skills were ranked in order of

preparedness based on their mean preparedness.

The swine industry (Table 13) identified three technical skills that were found to

have a mean importance greater than 2.51 indicating employees were perceived to be

Prepared (RL = 2.51-3.50) in these areas. These three items consisted of 'Animal

Management/Animal Welfare' *(M=2.70)*, 'Livestock Handling Procedures' *(M=2.63)*,

and 'Proper Safety Procedures' *(M=2.57)*.

Table 13

Employer Mean Values of Perceived Preparedness of Technical Skills in the Swine Industry
(n=30)

Technical Skills Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	2.70	1.24
Livestock Handling Procedures	2	2.63	1.22
Proper Safety Procedures	3	2.57	1.15
Record Keeping	4	2.43	0.84
Animal Health	5	2.40	1.23
Animal Feeding/Nutrition	6	2.30	1.24
Business Comprehension	7	2.00	1.03
Feed Production/Processing/Management	8	1.80	0.98
Marketing Comprehension	9	1.70	0.94
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	10	1.70	0.94
Yard Maintenance/Welding	11	1.57	0.84

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat
prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-
4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

The dairy industry (Table 14) identified one technical skill that was found to have

a mean importance greater than 2.51 indicating employees were perceived to be *Prepared*

(RL = 2.51-3.50) in these areas. The item consisted of 'Animal Management/Animal

Welfare' *(M=2.56)*. In addition, two items possessed a mean preparedness of less than

1.50 indicating that employer's perceived that their employees were *Unprepared* (RL =

1.0-1.50) in these areas. These items were the 'Business Comprehension' *(M=1.39)* and

'Marketing Comprehension' *(M=1.39)*.

Table 14

Employer Mean Values of Perceived Preparedness of Technical Skills in the Dairy Industry
(n=30)

Technical Skills Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	2.56	1.17
Proper Safety Procedures	2	2.44	1.12
Livestock Handling Procedures	3	2.33	1.15
Animal Health	4	2.28	0.93
Record Keeping	5	2.22	0.97
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	6	2.22	0.79
Yard Maintenance/Welding	7	2.06	0.62
Animal Feeding/Nutrition	8	1.72	0.73
Feed Production/Processing/Management	9	1.61	0.76
Business Comprehension	10	1.39	0.59
Marketing Comprehension	11	1.39	0.59

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat
prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-
4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

The fed-beef industry (Table 15) identified four technical skills that were found to

have a mean importance greater than 2.51 indicating employees were perceived to be

Prepared (RL = 2.51-3.50) in these areas. These four items consisted of 'Proper Safety

Procedures' *(M=2.71)*, 'Animal Management/Animal Welfare' *(M=2.68)*, 'Livestock

Handling Procedures' *(M=2.62)*, and 'Animal Health' *(M=2.53)*. There were seven

items that possessed a mean preparedness of 1.50 to 2.50, indicating that employer's

perceived that their employees were *Somewhat prepared* (RL = 1.51-2.50) in these areas.

63

Table 15

Employer Mean Values of Perceived Preparedness of Technical Skills in the Fed-Beef Industry (n=30)

Technical Skills Needed	Rank	Mean	Standard Deviation
Proper Safety Procedures	1	2.71	0.99
Animal Management/Animal Welfare	2	2.68	1.08
Livestock Handling Procedures	3	2.62	0.97
Animal Health	4	2.53	1.01
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	5	2.50	0.92
Yard Maintenance/Welding	6	2.47	0.95
Record Keeping	7	2.43	0.96
Animal Feeding/Nutrition Feed	8	2.35	1.00
Production/Processing/Management	9	2.35	1.16
Business Comprehension	10	2.15	0.91
Marketing Comprehension	11	2.00	0.97

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Findings Related to Objective Three

Objective three: Describe the importance of skills, knowledge, and abilities needed for employability that are desired in CAFOs within the swine, dairy, and fed-beef industries.

Researchers hoped to capture the skills employers deemed the most important with in each respected industry. Skill importance was divided into four sections titled: interpersonal skills, communication skills, computer skills, and technical skills.

The first section found in objective three consisted of 13 interpersonal skills. Respondents were asked to evaluate the importance level of certain skills when employees entering the workforce. The 13 interpersonal skills were ranked in order of importance based on their mean importance.

For the importance rating of interpersonal skills in the swine industry, 13 items rated as *Very important* (RL = 3.51-4.50) by employers yielding a mean greater than

3.50. Complete results can be found in Table 16. The interpersonal skills respondents rated as most important were 'Honesty/Integrity' *(M=4.63)*, 'Dependability/Dedication to the Job' *(M=4.38)*, 'Working Well with Fellow Employees' *(M=4.33)*, and 'Initiative' *(M=4.21)*. Although all items generated a mean score over 3.00, the lowest rated items were 'Ability to Work Independently' *(M=3.80)*, 'Organizational skills' *(M=3.80)*, and 'Professionalism' *(M=3.57)*.

Table 16

Employer Mean Values of Importance of Interpersonal Skills in the Swine Industry (n=30)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Dependability/Dedication to the Job	1	4.63	0.55
Maintaining a Positive Attitude	2	4.38	0.67
Setting Priorities	3	4.33	0.65
Open-Minded to New Experiences or Ideas	4	4.21	0.67
Decision Making/Problem Solving	5	4.17	0.73
Working Well with Fellow Employees	6	4.10	0.91
Management/Overseeing several tasks at once	7	3.97	0.71
Ability to Work Independently	8	3.90	0.80
Possess a desire to see the business be successful	9	3.87	0.81
Organizational skills	10	3.83	0.78
Honesty/Integrity	11	3.80	0.87
Initiative	12	3.80	0.79
Professionalism	13	3.57	0.84

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

For the importance rating of interpersonal skills in the dairy industry (Table 17), twelve items rated as *Very important* (RL = 3.51-4.50) by employers yielding a mean greater than 3.51. The interpersonal skills questionnaire respondents rated as most important were 'Honesty/Integrity' *(M=4.83)*, 'Dependability/Dedication to the Job'

(*M*=4.50), 'Working Well with Fellow Employees' *(M=4.33)*, and 'Initiative' *(M=4.22)*.

Although all items generated a mean score over 2.51 indicating that each item is

Important (RL = 2.51-3.50), the lowest rated items among those listed were 'Open-

minded to New Experiences or Ideas' *(M=3.56)*, 'Professionalism' *(M=3.56)*, and

'Ability to Work Independently' *(M=3.33)*.

Table 17

Employer Mean Values of Importance of Interpersonal Skills in the Dairy Industry (n=18)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Honesty/Integrity	1	4.83	0.37
Dependability/Dedication to the Job	2	4.50	0.69
Working Well with Fellow Employees	3	4.33	0.94
Initiative	4	4.22	0.92
Possess a desire to see the business be successful	5	4.22	1.13
Maintaining a Positive Attitude	6	4.17	0.93
Management/Overseeing several tasks at once	7	3.67	1.29
Organizational skills	8	3.67	1.00
Setting Priorities	9	3.67	1.05
Decision Making/Problem Solving	10	3.61	1.06
Open-minded to New Experiences or Ideas	11	3.56	0.90
Professionalism	12	3.56	1.01
Ability to Work Independently	13	3.33	0.94

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

For the importance rating of interpersonal skills in the fed-beef industry (Table

18), 10 items rated as *Very important* (RL = 3.51-4.50) by employers yielding a mean

greater than 3.51. The interpersonal skills questionnaire respondents rated as most

Important (RL = 2.51-3.50) were 'Honesty/Integrity' *(M=4.82)*,

'Dependability/Dedication to the Job' *(M=4.38)*, 'Working Well with Fellow Employees'

(M=4.34), and 'Initiative' *(M=4.11)*. Although all items generated a mean score over

2.51 indicating that each item is *Important* (RL = 2.51-3.50), the lowest rated items were

'Management/Overseeing several tasks at once' *(M =3.50)*, 'Open-minded to New

Experiences' *(M=3.49)*, and 'Professionalism' *(M=3.46)*.

Table 18

Employer Mean Values of Importance of Interpersonal Skills in the Fed-Beef Industry (n=34)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Honesty/Integrity	1	4.82	0.38
Dependability/Dedication to the Job	2	4.38	0.79
Working Well with Fellow Employees	3	4.34	0.86
Initiative	4	4.11	0.71
Possess a desire to see the business be successful	5	4.03	0.84
Ability to Work Independently	6	3.89	0.78
Maintaining a Positive Attitude	7	3.89	0.85
Decision Making/Problem Solving	8	3.80	0.82
Setting Priorities	9	3.74	0.91
Organizational skills	10	3.66	0.86
Management/Overseeing several tasks at once	11	3.50	0.87
Open-minded to New Experiences or Ideas	12	3.49	0.94
Professionalism	13	3.46	1.10

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

The second section found in objective three consisted of four communication

skills. Respondents were asked to evaluate the importance level of certain skills when

employees entering the workforce. The four communication skills were ranked in order

of importance based on their mean importance.

For the importance rating of communication skills in the swine industry, one item

rated as *Very important* (RL = 3.51-4.50) by employers yielding a mean greater than

3.51. Complete results can be found in Table 19. The communication skills

questionnaire respondents rated as most important were 'Understand and Follow

Instruction' *(M=4.48)*. The other items were ranked as important.

Table 19

Employer Mean Values of Importance of Communication Skills in the Swine Industry (n=30)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	4.48	0.56
Indulging/Responding to Others Comments during Conversation	2	3.45	0.56
Technical Writing	3	3.03	1.00
Ability to Speak a Second Language	4	2.93	1.12

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

For the importance rating of communication skills in the dairy industry, one item

rated as *Very important* (RL = 3.51-4.50) by employers yielding a mean greater than

3.51. Complete results can be found in Table 20. The communication skills respondents

rated as most important were 'Understand and Follow Instruction' *(M=4.50)*.

Table 20

Employer Mean Values of Importance of Communication Skills in the Dairy Industry (n=18)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	4.50	0.60
Ability to Speak a Second Language	2	3.44	1.21
Indulging/Responding to Others Comments during Conversation	3	3.39	1.16
Technical Writing	4	2.59	1.37

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

The importance rating of communication skills in the fed-beef industry, one item rated as *Very important* (RL = 3.51-4.50) by employers yielding a mean greater than 3.51. Complete results can be found in Table 21. The communication skills questionnaire respondents rated as most important were 'Understand and Follow Instruction' *(M=4.26)*.

Table 21

Employer Mean Values of Importance of Communication Skills in the Fed-Beef Industry (n=34)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	4.26	0.77
Indulging/Responding to Others Comments during Conversation	2	3.50	0.92
Ability to Speak a Second Language	3	3.03	1.03
Technical Writing	4	2.54	0.97

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

The third section found in objective three consisted of three computer skills. Respondents were asked to evaluate the importance level of certain skills when employees entering the workforce. The three computer skills were ranked in order of importance based on their mean importance.

For the importance rating of computer skills in the swine industry (Table 22), there were no items that rated as *Very important* (RL = 3.51-4.50) by employers yielding a mean greater than 3.51. In addition, zero items generated a mean less than 2.50. 'Computerized Record Systems' *(M=3.17)* was expressed as the most important communication skill by employers in the study. Likewise, 'Spreadsheets/Word

69

Processing' *(M=3.00)* was expressed as the least important communication skill by employers in the study.

Table 22

Employer Mean Values of Importance of Computer Skills in the Swine Industry (n=30)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	3.17	1.07
Computer Control Systems	2	3.17	1.18
Spreadsheets/Word Processing	3	3.00	1.05

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

The importance rating of computer skills in the dairy industry (Table 23), there were no items that rated as *Very important* (RL = 3.51-4.50) by employers yielding a mean greater than 3.51. 'Computerized Record Systems' *(M=3.00)* was expressed as the most important communication skill by employers in the study. In addition, one item generated a mean less than 2.50 indicating that employer's perceived the importance rating as *Somewhat important* (RL = 1.51-2.50) in these areas. This item consisted of 'Spreadsheets/Word Processing' *(M=2.12)* indicating that the item is somewhat important.

Table 23

Employer Mean Values of Importance of Computer Skills in the Dairy Industry (n=18)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	3.00	1.24
Computer Control Systems	2	2.82	1.29
Spreadsheets/Word Processing	3	2.12	1.08

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

For the importance rating of computer skills in the fed-beef industry (Table 24), there were no items that rated as very important by employers yielding a mean greater than 3.51. However, 'Computerized Record Systems' *(M=3.40)* and 'Computer Control Systems' *(M=3.40)* were expressed as the most important communication skills by employers in the study indicating that employer's perceived the importance rating as *Important* (RL = 2.51-3.50) in these areas. In addition, there were no items generated with a mean less than 2.51. Although, 'Spreadsheets/Word Processing' *(M=3.11)* was expressed as the least important communication skill by employers in the study.

Table 24

Employer Mean Values of Importance of Computer Skills in the Fed-Beef Industry (n=34)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	3.40	1.05
Computer Control Systems	2	3.40	0.93
Spreadsheets/Word Processing	3	3.11	1.06

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

The fourth section found in objective three consisted of eleven technical skills. Respondents were asked to evaluate the importance level of certain skills with employees entering the workforce. The 11 technical skills were ranked in order of importance based on their mean importance.

For the importance rating of technical skills in the swine industry (Table 25), there were six items that rated as *Very important* (RL = 3.51-4.50) by employers yielding a mean greater than 3.50. These items consisted of 'Animal Management/Animal Welfare' *(M=4.57)*, 'Proper Safety Procedures' *(M=4.37)*, 'Livestock Handling

71

Procedures' *(M=4.33)*, 'Animal Health' *(M=4.20)*, 'Record Keeping' *(M=3.93)*, and

'Animal Feeding/Nutrition' *(M=3.83)*. Two items generated a mean less than 2.51

indicating that employer's perceived the importance rating as *Somewhat important* (RL =

1.51-2.50). These items were 'Vehicle & Heavy Equipment Operation

/Maintenance/Mechanics' *(M=2.21)*, and 'Yard Maintenance/Welding' *(M=2.17)* were

expressed as the least important communication skills by the respondents in the study.

Table 25

Employer Mean Values of Importance of Technical Skills in the Swine Industry (n=30)

Technical Skills Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	4.57	0.76
Proper Safety Procedures	2	4.37	1.02
Livestock Handling Procedures	3	4.33	0.79
Animal Health	4	4.20	0.91
Record Keeping	5	3.93	0.94
Animal Feeding/Nutrition	6	3.83	1.24
Business Comprehension	7	3.13	1.06
Feed Production/Processing/Management	8	2.90	1.25
Marketing Comprehension	9	2.67	1.16
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	10	2.21	1.16
Yard Maintenance/Welding	11	2.17	1.19

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

For the importance rating of technical skills in the dairy industry (Table 26), there

were six items that rated as very important by employers yielding a mean greater than

3.50 indicating that employer's perceived the importance rating as *Very important* (RL =

3.51-4.50). These items consisted of 'Livestock Handling Procedures' *(M=4.50)*, 'Proper

Safety Procedures' *(M=4.44)*, 'Animal Management/Animal Welfare' *(M=4.39)*,

'Animal Health' *(M=4.11)*, 'Record Keeping' *(M=3.67)*, and 'Vehicle & Heavy
Equipment Operation/Maintenance/Mechanics' *(M=3.83)*. One item generated a mean
less than 2.51 indicating that employer's perceived the importance rating as *Somewhat*
important (RL = 1.51-2.50) in these areas. 'Marketing Comprehension' *(M=1.94)* was
expressed as the least important communication skill by the respondents in the study.

Table 26

Employer Mean Values of Importance of Technical Skills in the Dairy Industry (n=18)

Technical Skills Needed	Rank	Mean	Standard Deviation
Livestock Handling Procedures	1	4.50	0.83
Proper Safety Procedures	2	4.44	0.76
Animal Management/Animal Welfare	3	4.39	0.68
Animal Health	4	4.11	0.87
Record Keeping	5	3.67	1.25
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	6	3.61	0.95
Animal Feeding/Nutrition	7	3.39	1.11
Feed Production/Processing/Management	8	3.00	1.11
Yard Maintenance/Welding	9	3.00	1.20
Business Comprehension	10	2.67	1.15
Marketing Comprehension	11	1.94	1.13

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat*
important (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL =
3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

In the fed-beef industry, the importance rating of technical skills (Table 27), there
were seven items that rated as very important by employers yielding a mean greater than
3.50 indicating that employer's perceived the importance rating as *Very important* (RL =
3.51-4.50). These items consisted of 'Proper Safety Procedures' *(M=4.24)*, 'Animal
Management/Animal Welfare' *(M=4.15)*, 'Livestock Handling Procedures' *(M=4.09)*,

'Animal Health' *(M=3.79)*, 'Record Keeping' *(M=3.77)*, 'Feed

Production/Processing/Management' *(M=3.65)*, and 'Animal Feeding/Nutrition'

(M=3.53). In addition, only one item generated a mean less than 3.50 indicating that

employer's perceived the importance rating as *Important* (RL = 2.51-3.50). 'Marketing

Comprehension' *(M=2.71)* was expressed as the least important communication skills by

the respondents in the study.

Table 27

Employer Mean Values of Importance of Technical Skills in the Fed-Beef Industry (n=35)

Technical Skills Needed	Rank	Mean	Standard Deviation
Proper Safety Procedures	1	4.24	0.94
Animal Management/Animal Welfare	2	4.15	0.97
Livestock Handling Procedures	3	4.09	0.92
Animal Health	4	3.79	1.09
Record Keeping	5	3.77	1.04
Feed Production/Processing/Management	6	3.65	1.13
Animal Feeding/Nutrition	7	3.53	1.01
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	8	3.44	1.14
Yard Maintenance/Welding	9	3.26	1.12
Business Comprehension	10	3.15	1.09
Marketing Comprehension	11	2.71	1.23

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Findings Related to Objective Four

Objective four: Analyze employers' perceptions of an entry-level employee's preparedness level in conjunction to importance of skills, knowledge and abilities needed for employability desired by CAFOs in the swine, dairy, and fed-beef industries.

The purpose of objective four was to prioritize the employability skills, as

perceived by employers, in need of curriculum enhancement using the Borich needs

assessment model. The Borich (1980) needs assessment model allows two ratings to be taken into account simultaneously in an effort to determine where discrepancies exist.

To determine where discrepancies exist for what is/what should be, a discrepancy score is determined by taking the desired level (*what should be*) minus the perceived level (*what is*) for each respondent for each competency. A weighted discrepancy score is then calculated by multiplying each discrepancy score by the associated mean desired level (*what should be*) rating of the competency. Lastly, a MWDS is calculated by taking the sum of the weighted discrepancy scores for each competency and dividing it by the number of respondents (McKim & Pope, 2010).

A discrepancy score was calculated by taking the importance rating minus the preparedness rating for each respondent on each employability skill. A weighted discrepancy score was then calculated by multiplying each discrepancy score by the associated mean importance rating of the employability skill. Lastly, a mean weighted discrepancy score (MWDS) was calculated by taking the sum of the weighted discrepancy scores for each skill and dividing by the number of respondents.

The interpersonal skills section in the swine industry is broken down by the item (Table 27). For the section of Preparedness, 'Honesty/Integrity' produced the greatest mean score *(M=3.27)*, followed by 'Working Well with Fellow Employees' *(M=3.07)*, 'Maintaining a Positive Attitude' *(M=2.97)*, and 'Dependability/Dedication to the Job' *(M=2.93)*. For the section of Importance, 'Honesty/Integrity' produced the greatest mean score *(M =4.63)*, followed by 'Dependability/Dedication to the Job' *(M =4.38)*, 'Working Well with Fellow Employees' *(M=4.33)*, and 'Initiative' *(M=4.21)*.

The top four interpersonal skills that contained the greatest mean weighted

discrepancy scores were 'Setting Priorities' (*MWDS*=7.92), 'Decision Making/Problem

Solving' (*MWDS*=7.38), 'Initiative' (*MWDS*=7.36), and 'Dependability/Dedication to the

Job' (*MWDS*=6.34). The largest MWDS score indicated the greatest need for curricula

development as perceived by each industry (Table 28).

Table 28

Overall Mean Weighted Discrepancy Scores for Interpersonal Skills in the Swine Industry
(n=30)

| Interpersonal Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Setting Priorities	1	2.27	1.00	4.17	0.73	7.92
Decision Making/Problem Solving	2	2.30	1.00	4.10	0.91	7.38
Initiative	3	2.47	1.06	4.21	0.67	7.36
Dependability/Dedication to the Job	4	2.93	1.08	4.38	0.67	6.34
Honesty/Integrity	5	3.27	0.96	4.63	0.55	6.33
Possess a Desire to see the Business be Successful	6	2.53	1.20	3.97	0.71	5.69
Working Well with Fellow Employees	7	3.07	0.96	4.33	0.65	5.49
Organizational skills	8	2.37	0.80	3.80	0.79	5.45
Professionalism	9	2.60	1.08	3.83	0.78	4.73
Open-minded to new experiences or ideas	10	2.67	0.83	3.87	0.81	4.64
Ability to Work Independently	11	2.63	1.08	3.80	0.87	4.43
Management/Overseeing several tasks at once	12	2.40	1.20	3.57	0.84	4.16
Maintaining a Positive Attitude	13	2.97	0.84	3.90	0.80	3.62

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat
prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-
4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 =
Unimportant (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL =
2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).
MWDS =*Mean Weighted Discrepancy Score* (RL = -20-20).

The interpersonal skills section in the dairy industry is broken down by item

(Table 29). For the section of Preparedness, 'Maintaining a Positive Attitude' produced

the greatest mean score *(M=3.17)*, followed by 'Honesty/Integrity' *(M=3.06)*, 'Working Well with Fellow Employees' *(M=2.72)*, and 'Open-minded to New Experiences or Ideas' *(M=2.61)*. For the section of Importance, 'Open-minded to New Experiences or Ideas' produced the greatest mean score *(M=4.83)*, followed by 'Working Well with Fellow Employees' *(M=4.50)*, 'Decision Making/Problem Solving' *(M=4.33)*, and 'Possess a Desire to see the Business be Successful' *(M=4.22)*.

The top four interpersonal skills that contained the greatest mean weighted discrepancy scores were 'Dependability/Dedication to the Job' (*MWDS*=9.25), 'Honesty/Integrity' (*MWDS*=8.59), 'Initiative' (MWDS=7.74), and 'Possess a desire to see the business be successful' (*MWDS*=7.27). The largest MWDS score indicated the greatest need for curricula development as perceived by each industry.

Table 29

Overall Mean Weighted Discrepancy Scores for Interpersonal Skills in the Dairy Industry (n=18)

Interpersonal Skills Needed	Rank	Preparedness		Importance		MWDS
		M	*SD*	*M*	*SD*	
Dependability/Dedication to the Job	1	2.44	1.26	4.50	0.69	9.25
Honesty/Integrity	2	3.06	0.97	4.83	0.37	8.59
Initiative	3	2.39	1.06	4.22	0.92	7.74
Possess a Desire to see the Business be Successful	4	2.50	1.12	4.22	1.13	7.27
Working Well with Fellow Employees	5	2.72	0.93	4.33	0.94	6.98
Decision Making/Problem Solving	6	1.78	0.92	3.61	1.06	6.62
Management/Overseeing several tasks at once	7	2.00	0.88	3.67	1.29	6.11
Organizational skills	8	2.06	0.87	3.67	1.00	5.90
Setting Priorities	9	2.33	1.00	3.67	1.05	4.89
Professionalism	10	2.28	0.93	3.56	1.01	4.54
Maintaining a Positive Attitude	11	3.17	0.90	4.17	0.83	4.17
Ability to Work Independently	12	2.28	0.99	3.33	0.94	3.52
Open-minded to new experiences or Ideas	13	2.61	0.83	3.56	0.90	3.36

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The interpersonal skills section in the fed-beef industry is broken down by the item (Table 30). For the section of Preparedness, 'Honesty/Integrity' produced the greatest mean score *(M=3.37)*, followed by 'Working Well with Fellow Employees' *(M=3.23)*, 'Open-minded to New Experiences or Ideas' *(M=3.14)*, and 'Dependability/Dedication to the Job' *(M=2.97)*. For the section of Importance, 'Open-minded to New Experiences or Ideas' produced the greatest mean score *(M=4.83)*, followed by 'Working Well with Fellow Employees' *(M=4.50)*, 'Decision

Making/Problem Solving' *(M =4.33)*, and 'Possess a Desire to see the Business be Successful' *(M =4.22)*.

The top four interpersonal skills that contained the greatest mean weighted discrepancy scores were 'Honesty/Integrity' *(MWDS=7.00)*, 'Dependability/Dedication to the Job' *(MWDS=6.19)*, 'Decision Making/Problem Solving' *(MWDS=5.32)*, and 'Ability to Work Independently' *(MWDS=4.88)*. The largest MWDS score indicated the greatest need for curricula development as perceived by each industry.

Table 30

Overall Mean Weighted Discrepancy Scores for Interpersonal Skills in the Fed-Beef Industry (n=34)

| Interpersonal Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Honesty/Integrity	1	3.37	1.02	4.82	0.38	7.00
Dependability/Dedication to the Job	2	2.97	1.18	4.38	0.80	6.19
Decision Making/Problem Solving	3	2.40	1.05	3.80	0.82	5.32
Ability to Work Independently	4	2.63	0.90	3.89	0.78	4.88
Possess a Desire to see the Business be Successful	5	2.83	1.25	4.03	0.86	4.84
Working Well with Fellow Employees	6	3.23	0.96	4.34	0.86	4.84
Initiative	7	2.94	1.01	4.11	0.71	4.82
Setting Priorities	8	2.49	1.05	3.74	0.91	4.71
Organizational skills	9	2.53	0.98	3.66	0.86	4.12
Maintaining a Positive Attitude	10	2.91	0.84	3.89	0.85	3.77
Management/Overseeing several tasks at once	11	2.57	1.18	3.50	0.88	3.25
Professionalism	12	2.74	1.02	3.46	1.10	2.47
Open-minded to new experiences or Ideas	13	3.14	1.10	3.49	0.94	1.20

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The communication skills section in the swine industry is broken down by the item (Table 31). For the section of Preparedness, 'Understand and Follow Instructions' produced the greatest mean score *(M=2.72)*, followed by 'Indulging/Responding to Others Comments during Conversation' *(M=2.55)*, 'Technical Writing' *(M=2.21)*, and 'Ability to Speak a Second Language' *(M=1.80)*. For the section of Importance, 'Understand and Follow Instructions' produced the greatest mean score *(M=4.48)*, followed by 'Indulging/Responding to Others Comments during Conversation' *(M=3.45)*, 'Technical Writing' *(M=3.03)*, and 'Ability to Speak a Second Language' *(M=2.93)*.

The top three communication skills that contained the greatest mean weighted discrepancy scores were 'Understand and Follow Instructions' (*MWDS*=7.88), 'Ability to Speak a Second Language' (*MWDS*=4.21), and 'Indulging/Responding to Others Comments during Conversation' (*MWDS*=3.09). The largest MWDS score indicated the greatest need for curricula development as perceived by each industry.

Table 31

Overall Mean Weighted Discrepancy Scores for Communication Skills in the Swine Industry
(n=30)

| Communication Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Understand and Follow Instructions	1	2.72	0.94	4.48	0.56	7.88
Ability to Speak a Second Language	2	1.80	0.83	2.93	1.12	4.21
Indulging/Responding to Others Comments during Conversation	3	2.55	0.67	3.45	0.56	3.09
Technical Writing	4	2.21	0.85	3.03	1.00	2.51

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The communication skills section in the dairy industry is broken down by the item (Table 32). For the section of Preparedness, 'Understand and Follow Instructions' produced the greatest mean score *(M=2.83)*, followed by 'Indulging/Responding to Others Comments during Conversation' *(M=2.33)*, 'Ability to Speak a Second Language' *(M=1.89)*, and 'Technical Writing' *(M=1.59)*. For the section of Importance, 'Understand and Follow Instructions' produced the greatest mean score *(M=4.50)*, followed by 'Ability to Speak a Second Language' *(M=3.44)*, 'Indulging/Responding to Others Comments during Conversation' *(M=3.39)*, and 'Technical Writing' *(M=2.59)*.

The top three communication skills that contained the greatest mean weighted discrepancy scores were 'Understand and Follow Instructions' (*MWDS*=7.50), 'Ability to Speak a Second Language' (*MWDS*=5.07), and 'Indulging/Responding to Others Comments during Conversation' (*MWDS*=3.58). The largest MWDS score indicated the greatest need for curricula development as perceived by each industry.

Table 32

Overall Mean Weighted Discrepancy Scores for Communication Skills in the Dairy Industry (n=18)

Communication Skills Needed	Rank	Preparedness		Importance		
		M	*SD*	*M*	*SD*	*MWDS*
Understand and Follow Instructions	1	2.83	0.83	4.50	0.60	7.50
Ability to Speak a Second Language	2	1.89	0.87	3.44	1.21	5.07
Indulging/Responding to Others Comments during Conversation	3	2.33	0.88	3.39	1.16	3.58
Technical Writing	4	1.59	0.69	2.59	1.37	2.59

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The communication skills section in the fed-beef industry is broken down by the item (Table 33). For the section of Preparedness, 'Understand and Follow Instructions' produced the greatest mean score *(M=2.91)*, followed by 'Indulging/Responding to Others Comments during Conversation' *(M=2.62)*, 'Ability to Speak a Second Language' *(M=2.09)*, and 'Technical Writing' *(M=1.91)*. For the section of Importance, 'Understand and Follow Instructions' produced the greatest mean score *(M=4.26)*, followed by 'Indulging/Responding to Others Comments during Conversation' *(M=3.50)*, 'Ability to Speak a Second Language' *(M=3.09)*, and 'Technical Writing' *(M=2.54)*.

The top three communication skills that contained the greatest mean weighted discrepancy scores were 'Understand and Follow Instructions' (*MWDS*=5.72), 'Indulging/Responding to Others Comments during Conversation' (*MWDS*=3.09), and 'Ability to Speak a Second Language' (*MWDS*=2.86). The largest MWDS score indicated the greatest need for curricula development as perceived by each industry.

Table 33

Overall Mean Weighted Discrepancy Scores for Communication Skills in the Fed-Beef Industry (n=34)

| Communication Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Understand and Follow Instructions	1	2.91	0.97	4.26	0.77	5.72
Indulging/Responding to Others Comments during Conversation	2	2.62	0.84	3.50	0.92	3.09
Ability to Speak a Second Language	3	2.09	0.97	3.03	1.03	2.86
Technical Writing	4	1.91	1.05	2.54	0.97	1.60

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The computer skills section in the swine industry is broken down by the item

(Table 34). For the section of Preparedness, 'Computerized Record Systems' produced

the greatest mean score *(M=2.13)*, followed by a two way tie between 'Computer Control

Systems' *(M=1.93)*, and 'Spreadsheets/Word Processing' *(M=1.93)*. For the section of

Importance, a tie between 'Computer Control Systems' *(M=3.17)* and 'Computerized

Record Systems' *(M=3.17)* produced the greatest mean score, followed by

'Spreadsheets/Word Processing' *(M=3.00)*.

The top three communication skills that contained the greatest mean weighted

discrepancy scores were 'Computer Control Systems' (*MWDS*=3.94), 'Computerized

Record Systems' (*MWDS*=3.27), and 'Spreadsheets/Word Processing' (*MWDS*=3.20).

The largest MWDS score indicated the greatest need for curricula development as

perceived by each industry.

Table 34

Overall Mean Weighted Discrepancy Scores for Computer Skills in the Swine Industry (n=30)

		Preparedness		Importance		
Computer Skills Needed	Rank	*M*	*SD*	*M*	*SD*	*MWDS*
Computer Control Systems	1	1.93	0.74	3.17	1.18	3.94
Computerized Record Systems	2	2.13	0.72	3.17	1.07	3.27
Spreadsheets/Word Processing	3	1.93	0.81	3.00	1.05	3.20

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0). Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The computer skills section in the dairy industry is broken down by the item

(Table 35). For the section of Preparedness, 'Computerized Record Systems' produced

the greatest mean score *(M=1.82)*, followed by a two way tie between 'Computer Control

Systems' *(M=1.65)*, and 'Spreadsheets/Word Processing' *(M=1.53)*. For the section of

Importance, 'Computerized Record Systems' produced the greatest mean score

(M=3.00), followed by 'Computer Control Systems' *(M=3.82)*, and 'Spreadsheets/Word

Processing' *(M=2.12)*.

The top three computer skills that contained the greatest mean weighted

discrepancy scores were 'Computerized Record Systems' (*MWDS*=3.53), 'Computer

Control Systems' (*MWDS*=3.32), and 'Spreadsheets/Word Processing' (*MWDS*=1.25).

The largest MWDS score indicated the greatest need for curricula development as

perceived by each industry.

Table 35

Overall Mean Weighted Discrepancy Scores for Computer Skills in the Dairy Industry (n=18)

| Computer Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Computerized Record Systems	1	1.82	0.98	3.00	1.24	3.53
Computer Control Systems	2	1.65	0.90	2.82	1.29	3.32
Spreadsheets/Word Processing	3	1.53	0.92	2.12	1.08	1.25

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0). Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The computer skills section in the fed-beef industry is broken down by the item

(Table 36). For the section of Preparedness, 'Computerized Record Systems' produced

the greatest mean score *(M=2.63)*, followed by 'Computer Control Systems' *(M=2.57)*,

and 'Spreadsheets/Word Processing' *(M=2.49)*. For the section of Importance, a tie

between 'Computer Control Systems' *(M=3.40)* and 'Computerized Record Systems'

*(M=*3.40) produced the greatest mean score, followed by 'Spreadsheets/Word

Processing' *(M=*3.11).

The top three computer skills that contained the greatest mean weighted

discrepancy scores were 'Computerized Record Systems' (*MWDS*=2.82), 'Computer

Control Systems' (*MWDS*=2.62), and 'Spreadsheets/Word Processing' (*MWDS*=1.96).

The largest MWDS score indicated the greatest need for curricula development as

perceived by each industry.

Table 36

Overall Mean Weighted Discrepancy Scores for Computer Skills in the Fed-Beef Industry (n=34)

Computer Skills Needed	Rank	Preparedness		Importance		
		M	*SD*	*M*	*SD*	*MWDS*
Computer Control Systems	1	2.57	0.99	3.40	0.93	2.82
Computerized Record Systems	2	2.63	1.02	3.40	1.05	2.62
Spreadsheets/Word Processing	3	2.49	1.18	3.11	1.06	1.96

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0). Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The technical skills section in the swine industry is broken down by the item

(Table 37). For the section of Preparedness, 'Animal Management/Animal Welfare'

produced the greatest mean score *(M=*2.70), followed by 'Livestock Handling

Procedures' *(M=*2.63), and 'Proper Safety Procedures' *(M=*2.57). For the section of

Importance, 'Animal Management/Animal Welfare' produced the greatest mean score

*(M=*4.57), followed by 'Proper Safety Procedures' *(M=*4.37), and 'Livestock Handling

Procedures' *(M=*4.33).

The top three computer skills that contained the greatest mean weighted discrepancy scores were 'Animal Management/Animal Welfare' (*MWDS*=8.52), 'Proper Safety Procedures' (*MWDS*=7.86), and 'Animal Health' (*MWDS*=7.56). The largest MWDS score indicated the greatest need for curricula development as perceived by each industry.

Table 37

Overall Mean Weighted Discrepancy Scores for Technical Skills in the Swine Industry (n=30)

| Technical Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Animal Management/Animal Welfare	1	2.70	1.24	4.57	0.76	8.52
Proper Safety Procedures	2	2.57	1.15	4.37	1.02	7.86
Animal Health	3	2.40	1.23	4.20	0.91	7.56
Livestock Handling Procedures	4	2.63	1.22	4.33	0.79	7.37
Record Keeping	5	2.43	0.84	3.93	0.94	5.89
Animal Feeding/Nutrition	6	2.30	1.24	3.83	1.24	5.88
Business Comprehension	7	2.00	1.03	3.13	1.06	3.55
Feed Production/Processing/Management	8	1.80	0.98	2.90	1.25	3.19
Marketing Comprehension	9	1.70	0.94	2.67	1.16	2.58
Yard Maintenance/Welding	10	1.57	0.84	2.17	1.19	1.30
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	11	1.70	0.94	2.21	1.16	1.12

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0). Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The technical skills section in the dairy industry is broken down by the item (Table 38). For the section of Preparedness, 'Animal Management/Animal Welfare' produced the greatest mean score *(M=2.56),* followed by 'Proper Safety Procedures' *(M=2.44),* and 'Livestock Handling Procedures' *(M=2.33).* For the section of

Importance, 'Livestock Handling Procedures' produced the greatest mean score

(M=4.50), followed by 'Proper Safety Procedures' *(M=4.44)*, and 'Animal

Management/Animal Welfare' *(M=4.39)*.

The top three computer skills that contained the greatest mean weighted

discrepancy scores were 'Livestock Handling Procedures' (*MWDS*=9.75), 'Proper Safety

Procedures' (*MWDS*=8.89), and 'Animal Management/Animal Welfare' (*MWDS*=8.05).

The largest MWDS score indicated the greatest need for curricula development as

perceived by each industry.

Table 38

Overall Mean Weighted Discrepancy Scores for Technical Skills in the Dairy Industry (n=18)

| Technical Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Livestock Handling Procedures	1	2.33	1.15	4.5	0.83	9.75
Proper Safety Procedures	2	2.44	1.12	4.44	0.76	8.89
Animal Management/Animal Welfare	3	2.56	1.17	4.39	0.68	8.05
Animal Health	4	2.28	0.93	4.11	0.87	7.54
Animal Feeding/Nutrition	5	1.72	0.73	3.39	1.11	5.65
Record Keeping	6	2.22	0.97	3.67	1.25	5.30
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	7	2.22	0.79	3.61	0.95	5.02
Feed Production/ Processing/Management	8	1.61	0.76	3.00	1.11	4.17
Business Comprehension	9	1.39	0.59	2.67	1.15	3.41
Yard Maintenance/Welding	10	2.06	0.62	3.00	1.20	2.83
Marketing Comprehension	11	1.39	0.59	1.94	1.13	1.08

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

The technical skills section in the fed-beef industry is broken down by the item

(Table 39). For the section of Preparedness, 'Proper Safety Procedures' produced the

greatest mean score *(M=*2.71), followed by 'Animal Management/Animal Welfare' *(M=*2.68), and 'Livestock Handling Procedures' *(M=*2.62). For the section of Importance, 'Proper Safety Procedures' produced the greatest mean score *(M=*4.24), followed by 'Animal Management/Animal Welfare' *(M=*4.15), and 'Livestock Handling Procedures' *(M=*4.09).

The top three computer skills that contained the greatest mean weighted discrepancy scores were 'Proper Safety Procedures' (MWDS=6.48), 'Animal Management/Animal Welfare' (MWDS=6.10), and 'Livestock Handling Procedures' (MWDS=6.01). The largest MWDS score indicated the greatest need for curricula development as perceived by each industry.

Table 39

Overall Mean Weighted Discrepancy Scores for Technical Skills in the Fed-Beef Industry (n=34)

Technical Skills Needed	Rank	Preparedness		Importance		MWDS
		M	*SD*	*M*	*SD*	
Proper Safety Procedures	1	2.71	0.99	4.24	0.94	6.48
Animal Management/Animal Welfare	2	2.68	1.08	4.15	0.97	6.10
Livestock Handling Procedures	3	2.62	0.97	4.09	0.92	6.01
Record Keeping	4	2.43	0.96	3.77	1.04	5.06
Animal Health	5	2.53	1.01	3.79	1.09	4.77
Feed Production/ Processing/Management	6	2.35	1.16	3.65	1.13	4.72
Animal Feeding/Nutrition	7	2.35	1.00	3.53	1.01	4.15
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	8	2.50	0.92	3.44	1.14	3.24
Business Comprehension	9	2.15	0.91	3.15	1.09	3.15
Yard Maintenance/Welding	10	2.47	0.95	3.26	1.12	2.59
Marketing Comprehension	11	2.00	0.97	2.71	1.23	1.91

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

As mentioned above, the purpose of objective four was to prioritize the employability skills, as perceived by employers, in need of curriculum enhancement. Not only was each variable in section one considered, but also the overall preparedness, importance, and MWDS of the four categorical areas as well.

In the swine industry, as indicated in Table 40, the category of 'Interpersonal Skills' produced the greatest overall mean score for both Preparedness *(M=*2.64) and Importance *(M=*3.98). This skill had the greatest MWDS *(MWDS=*5.66), indicating the largest need for better preparation of employees. The next greatest MWDS *(MWDS=*4.98) was found between preparedness *(M=*2.24) and importance *(M=*3.55) in the area of Technical Skills. Then third greatest MWDS was found in the area of

'Communication Skills' (*MWDS*=4.20), with an overall mean for preparedness *(M=2.31)* and importance *(M=3.42)*. The smallest MWDS between perceived skills *(M =2.17)* and importance *(M=3.10)* was in the area of 'Computer Skills' (*MWDS*=3.47).

Table 40

Overall Mean Weighted Discrepancy Scores for Section One in Swine Industry (n=30)

| | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Interpersonal Skills	1	2.64	1.03	3.98	0.84	5.66
Technical Skills	2	2.24	1.02	3.55	1.09	4.98
Communication Skills	3	2.31	0.89	3.42	0.94	4.20
Computer Skills	4	2.17	1.00	3.10	1.12	3.47

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

In the dairy industry, as indicated in Table 41, the category of 'Interpersonal Skills' produced the greatest overall mean score for both Preparedness *(M=2.43)* and Importance *(M=3.95)*. This skill had the greatest MWDS (*MWDS*=6.07), indicating the largest need for better preparation of employees. The next greatest MWDS (*MWDS*=5.61) was found between preparedness *(M=2.02)* and importance *(M=3.52)* in the area of Technical Skills. The next largest MWDS was found in the area of 'Communication Skills' (*MWDS*=4.76), with an overall mean for preparedness *(M=2.16)* and importance *(M=3.48)*. The smallest MWDS between perceived skills *(M=1.67)* and importance *(M=2.65)* was in the area of 'Computer Skills' (*MWDS*=2.55).

90

Table 41

Overall Mean Weighted Discrepancy Scores for Section One in Dairy Industry (n=18)

	Rank	Preparedness		Importance		
		M	*SD*	*M*	*SD*	*MWDS*
Interpersonal Skills	1	2.43	0.97	3.95	0.93	6.07
Technical Skills	2	2.02	0.86	3.52	1.00	5.61
Communication Skills	3	2.16	0.82	3.48	1.08	4.76
Computer Skills	4	1.67	0.93	2.65	1.20	2.55

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS* =*Mean Weighted Discrepancy Score* (RL = -20-20).

Within the fed-beef industry, as indicated in Table 42, the category of 'Interpersonal Skills' produced the greatest overall mean score for both Preparedness *(M=*2.83) and Importance *(M=*3.93). This skill had the greatest MWDS (*MWDS*=4.42), indicating the largest need for better preparation of employees. The second greatest MWDS (*MWDS*=4.27) was found between preparedness *(M=*2.43) and importance *(M=*3.62) in the area of Technical Skills. The next largest MWDS was found in the area of 'Communication Skills' (*MWDS*=3.31), with an overall mean for preparedness *(M=*2.38) and importance *(M=*3.33). The smallest MWDS between perceived skills *(M=*2.56) and importance *(M=*3.30) was in the area of 'Computer Skills' (*MWDS*=2.47).

Table 42

Overall Mean Weighted Discrepancy Scores for Section One in Fed-Beef Industry (n=35)

| | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Interpersonal Skills	1	2.83	1.04	3.93	0.82	4.42
Technical Skills	2	2.43	0.99	3.62	1.06	4.27
Communication Skills	3	2.38	0.95	3.33	0.92	3.31
Computer Skills	4	2.56	1.06	3.30	1.01	2.47

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS* =*Mean Weighted Discrepancy Score* (RL = -20-20).

A final comparison was conducted to evaluate the overall MWDS scores within section one as it pertains to the swine, dairy, and fed-beef industries together. The evaluation wanted to see which category within section one showed the most need. As indicated in Table 43, the category of 'Interpersonal Skills' produced the greatest overall mean score for both Preparedness *(M=2.68)* and Importance *(M=3.98)*. The area also had the greatest MWDS (*MWDS*=5.20), indicating the largest need for better preparation of employees. The second greatest MWDS (*MWDS*=4.78) was found between preparedness *(M=2.24)* and importance *(M =3.55)* in the area of Technical Skills. The next largest MWDS was found in the area of 'Communication Skills' (*MWDS*=3.93), with an overall mean for preparedness *(M=2.31)* and importance *(M=3.42)*. The smallest MWDS between perceived skills *(M=2.17)* and importance *(M=2.87)* was in the area of 'Computer Skills' (*MWDS*=2.86).

Table 43

Overall Mean Weighted Discrepancy Scores for Section One in Swine, Dairy, Fed-Beef Industry (n=83)

| | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Interpersonal Skills	1	2.68	1.03	3.98	0.84	5.20
Technical Skills	2	2.24	1.02	3.55	1.09	4.78
Communication Skills	3	2.31	0.89	3.42	0.67	3.93
Computer Skills	4	2.17	1.00	2.87	1.12	2.86

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Findings Related to Objective Five

Objective five: Determine if differences exist between swine, dairy, and fed-beef industries as they relate to the importance level of interpersonal, communication, computer, and technical skills.

A chi-square goodness of fit test was used to determine differences. A null hypothesis statement of no difference among industries when comparing the four skill areas was determined. A probability value less than 0.05 was used to determine significant differences.

A chi-square goodness of fit test indicated there were no significant differences between the swine, dairy, and fed-beef industries as it related to the importance level of interpersonal, communication, computer, and technical skills. The results for communication skills between the swine, dairy, and fed-beef industries were found to have no significance: X2 (1, n = 15) = 0.250, *p* = 0.05. The results for computer skills between the swine, dairy, and fed-beef industries were found to have no significance: X2 (1, n = 15) = 0.242, *p* = 0.05. The results for interpersonal skills between the swine,

dairy, and fed-beef industries were found to have no significance: X2 (1, n = 15) = 0.242, p = 0.05. The results for technical skills between the swine, dairy, and fed-beef industries were found to have no significance: X2 (1, n = 15) = 0.242, p = 0.05. The results for total skills between the swine, dairy, and fed-beef industries were found to have no significance: X2 (1, n = 60) = 0.267, p = 0.05.

The results of the chi-square goodness of fit test report that there is no significant difference among swine, dairy, and fed-beef industries when determining differences among skill areas. Therefore, all three industries need entry-level employees that obtain the similar types of skill sets.

Chi-Square Tests

Skill		Value	df	Asymptotic Significance (2-sided)
Communication	Pearson Chi-Square	180.000[b]	168	.250
	Likelihood Ratio	75.696	168	1.000
	Linear-by-Linear Association	12.040	1	.001
	N of Valid Cases	15		
Computer	Pearson Chi-Square	195.000[c]	182	.242
	Likelihood Ratio	78.469	182	1.000
	Linear-by-Linear Association	11.158	1	.001
	N of Valid Cases	15		
Interpersonal	Pearson Chi-Square	195.000[c]	182	.242
	Likelihood Ratio	78.469	182	1.000
	Linear-by-Linear Association	13.279	1	.000
	N of Valid Cases	15		
Technical	Pearson Chi-Square	195.000[c]	182	.242
	Likelihood Ratio	78.469	182	1.000
	Linear-by-Linear Association	13.004	1	.000
	N of Valid Cases	15		
Total	Pearson Chi-Square	2700.000[a]	2655	.267
	Likelihood Ratio	447.640	2655	1.000
	Linear-by-Linear Association	56.486	1	.000
	N of Valid Cases	60		

a. 2760 cells (100.0%) have expected count less than 5. The minimum expected count is .02.

b. 195 cells (100.0%) have expected count less than 5. The minimum expected count is .07.

c. 210 cells (100.0%) have expected count less than 5. The minimum expected count is .07.

Figure 2: Chi-Square Test

Findings Related to Objective Six

Objective six: Identify the value of life experiences as it applies to the preparation of individuals within the swine, dairy, and fed-beef industries.

The purpose of objective six was to identify life experiences valued by an employer within the each respected industry.

In the swine industry, six items comprised the objective. In the section (Table 44), 'General work experience/manual labor' *(M=3.43)* ranked first. Following was 'Farm and/or Ranch Experience' *(M=2.93)*, 'Career-related employment' *(M=2.87)*, 'Service to Community' *(M=2.40)*, and 'Career-related internships' *(M=2.37)*. Three items generated a mean less than 2.50. 'Service to Community' *(M=2.40)*, 'Career-related internships' *(M=2.37)*, and 'Native to Local Area' *(M=1.93)* were expressed as the least important life skills by the respondents in the study.

Table 44

Employer Mean Values of Importance of Life Skills Needed in the Swine Industry (n=30)

Life Skills Needed	Rank	Mean	Standard Deviation
General work experience/manual labor	1	3.43	1.02
Farm and/or Ranch Experience	2	2.93	1.03
Career-related employment	3	2.87	0.92
Service to Community	4	2.40	1.11
Career-related internships	5	2.37	1.05
Native to Local Area	6	1.93	1.06

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

In the dairy industry 'General work experience/manual labor' *(M=3.39)* ranked first (Table 45). After that followed 'Farm and/or Ranch Experience' *(M=3.17)*, 'Career-related employment' *(M=2.83)*, 'Career-related internships' *(M =2.28)* and 'Service to

Community' *(M=2.00)*. Three items generated a mean less than 2.50. 'Career-related

internships' *(M=2.28)*, 'Service to Community' *(M=2.00)*, and 'Native to Local Area'

(M=1.61) were expressed as the least important life skills by the respondents in the study.

Table 45

Employer Mean Values of Importance of Life Skills Needed in the Dairy Industry (n=18)

Life Skills Needed	Rank	Mean	Standard Deviation
General work experience/manual labor	1	3.39	1.01
Farm and/or Ranch Experience	2	3.17	1.12
Career-related employment	3	2.83	1.21
Career-related internships	4	2.28	0.73
Service to Community	5	2.00	1.00
Native to Local Area	6	1.61	0.76

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

In the fed-beef industry 'General work experience/manual labor' *(M=4.00)*

ranked first (Table 46). Following was 'Career-related employment' *(M=3.44)*, 'Farm

and/or Ranch Experience' *(M=3.18)*, 'Career-related internships' *(M=2.86)*, 'Native to

Local Area' *(M=2.62)*, and 'Service to Community' *(M=2.51)*. Zero items generated a

mean less than 2.50.

Table 46

Employer Mean Values of Importance of Life Skills Needed in the Fed-Beef Industry (n=35)

Life Skills Needed	Rank	Mean	Standard Deviation
General work experience/manual labor	1	4.00	0.77
Career-related employment	2	3.44	1.01
Farm and/or Ranch Experience	3	3.18	1.01
Career-related internships	4	2.86	1.10
Native to Local Area	5	2.62	1.24
Service to Community	6	2.51	1.13

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Findings Related to Objective Seven

Objective seven: Identify trainings that are of interest by employers of CAFOs within the swine, dairy, and fed-beef industries.

The section used a ranking order approach which allowed the employers to rank the greatest need first and the least valued needed eighth, with all other items in between. The lower the mean score, the greater the importance.

In the swine industry (Table 47), 8 items comprised the potential trainings needed. The top three most needed trainings as identified were 'Animal Management/Animal Welfare' *(M=3.00)*, 'Proper Safety Procedures' *(M=3.54)*, and 'Animal Health' *(M=3.86)* indicating the largest need for better preparation of their employees. In addition, only one item generated a mean over 6.00. 'Equipment/Facility Maintenance' *(M=7.07)* was expressed as the least important life skill by the respondents in the study.

98

Table 47

Employer Mean Values of Potential Trainings Needed in the Swine Industry (n=30)

Trainings Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	3.00	1.41
Proper Safety Procedures	2	3.54	2.23
Animal Health	3	3.86	1.55
Animal Feeding/Nutrition	4	4.25	2.20
Livestock Handling Procedures	5	4.36	1.63
Leadership/Management of People	6	4.93	2.74
Human Behavioral Understanding	7	5.00	2.35
Equipment/Facility Maintenance	8	7.07	1.19

Note. Items ranked the greatest need first and the least valued needed eighth, with all other items in between. The lower the mean score, the greater the importance.

In the dairy industry (Table 48), 8 items comprised the potential trainings needed. The top three most needed trainings as identified were 'Animal Management/Animal Welfare' *(M=2.50)*, 'Animal Health' *(M=3.00)*, and 'Livestock Handling Procedures' *(M=3.78)* indicating the largest need for better preparation of their employees. In addition, only one item generated a mean over 6.00. 'Equipment/Facility Maintenance' *(M=6.11)* was expressed as the least important life skill by the respondents in the study.

Table 48

Employer Mean Values of Potential Trainings Needed in the Dairy Industry (n=18)

Trainings Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	2.50	1.21
Animal Health	2	3.00	1.33
Livestock Handling Procedures	3	3.78	2.15
Proper Safety Procedures	4	4.28	2.28
Animal Feeding/Nutrition	5	5.17	1.38
Leadership/Management of People	6	5.56	2.65
Human Behavioral Understanding	7	5.61	2.67
Equipment/Facility Maintenance	8	6.11	0.81

Note. Items ranked the greatest need first and the least valued needed eighth, with all other items in between. The lower the mean score, the greater the importance.

Within the fed-beef industry (Table 49), 8 items comprised the potential trainings needed. The top three most needed trainings as identified were 'Animal Management/Animal Welfare' *(M=3.34)*, 'Proper Safety Procedures' *(M=3.83)*, and 'Livestock Handling Procedures' *(M=4.03)* indicating the largest need for better preparation of their employees. In addition, only one item generated a mean over 6.00. 'Equipment/Facility Maintenance' *(M=6.31)* was expressed as the least important life skill by the respondents in the study.

Table 49

Employer Mean Values of Potential Trainings Needed in the Fed-Beef Industry (n=35)

Trainings Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	3.34	1.93
Proper Safety Procedures	2	3.83	2.48
Livestock Handling Procedures	3	4.03	1.81
Leadership/Management of People	4	4.07	2.53
Animal Feeding/Nutrition	5	4.41	1.87
Animal Health	6	4.83	1.66
Human Behavioral Understanding	7	5.17	2.64
Equipment/Facility Maintenance	8	6.31	1.78

Note. Items ranked the greatest need first and the least valued needed eighth, with all other items in between. The lower the mean score, the greater the importance.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMMENDATIONS

Summary

"We are desperate to have good skilled farm laborers in America. It is one of the biggest restraints that we have in American agriculture. We have to find a solution." says Zippy Duval, president of the American Farm Bureau Federation (Laca, 2018). We live in a culture where agriculture is ever changing, therefore changes in our educational platform need to be made. New graduates are falling short of employers' expectations (National Union of Students, 2011). Garton and Chung (1997) stated "utilized questionnaire methodology in which respondents provided data that could be weighted and ranked in order of priority" (p. 52). Therefore, evaluating both the preparations and importance of employability skills for an entry-level employee in to the swine, dairy, and fed-beef industries is very important for future employees. The more that is known about competencies needed in agriculture careers and is incorporated into curriculum development, the more employable agriculture graduates will be in the marketplace (Graham, 2001). If these skills can be identified, then educational programs can be developed in order to accommodate these shortfalls. An investment in higher education should increase human capital, thus enhancing the workforce for economic success (Hurst et al., 2015; Knight & Yorke, 2003).

Conclusions

About one-third of all high school graduates do not got to college, but immediately go to work (Gray, 2004). With a large percentage of graduates going into the workforce after high school, career readiness programs are essential to the institutional platform. A recurring theme from agricultural employers is their difficulty in recruiting professionals particularly for rural postings (Pratley, 2008). Since human capital is more valuable than resources such as land, labor, and other capital, it is vital to help individuals develop the skills specific to their sector (Maiga, Cartmell, Edwards, & Robinson, 2013; Zubović, Domazet, & Stošić, 2009). The worker of tomorrow will be obligated to re-train and re-cycle for as many as four or five different occupations (Maclean & Ordonez, 2007). Morgan (2010) found many of the agriculture competencies desired by employees, such as ability to meet deadlines, reliability, dependability, and strong work ethic were taught indirectly through university structure as opposed to being taught through curriculum.

Public schools of the early 1900s, funded by the Smith-Hughes Act of 1917, bore the responsibility for preparing compliant and reliable workers to meet the demands of factories, mills, offices, and stores (Perry & Wallace, 2012). Career and technical education (CTE) is an educational approach for providing young people with the academic, technical, and employability skills and knowledge to pursue higher education and/or enter a career field prepared for ongoing learning (Partnership for 21st Century Skills, 2010). CTE provides all students educational opportunities, equipping them for the dramatic transition from high school to postsecondary education and career options (Brewer, 2004).

Unfortunately, there is no definite way of knowing that the thirty-three percent of graduates going into the workforce are taking some type of CTE course. However, we do know that employability is a large factor in the CAFOs in the Texas High Plains and surrounding counties. Corporate trainers are implementing in house trainings that teach how to read people, draw out clients, and build relationships: skill-oriented executive education that fill in the holes of their employees' formal education (Klaus, 2010). These trainings include hard skills, which are acquired through formal education and training programs, including college, apprenticeships, short-term training classes, online courses, certification programs, as well as by on-the-job training (The Balance Careers, 2012).

Business professionals should recall that education of students or even employees does not just include training technical skills, but also personal attributes such as honesty and integrity (Harvey, 2000). Moad (1995) noted that the impact of the softer skills on return of investment much more than justifies the money spent on trainings. In a study by Clagett (1997), there is a need for employee improvement on interpersonal relations and team building, with 44% of the respondents indicating classes in these topics were substantially needed. Another study indicated that hard skills contribute only 15% to one's accomplishments, whereas 85% of success comes from soft skills (Watts & Watts, 2008; John, 2009).

The different industries in CAFOs not only help feed the world, but have a large economic impact in the area as well. The swine production sector alone had a wealth generated economic contribution of an estimated $1.1 billion (Guerrero & Amosson, 2013). Likewise, in the milk production sector (which is the process of producing milk) from dairies in the same regional location attributes to over 10,600 jobs and a wealth

generating economic contributing estimate of $1.1 billion (Guerrero & Amosson, 2012).

Lastly, the fed-beef industry (which is the process of finishing the fed-beef animal before

processing) within the same regional location from the Texas Panhandle to Northwest

Kansas accounts for over 12,500 jobs and an economic contribution of over $14 billion

(Guerrero, Amosson, & McCollum, 2013). This stated, the basic skills for the individual

worker are the key to greater opportunity and a better quality of life (Clagett, 1997).

With such large numbers of employment in the CAFO industry, and the vast

economic contributions they deliver to local communities, the need for individuals with

employable skills are in high demand. Employers complain that young adults are not

entering the workforce with the skills necessary to compete in the 21st century (Symonds

et. al., 2011). Workers who lack some postsecondary educational credential or trainings

have increasing difficulty in finding good employment (Holzer, 2012).

This study provided baseline data in regards to the perception of employers in the

swine, dairy, and fed-beef industries of the level of preparedness and importance of each

skill represented. The following is a compilation of the greatest reported skills as they

relate to preparedness and importance in the CAFOs in the Texas High Plains and

adjacent counties (New Mexico and Oklahoma).

Objective One: Describe the demographics (position of placement, number of employees supervised, formal education of employees) of individuals that manage people in CAFOs within the swine, dairy, and fed-beef industries.

Respondents from the questionnaire were asked to identify their position of

placement within each industry. The majority of participants in the swine industry were

Department Managers (60%). The majority of participants in the dairy industry were the

General Managers (78%). The majority of participants in the fed-beef industry were the General Managers (65%).

Respondents were also asked to provide information regarding the number of employees each respondent supervises. Of respondents, 26.67% in the swine industry (f=8) reported that the number of employees supervised was 6 to 10 employees. The second greatest range was 11 to 15 employees which made up 16.67% of respondents (f=5). Within the dairy industry, 38.89% of respondents (f=7) reported that the number of employees supervised was 26 to 50 employees. One respondent (3.33%) reported that they generally supervised a range of 101 to 150 employees. The same goes for the fed-beef industry, reporting that 32.25% of respondents (f=11) supervised a range of 26 to 50 employees. Two respondents (5.88%) reported a range of supervised employees of 151 to 200 employees.

Respondents were also asked to generalize the level of formal education of the employees under each respondent's supervision. Due to the selection options in the questionnaire, many respondents chose more than a single option pertaining to the level of education of their employees. Respondents reported many levels of education that their employees obtained. However, the majority of formal education that was identified that their employees carried was a high school level education. This was reported with swine at 31.37%, dairy at 36.37%, and fed-beef at 45.61%.

Objective Two*: *Describe the level of preparation of skills, knowledge, and abilities perceived for employability that are desired in CAFOs within the swine, dairy, and fed-beef industries.

Objective two assessed 31 individual skills that determined the level of preparedness as perceived by the participants within the swine, dairy, and fed-beef industries. In the section of interpersonal skills, the swine industry acknowledged 'Honesty/Integrity' (*M*=3.37) and 'Working Well with Fellow Employees' (*M*=3.07) as the greatest rated skills, meaning employers viewed employees as prepared in these areas. Similarly, the dairy industry deemed, 'Maintaining a Positive Attitude' (*M*= 3.17) and 'Honesty/Integrity' (*M*= 3.06) as the greatest prepared skills with 'Working Well with Fellow Employees' (*M*=2.72) a close third. The fed-beef industry had 'Honesty/Integrity' (*M*=3.37) and 'Working Well with Fellow Employees' (*M*=3.23) as the greatest prepared skills. In comparison, all three industries agreed on the same variables for interpersonal skills associated with preparedness. Research shows that potential employers want to hire employees with strong interpersonal skills (Kakepoto, 2004; Glenn, 2008; Mitchell et al., 2010; Perreault, 2004; Sutton, 2002; Wilhelm, 2004).

In the section of communication skills, the items that were perceived as the most prepared in the swine industry were 'Understand and Follow Instructions' (*M*=2.72) and 'Indulging/Responding to Others Comments during Conversation' (*M*=2.55). Likewise was the case in the dairy industry with 'Understand and Follow Instructions' (*M*=2.83) and 'Indulging/Responding to Others Comments during Conversation' (*M*= 2.33) were perceived as the most prepared. The fed-beef industry ranked the items as the most prepared as well with 'Understand and Follow Instructions' (*M*=2.91) and 'Indulging/Responding to Others Comments during Conversation' (*M*=2.62). For these

106

reasons, industry stakeholders and educators need to promote character education along with leadership and communication skills through both formal and non-formal means (Williams et al., 2014).

In the section of computer skills, no items were marked as unprepared. Although most items were marked as somewhat prepared for all three industries, except for two variables within the fed-beef industry. The fed-beef industry deemed 'Computer Record Systems' (M=2.63), and 'Computer Control Systems' (M=2.57) as prepared.

Lastly, all three industries deemed the same top three skills as prepared. However, the technical skills that were perceived by employers in the swine industry as most prepared were 'Animal Management/Animal Welfare' (M= 2.70), 'Livestock Handling Procedures' (M= 2.63), and 'Proper Safety Procedures' (M=2.57). The same goes for the dairy industry with 'Animal Management/Animal Welfare' (M=2.56), 'Proper Safety Procedures' (M=2.44), and 'Livestock Handling Procedures' (M=2.33). The fed-beef industry valued 'Proper Safety Procedures' (M=2.71), 'Animal Management/Animal Welfare' (M=2.68), and 'Livestock Handling Procedures' (M=2.62) as their most prepared skills.

Objective Three*: *Describe the importance of skills, knowledge, and abilities needed for employability that are desired in CAFOs within the swine, dairy, and fed-beef industries.

Objective three consisted of 31 different individual skills assessed that determined the level of importance as perceived by the participants within the swine, dairy, and fed-beef industries. In the swine industry, the skills that the employers deemed as the most important in the section of Interpersonal Skills were 'Honesty/Integrity' (M=4.63) and

'Dependability/Dedication to the Job' (*M*=4.38). These skills were the greatest ranked

skills, meaning employers viewed these skill areas as the most important. Similarly, the

dairy industry mirrored the swine industry with 'Honesty/Integrity' (*M*=4.83) and

'Dependability/Dedication to the Job' (*M*=4.50). As did the fed-beef industry with

'Honesty/Integrity' (*M*=4.82) and 'Dependability/Dedication to the Job' (*M*=4.38). All

three CAFO industries valued 'Honesty/Integrity' as extremely important.

For communication skills in the swine industry, the items that were perceived as

the most important were 'Understand and Follow Instructions' (*M*=4.48) and

'Indulging/Responding to Others Comments during Conversation' (*M*=3.45). The items

that were perceived as the most important in the dairy industry were 'Understand and

Follow Instructions' (*M*=4.50) and 'Ability to Speak a Second Language' (*M*=3.44).

The fed-beef industry selected 'Understand and Follow Instructions' (*M*=4.26) and

'Indulging/Responding to Others Comments during Conversation' (*M*=3.50) as the most

important communication skills. All three industries deemed 'Understand and Follow

Instructions' as the most important communication skill.

In the section of computer skills within the swine industry, all three items were

perceived as being important. These items were 'Computerized Record Systems' and

'Computer Control Systems', both of which had a mean score of 3.17, and

'Spreadsheets/Word Processing' (*M*=3.00). However, the dairy industry only identified

two items that were perceived as being important. These skills were 'Computerized

Record Systems' (*M*=3.00) and 'Computer Control Systems' (*M*=2.82). Similar to the

dairy industry, the fed-beef industry selected two items that were perceived as being

important. These skills were 'Computerized Record Systems' ($M=2.63$), and 'Computer

Control Systems' ($M=2.57$).

Lastly, the technical skills that were perceived by employers in the swine industry

as extremely important were 'Animal Management/Animal Welfare' ($M=4.57$).

Identified as very important, were skills 'Proper Safety Procedures' ($M=4.37$), and

'Livestock Handling Procedures' ($M=4.33$). The perceived technical skills that

employers in the dairy industry deemed as extremely important were 'Livestock

Handling Procedures' ($M=4.50$) and 'Proper Safety Procedures' ($M=4.44$). 'Animal

Management/Animal Welfare' ($M=4.39$) was third in value, making the skill very

important. Lastly, the technical skills that were perceived by employers in the fed-beef

industry as very important were 'Proper Safety Procedures' ($M=4.24$), 'Animal

Management/Animal Welfare' ($M=4.15$), and 'Livestock Handling Procedures'

($M=4.09$). There were no items within the technical skills in the fed-beef industry that

were extremely important.

***Objective Four: Analyze employers' perceptions of an entry-level employee's
preparedness level in conjunction to importance of skills, knowledge and abilities
needed for employability desired by CAFOs in the swine, dairy, and fed-beef industries.***

Objective four consisted of the 31 different individual skills that assessed the level

of perceived preparedness of employees and the level of importance of those skills as

perceived by participants within the swine, dairy, and fed-beef industries. Of these 31

skills observed, an analysis between preparation levels and importance of the skills were

identified by a mean weighted discrepancy score (MWDS). Within each industry, the

greatest value in separation of mean scores identified the greatest potential need for enhanced education and/or training.

The top three interpersonal skills that showed the greatest separation of means were 'Setting Priorities', 'Decision Making/Problem Solving', and 'Initiative'. These areas highlighted the most potential for further education and training. The top three interpersonal skills that showed the greatest separation of means in the dairy industry were 'Dependability/Dedication to the Job', 'Honesty/Integrity', and 'Initiative'. Similar to swine and dairy, the top three interpersonal skills that showed the greatest separation of means were 'Honesty/Integrity', 'Dependability/Dedication to the Job', and 'Decision Making/Problem Solving'. These areas showed the greatest need for enhanced education and/or training within each respective industry.

All three industries identified the skill of 'Understand and Follow Instructions' as having the largest mean weighted discrepancy score. The area recognizes the most potential for education within the communication skills. It is no wonder that the skill is ranked the greatest among the three CAFO industries. Employers expect employees to have the ability to demonstrate a range of skills which include team-working, communication, leadership, critical thinking, and problem solving (Lowden, Hall, Elliot, & Lewin, 2011).

All industries still value computer skills, however, preparedness and importance scores had a minimal differences in the MWDS scores. The potential opportunities for education in Computer skills was recommended as 'Computer Control Systems', Computerized Record Systems', and 'Spreadsheets/Word Processing'.

Lastly, the top three technical skills that showed the greatest separation of means were 'Animal Management/Animal Welfare', 'Proper Safety Procedures', and 'Animal Health'. Very similar to swine, the dairy industry valued 'Livestock Handling Procedures', 'Proper Safety Procedures', and 'Animal Management/Animal Welfare' as the greatest separation of means. The top three technical skills for the fed-beef industry were 'Proper Safety Procedures', 'Animal Management/Animal Welfare', and 'Livestock Handling Procedures'. As the results show, these areas have the most potential for further education and training.

The average manufacturer rejects five out of every six applicants; twenty five percent of them lack the skills for the job performance (Smith, 2002). The above are the skills identified as having the largest mean weighted discrepancy scores for each section. These variables not only illustrate the lack of skills possessed among industry, but identify the most need for educational training in a CAFO located in the Texas High Plains and surrounding area.

Objective Five: Determine if differences exist between swine, dairy, and fed-beef industries as they relate to the importance level of interpersonal, communication, computer, and technical skills.

Objective five sought to determine if differences existed between the swine, dairy, and fed-beef industries as they related to the importance level of interpersonal, communication, computer, and technical skills. A chi-square goodness of fit test was used to determine differences. A null hypothesis statement of no difference among industries when comparing the four skill areas was determined. A probability value less than 0.05 was used to determine significant differences. A chi-square goodness of fit test

111

indicated there were no significant differences between the swine, dairy, and fed-beef industries as it related to the importance level of interpersonal, communication, computer, and technical skills. The results of the chi-square goodness of fit test report that there is no significant difference among swine, dairy, and fed-beef industries when determining differences among skill areas. Therefore all three industries need entry-level employees that have similar types of skill sets.

Objective Six: Identify the value of life experiences as it applies to the preparation of individuals within the swine, dairy, and fed-beef industries.

Objective six sought to identify the value of life experiences as it applies to the preparation of individuals within the swine, dairy, and fed-beef industries. The purpose of the study was to identify life experiences valued by an employer within the each respected industry.

Both the swine and dairy industry valued 'General Work Experience/Manual Labor' and 'Farm and/or Ranch Experience' as the most valuable experiential learning that employees could acquire. The fed-beef industry valued 'General work experience/manual labor' and 'Career-related employment' as the most valuable experiences that employees could acquire. All three industries believed 'Native to the Local Area' was the least important experience.

It is widely recognized that academia ought to prepare students for the workplace as well as providing a general education (Wachenheim and Lesch 2002). However, not all education comes from a classroom. As stated by the results of objective five, employers are looking for those employees that have general work experience.

Objective Seven: Identify trainings that are of interest by employers of CAFOs within the swine, dairy, and fed-beef industries.

The purpose of objective seven was to identify trainings that were most valued by an employer within the each respected industry. The section used a ranking order approach which allowed the employer to rank the greatest need as first. The training that all industries unanimously identified as the most required area of need was 'Animal Management/Animal Welfare'. Both the swine and fed-beef industries valued 'Proper Safety Procedures' as the next important training. The dairy industry valued 'Animal Health' second in the list, whereas the swine industry valued that skill third in importance training. Both the dairy and fed-beef industry valued 'Livestock Handling Procedures' as their third choice for potential trainings needed.

Discussion and Implications

Holzer (2012) emphasized the deficit of skilled workers and suggested education and skill trainings of prospective employees fail to keep pace with employer needs. Many employers have indicated our students are intelligent, however, lack the skills that come from being exposed to real situations (Graham, 2001). Over 40% of employers rate new entrants with a high school diploma as "deficient" in their general preparation for entry-level jobs (Casner-Lotto & Barrington, 2006). Employers identified that the formal education level by majority of their employees was a high school level education. These percentages were represented in swine at 31.37%, dairy at 36.37%, and fed-beef at 45.61%. This indicated that the majority of employees throughout the CAFO workforce

in the study graduated from a high school setting and began working in one of the three industries.

All employers should recall that education of students or even employees does not just include training to technical skills, but also personal qualities such as honesty and integrity (Harvey, 2000). Although employers assessed their employees as moderately prepared in the areas of interpersonal skills, those entering the profession of the swine, dairy, and fed-beef industries need to remember items associated with interpersonal skills were valued above all other skills measured in the study. Professionals should be reminded that education and knowledge does not just include technical skills, but that personal attributes such as honesty/integrity, working well with fellow employees, and maintaining a positive attitude are considered just as important. Interpersonal skills had the greatest value of perceived importance in all three industries.

Data demonstrates that employers value the human relations' skills higher than conceptual and technical skills (Wilhelm et. al., 2002). All industries referenced 'Honesty/Integrity' as an important skill, if not the greatest skill, identified. This indicates that employers are in need of this particular skill above all others. Industry is in need of employees that are trustworthy, follow moral principles, and practice good character. The characteristics of 'Honesty/Integrity' may not always be taught or trained directly, but can be modeled and demonstrated by others in order to develop a desired culture throughout the industry. Recommendations were made for all stakeholders to encourage character instruction along with leadership and communication skills (Williams et al., 2014). Industry stakeholders can implement, model, and practice these

114

characteristics that support and encourage honesty and integrity in the workplace on a daily basis.

The ability to take initiative and the willingness to work showed to have the most value among employers for all skill areas throughout each industry. The attribute of work ethic is valued among all employers. A valued skill that employers throughout CAFO industries also desired among their employees was 'Dependability/Dedication to the Job'. Employer's desire employees that show reliability and dependability to the industry not only do the right thing (integrity), but accomplish the goals of the enterprise in a timely manner. Abilities for goal setting, employee buy-in, and leadership guidance are factors that can contribute to the ability of an employee being dependable and/or dedicated to any industry.

A chi-square statistical test was used to determine if differences existed among the swine, dairy, and fed-beef industries as they relate to the importance level of interpersonal, communication, computer, and technical skills. The test revealed that there was not a significant difference among the three industries. The results indicated that all three industries in the study desired entry-level employees that attain the same type of skill sets throughout the observed CAFO's. The results confirmed that the skills observed in this study were not species specific, but rather are transferable skills desired by all employers. A constantly changing labor market has created new challenges; students must acquire adaptable, transferable skills as well as specific content knowledge to be adequate employees (Wise, 2008).

Among all industries, a skill that followed 'Honesty/Integrity' in importance, and had one of the largest mean weighed discrepancy scores throughout the CAFO's studied

was the need for 'Animal Management/Animal Welfare'. This indicated that employers in all industries of the CAFO's desired that their employees were properly trained on how to properly manage animals of a particular species and that an animal's well-being takes priority. The safety and humane treatment of all animal species is of the upmost importance to any CAFO.

A closely related training that was observed as a need for all industries was proper 'Livestock Handling Procedures' as well as 'Proper Safety Procedures'. Many times in CAFO's, these two skill areas coincide with one another. As mentioned above, the safety of the animal is priority to any CAFO industry, likewise is the safety of an industries employees. Education and trainings of workplace safety procedures are crucial to the protection and the wellbeing of both industry employees and the animals they care for. Many CAFO industries have implemented safety reward programs that allow employees to earn monetary benefits every quarter if all safety procedures have been followed and there have not been any reported accidents on the premises.

Simmons-McDonald (2009) stated lifelong learning is a critical factor in the employability of an individual. In the measurement of life skills needed, all industries unanimously ranked the opportunity of general work experience and/or manual labor as the most valued skill area an employee could possess. Many agree that work placements and internships make a huge difference to employability skills, however, access to placements is patchy (Lowden et al., 2011).

Employers stated the greatest training needs to update employees' skills and productivity, were in interpersonal communications and teamwork, individual responsibility and work habits, and life skills such as time management, punctuality, and

courtesy (Clagett, 1997). Corporate trainers are implementing in house training that teach how to read people, draw out clients, and build relationships: skill-oriented executive education that fills in the holes of their employees' formal educations (Klaus, 2010). Many students can develop these skills desired in an entry-level positions by acquiring employment through general work placement programs, internships, or on-the-job trainings. A program that allows junior and senior students to find industry employment during the school day would allow these students to have the ability to receive high school credit as well as learn on-the-job training in real settings.

Recommendations

Overall, employees in the swine, dairy, and fed-beef industries seem to be prepared in the workforce. However, room for improved curriculum, education, and trainings at the secondary and post-secondary levels will always have a need in order to educate the future workforce. As with any profession, there will always be some amount of on-the-job training in order to develop the skills needed for employees to be successful.

The results of the study should be shared with graduates, undergraduates, and high school age students prior to entering any type of scholastic/academic programs and/or job workforce training. Furthermore, the results from the study should be shared with CTE administrators and educators in order to improve curriculum to better prepare the future's workforce. It is vital for university professors who develop program requirements and coursework to remain up-to-date with the current demands of the workforce and integrate feedback from students, researchers, practitioners, and the

community (Hurst et al., 2015; Maiga et al., 2013). The information presented is an insightful material that is useful for anyone going into a concentrated animal feeding operation. Knowing facts about what employers are looking for in an employee is a large benefit to that individual when looking for employment.

Development of the workforce also contains guaranteeing a satisfactory pool of skilled workers for the coming future (Roche, 2001). Industry employers should keep in mind all new employees, no matter their age or experience, will require some level of training in order for supply keep up with the demand of industry needs. Employees entering the workforce in the swine, dairy, and fed-beef industry should keep in mind the value of honesty/integrity, dedication to the job, and the ability to understand and follow instructions within their new career. All stakeholders should be aware of the need for continual assessment for best educational practices in order to best prepare employees in the swine, dairy, and fed-beef industry.

The study above provided baseline data in regard to the perception of employers in the swine, dairy, and fed-beef industries that manage people a daily basis on the preparedness level of their employees. The study was within a specific geographical area. Caution should be applied in interpretation of results and generalities of the study should not occur. More in-depth research with employers should be performed to add to the pool of data. In addition, a study with swine, dairy, and fed-beef industry employees on self-perceived preparedness relative to the skills provided should be administered. As mentioned, the more that is known about competencies needed in agriculture careers and is incorporated into curriculum development, the more employable agriculture graduates will be in the marketplace (Graham, 2001).

Educational institutions, particularly those with CTE programs, have an advantageous opportunity to develop a rigorous curriculum that can be implemented in order to enhance a student's ability to be successful in an industry workplace. Opportunities in the areas of career internships (paid/unpaid) during a student's academic years have great potential to enhance industry skills and should be explored by graduate, undergraduate, and high school students alike. Due to the level of importance of skills being so evident, faculty members at the secondary and post-secondary levels should look for curriculum opportunities to enhance interpersonal development to their students. These opportunities could come in the form of class activities/assignments, added responsibilities, or extracurricular activities.

The variables that educators should keep in mind when developing a rigorous curriculum are the ranked items according to each industries' mean weighted discrepancy scores. These items included setting priorities, dedication to the job, honesty and integrity within all the industries, along with proper safety procedures, livestock handling procedures, and animal management/animal welfare. Programs that can develop activities and objectives that will promote these areas into a curriculum's coursework is imperative to the growth of a workforce development goal.

As mentioned above, secondary school institutions should take into consideration the qualities and characteristics that CAFO industry employers desire in their employees. These items can help develop, transform, and invigorate workforce programs already working with a career readiness platform. Experience is often times a necessity for learning (Kolb, 1984). Since educators, secondary and post-secondary, play a vital role in the development of their own curriculum, a disconnect between educators' perceptions

119

of industry needs and the actual needs of the industry can be challenging when preparing students for employment (Morgan & Rucker, 2013).

The high level of importance of the personal and leadership skills highlights the need for developing those skills, which is supported by the findings of Sargent et. al. (2003) who recommended incorporating leadership training throughout an entire curriculum. Along with leadership training in the curriculum, secondary institution leaders can work with local businesses and/or industry associations pertaining to CAFOs in their area. These industry partnerships can help develop programs of interests that secondary students can be a participant of an industry designed program.

The more that is known about competencies needed in agriculture careers and is incorporated into curriculum development, the more employable agriculture graduates will be in the marketplace (Graham, 2001). Post-secondary institutions, like those of secondary institutions, should evaluate the research in order to help design and direct the expectations of various coursework in order to align with that of CAFOs workforce needs. Other opportunities that post-secondary institutions can accommodate the employability needs within CAFOs are the ability to develop seminars, workshops, and presentations to not only students, but to industry employers, community members, stakeholders throughout the industry. Education institutions should develop programs and trainings that students are able to participate in real life applications that are relevant with industry needs. Some are advocating that competence of a new workforce entrant should be certified by credentials, separate form educational degrees, that when earned, validate the prospective employee's relevant qualifications (Eisner, 2010). If agricultural industries are to survive, the agriculture curriculum must be dynamic and able to adjust to

new situations and environments that help to improve on-the-job effectiveness of future graduates (Coorts, 1987, Slocombe & Baugher, 1988).

Employers want employees who can get along with customers, co-workers (interpersonal skills); who can work with others to achieve a goal (teamwork); who have a sense of where the organization is headed and what they must do to make a contribution (organizational goals); and who can assume responsibility while motivating coworkers when necessary (leadership) (Carnevale, 1988). Due to the fact that employees are coming into the workforce without the qualifying skills needed for the job, many industries are taking the stance of performing on-the-job training. Employers are looking for trainable recruits who may be trained in a particular industry and not necessarily trained employees (Maclean & Ordonez, 2007). Therefore, CAFOs in the Texas High Plains and surrounding areas are having to train employees for the jobs needed. Employers should explore potential workshops at annual conferences or other education engagements that can help provide information on how to implement these skills to their employees.

A study should be replicated in an effort to uncover any additional knowledge about what skills are needed by entry-level employees in the workplace. Additional comprehensive research with employers should be performed to complement the pool of data. In addition to a more comprehensive employer's research study, a study with newly hired swine, dairy, and fed-beef industry employees should be conducted to analyze their own self-perceived preparation level relative to their new career. Furthermore, a qualitative research study such as one on one interviews and focus groups throughout each swine, dairy, and fed-beef industry should be considered as to gather specific skills

and traits needed from employees. However, more in-depth research with employers should be performed to add to the pool of data (Graham, 2001). A qualitative study within each industry would determine and clarify some of the specific needs, qualities, and characteristics that make up a skilled employee. The more that is known about the competencies required for an industry the more employable graduates there will be in the marketplace (Andelt et. al., 1997).

Finally, it is recommended that the results of the study be shared with future students, as well as the faculty of secondary and post-secondary institutions, in an effort to identify the skills needed in the current workplace. Furthermore, educational institutions should continue to collaborate with swine, dairy, and fed-beef industry professionals in an effort to equip future graduates (secondary and/or post-secondary) with the appropriate skills needed for success in the industry workplace.

REFERENCES

Alliance, A. P. (2006). Every child every promise: Turning failure into
action. *Alexandria, VA: Author*.

Alpern, M. (1997). Critical Workplace Competencies: Essential? Generic? Core?
Employability? Non-technical? What's in a Name?. *Canadian Vocational
Journal*, *32*(4), 6-16.

Amosson, S. H., Almas, L., McCorkle, D., & Hanselka, D. (2005). The Impact of
Agribusiness in the High Plains Trade Area. *K. Ledbetter. Amarillo Chamber of
Commerce*, 10.

Andelt, L. L., Barrett, L. A., & Bosshamer, B. K. (1997). Employer assessment of the
skill preparation of students from the College of Agricultural Sciences and
Natural Resources University of Nebraska-Lincoln: Implications for teaching and
curriculum. *Nacta Journal*, *41*(4), 47-53.

Andrews, K. (2005). Closing the gap: Helping students identify the skills employers
want. *NACE Journal*, *64*, 41-44.

Archer, W., & Davison, J. (2008). Graduate employability. *The council for industry and
Higher Education*.

Arkansas Department of Education (2007). *Arkansas Department of Education Combined
Research Report of Business Leaders and College Professors on Preparedness of
High School Graduates*. *ERIC Digest*. Retrieved from ERIC database.
(ED497755)

Ary, D., Jacobs, L., Razavieh, A., & Sorensen, C. (2002). Introduction to research in
education 6 th ed. *Belmont, CA: Wadsworth*.

ATD Research (2007). *State of the Industry 2017*. Amer Soc For Training.

Atkins, M. J. (1999). Oven-ready and self-basting: taking stock of employability
skills. *Teaching in higher education*, *4*(2), 267-280.

Bailey, T. (1997). Changes in the nature of work: Implications for skills and
assessment. *Workforce readiness: Competencies and assessment*, 27-45.

Bangser, M. (2008). Preparing High School Students for Successful Transitions to
Postsecondary Education and Employment. Issue Brief. *National High School
Center*.

Barrick, R. K., Samy, M. M., Gunderson, M. A., & Thoron, A. C. (2009). A model for
developing a well prepared agricultural workforce in an international
setting. *Journal of International Agricultural and Extension Education*, *16*(3), 25-
31.

Becker, G. S. (2009). *Human capital: A theoretical and empirical analysis, with special
reference to education*. University of Chicago press.

Billing, D. (2003). Generic cognitive abilities in higher education: An international
analysis of skills sought by stakeholders. *Compare: A Journal of Comparative
and International Education*, *33*(3), 335-350.

Brand, B., Valent, A., & Browning, A. (2013). How Career and Technical Education Can
Help Students Be College and Career Ready: A Primer. *College and Career
Readiness and Success Center*.

124

Brewer, R. L. (2004). CTE in high schools: The formula for success. *Tech Directions*, *64*(5), 15.

Brock, W.E. (1992). A vision for education. *Vocational Education Journal*, 67(7): 20-22, 68.

Brown, P., Hesketh, A., & Wiliams, S. (2003). Employability in a knowledge-driven economy. *Journal of education and work*, *16*(2), 107-126.

Bureau of Labor Statistics (2014). College enrollment and work activity of 2013 high school graduates. *Economic News Release*.

Candy, P. C., & Crebert, R. G. (1991). Ivory tower to concrete jungle: The difficult transition from the academy to the workplace as learning environments. *The Journal of Higher Education*, *62*(5), 570-592.

Cappelli, P. (1992). Are Skill Requirements Rising? Evidence from Production and Clerical Jobs. EQW Working Papers.

Cappelli, P. (1992). *Is the" Skills Gap" Really about Attitudes?: EQW Working Papers*. ERIC Clearinghouse.

Cappelli, P., & Iannozzi, M. (1995). Rethinking the Skills Gap: Is It Craft or Character? EQW Issues Number 9.

Carnevale, A. P. (1990). *Workplace Basics Training Manual. ASTD Best Practices Series: Training for a Changing Work Force*. Jossey-Bass Inc., Publishers, 350 Sansome Street, San Francisco, CA 94104.

Carnevale, A. P., & Desrochers, D. M. (2003). Preparing students for the knowledge economy: What school counselors need to know. *Professional School Counseling*, *6*(4), 228-236.

Carnevale, A. P., Gainer, L. J., & Meltzer, A. S. (1988). *Workplace basics: the skills employers want. ERIC Digest*. Retrieved from ERIC database. (ED299462)

Casner-Lotto, J., & Barrington, L. (2006). *Are They Really Ready to Work? Employers' Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century US Workforce*. Partnership for 21st Century Skills. 1 Massachusetts Avenue NW Suite 700, Washington, DC 20001.

Castellano, M., Stringfield, S., & Stone III, J. R. (2003). Secondary career and technical education and comprehensive school reform: Implications for research and practice. *Review of Educational Research*, *73*(2), 231-272.

Clagett, C. A. (1997). Workforce Skills Needed by Today's Employers. Market Analysis MA98-5.

Clark, K. A., Test, D. W., & Konrad, M. (2019) Teaching soft skills to students with disabilities with upgrade your performance. *Education and Training in Autism and Developmental Disabilities*, v54 n1 p41-56 Mar 2019

Cleary, M., Flynn, R., & Thomasson, S. (2006). Employability skills from framework to practice: An introductory guide for trainers and assessors. Canberra, Australia: Department of Education. *Science and Training*.

Cobanoglu, C., Dede, P., & Poorani, A. (2007). An analysis of skills and competencies of full service hotel technology managers. *Journal of teaching in travel & tourism*, *6*(4), 19-35.

Conrad, C. A., & Leigh, W. A. (1999). Soft Skills: A Bridge or Barrier to Employment. *Focus Magazine*, *27*(1), 5-6.

Coorts, G. D. (2008). Updating Today's College Curriculum For Tomorrow's
    Agriculture. *NACTA Journal*, *52*(2), 58.

Crebert, G., Bates, M., Bell, B., Patrick, C. J., & Cragnolini, V. (2004). Ivory tower to
    concrete jungle revisited. *Journal of education and work*, *17*(1), 47-70.

Dacre Pool, L., & Sewell, P. (2007). The key to employability: developing a practical
    model of graduate employability. *Education+ Training*, *49*(4), 277-289.

Daud, S., Sapuan, N. M., Abidin, N., & Rajadurai, J. (2011). Do business graduates'
    attributes fulfill industry requirements and expectations?
    http://dspace.uniten.edu.my/jspui/handle/123456789/10095.

Delano, R. K., & Hutton, K. C. (2007). Economic and workforce Development-K
    through 12 education issue. *Economic Development Journal*, *6*(2), 47.

Di Meglio, F. (2008). A transcript for soft skills. *Business Week*.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and
    mixed-mode surveys: the tailored design method*. John Wiley & Sons.

Dormody, T. J., & Seevers, B. S. (1994). Predicting youth leadership life skills
    development among FFA members in Arizona, Colorado, and New
    Mexico. *Journal of Agricultural Education*, *35*(2), 65-71.

Easterly III, R. G., Warner, A. J., Myers, B. E., Lamm, A. J., & Telg, R. W. (2017). Skills
    Students Need in the Real World: Competencies Desired by Agricultural and
    Natural Resources Industry Leaders. *Journal of agricultural education*, *58*(4),
    225-239.

Eisner, S. (2010). Grave New World? Workplace Skills for Today's College
    Graduates. *American Journal of Business Education*, *3*(9), 27-50.

127

Etikan, I., Alkassim, R., & Abubakar, S. (2016). Comparision of snowball sampling and sequential sampling technique. *Biometrics and Biostatistics International Journal*, *3*(1), 55.

Evenson, R. (1999). Soft skills, hard sell. *Techniques: Making Education & Career Connections*, *74*(3), 29-31.

Evers, F. T., Rush, J. C., & Berdrow, I. (1998). *The Bases of Competence. Skills for Lifelong Learning and Employability*. Jossey-Bass Publishers, 350 Sansome Street, San Francisco, CA 94104.

Explorable.com (Nov 24, 2010). Sequential Sampling Method. Retrieved Mar 11, 2019 from Explorable.com: https://explorable.com/sequential-sampling.

Faugier, J., & Sargeant, M. (1997). Sampling hard to reach populations. *Journal of advanced nursing*, *26*(4), 790-797.

Findlay, H. J. (1993). Philosophy and principles of today's vocational education. In C. Anderson & L. C. Rampps (Eds.), *Vocational education in the 1990's II: A sourcebook for strategies, methods and materials.* Ann Arbor, MI; Prakken Publications, Inc.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2011). *How to design and evaluate research in education*. New York: McGraw-Hill Humanities/Social Sciences/Languages.

Gall, M. D., Gall, J. P., & Borg, W. R. (2003). *Educational research: An introduction* (7th ed.). Boston, MA: Allen and Bacon.

Galor, O., & Moav, O. (2002). Natural selection and the origin of economic growth. *The Quarterly Journal of Economics*, *117*(4), 1133-1191.

Garton, B. L., & Chung, N. (1997). An assessment of the inservice needs of beginning

    teachers of agriculture using two assessment models. *Journal of Agricultural*

    Education, *38*, 51-58.

Georges, J. C. (1996). The Myth of Soft-Skills Training. *Training*, *33*(1).

Gewertz, C. (2007). Soft skills in big demand. *Education Week*, *26*(40), 25-27.

Glenn, J. M. L. (2008). The ``New'' Customer Service Model: Customer Advocate,

    Company Ambassador. In *Business Education Forum* (Vol. 62, No. 4, p. 6).

    NATIONAL BUSINESS EDUCATION ASSOCIATION.

Goecker, A. D., Smith, E., Fernandez, J. M., Ali, R., & Theller, R. G. (2015).

    Employment opportunities for college graduates in food, agriculture, renewable

    natural resources, and the environment. *Purdue University and the USDA.*

    Available at: www. purdue. edu/usda/employment/(Last accessed January 2017).

Graham, D. L. (2001). Employer Perception of the Preparation of Agricultural and

    Extension Education Graduates.

Gray, K. (2009). *Getting Real: Helping Teens Find Their Future (2nd Ed.)*. Thousand

    Oaks, CA, US: Corwin Press.

Gray, K. C., & Herr, E. L. (2006). *Other ways to win: Creating alternatives for high*

    school graduates. Corwin Press.

Gruenhagen, K. A. (1982). Attitudes of fast food restaurant managers towards hiring the

    mentally retarded: A survey. *Career Development for Exceptional*

    Individuals, *5*(2), 98-105.

Guerrero, B., Amosson, S. H., & Jordan, E. R. (2012). *The impact of the dairy industry in the southern Ogallala region*. Texas A & M AgriLife Extension Service, The Texas A&M System.

Guerrero, B., Amosson, S., & McCollum, T. (2013). The impact of the beef industry in the Southern Ogallala Region. *College Station, Texas: Texas A&M Agrilife Extension, AG-001*, *9*, 13.

Guerrero, B., Amosson, S., & McCollum, T. (2013). The impact of the beef industry in the Southern Ogallala Region. *College Station, Texas: Texas A&M Agrilife Extension, AG-001*, *9*, 13.

Hansen, F. (2009). Recruiters still courting college grads, but signing fewer new hires. WorkforceManagement Online.

Harris, G. W. (1996). *Identification of the workplace basic skills necessary for effective job performance by entry-level workers in small businesses in Oklahoma* (Doctoral dissertation, Oklahoma State University).

Harvey, L. (2000). New realities: The relationship between higher education and employment. *Tertiary Education & Management*, *6*(1), 3-17.

Harvey, L., Locke, W., & Morey, A. (2002). *Enhancing Employability, Recognising Diversity: Missing Links Between Higher Education and the World of Work: Main Report*. Universities UK.

Harvey, L., Moon, S., Geall, V., & Bower, R. (1997). *Graduates' Work: Organisational Change and Students' Attributes*. Centre for Research into Quality, 90 Aldridge Road, Perry Barr, Birmingham B42 2TP, England, United Kingdom (5 British pounds)..

Heckathorn, D. D. (2015) Snowball Versus Respondent-Driven Sampling. *Social*

    Methodology, 41(1): 3525-366. DOI: 10.1111/j.1467-9531.2011.01244.x

Hensley, J. (1979). Affecting Work Attitudes, Work Habits, and Employability Skills of

    the Rural Vocational Learner. Final Report.

Hofstrand, R. (1996). Getting all the skills employers want. *Techniques: Making*

    Education & Career Connections, *71*(8), 51-51.

Holtom, D., & Bowen, R. (2007). People and work unit: Evaluation of the equal

    development partnership 'valuing learning—strengthening communities' project.

    Retrieved from http://www.equal-works.com/resources/contentfiles/2447.pdf

Holzer, H. J. (2012). Good workers for good jobs: improving education and workforce

    systems in the US. *IZA Journal of Labor Policy*, *1*(1), 5.

Hurst, S. D., Conner, N. W., Stripling, C. T., Blythe, J., Giorgi, A., Rubenstein, E. D., ...

    & Roberts, T. G. (2015). An Exploration of the Formal Agricultural Education

    System in Trinidad and Tobago. *Journal of Agricultural Education*, *56*(1), 141-

    154.

Husain, M. Y., Mokhtar, S. B., Ahmad, A. A., & Mustapha, R. (2010). Importance of

    employability skills from employers' perspective. *Procedia-Social and*

    Behavioral Sciences, *7*, 430-438.

Imel, S. (1989). Employers' Expectations of Vocational Education. ERIC Digest No. 90.

Imel, S. (1999). Work Force Education: Beyond Technical Skills. Trends and Issues Alert

    No. 1.

Ingbretsen, R. (2009). What employers really look for when hiring a college

    graduate. *Retrieved February*, *18*, 2015.

James, R. F., & James, M. L. (2004). Teaching career and technical skills in a" mini" business world. In *Business Education Forum* (Vol. 59, pp. 39-41). NATIONAL BUSINESS EDUCATION ASSOCIATION.

Jelphs, K. (2006). Communication: soft skill, hard impact?. *Clinician in Management*, *14*(1).

John, J. (2009). Study on the nature of impact of soft skills training programme on the soft skills development of management students. *Pacific Business Review*, 19-27.

Judy, R. W., & d'Amico, C. (1997). *Workforce 2020: Work and workers in the 21st century*. Hudson Institute, Herman Kahn Center, PO Box 26-919, Indianapolis, IN 46226; tele.

Kakepoto, I. (2004). Employers value communication and interpersonal abilities. *Keying In*, *14*(3), 1-6.

Kane, M., Berryman, S., Goslin, D., & Meltzer, A. (1990). Identifying and describing the skills necessary for work. Exhibit 1. Washington D.C.: U.S. Department of Labor. Retrieved from https://wdr.doleta.gov/SCANS/idsrw/idsrw.pdf

Kaufman, N. A., & Geroy, G. D. (2007). An energy model for viewing embodied human capital theory. *Performance Improvement Quarterly*, *20*(1), 37-47.

Kazis, R. (2005). Remaking Career and Technical Education for the 21st Century: What Role for High School Programs?. *Jobs for the Future*.

Kelly, D. K. (1992). Report on Successful Practices: Adult Learners in Vocational Programs.

Kivinen, O., & Ahola, S. (1999). Higher education as human risk capital. *Higher education*, *38*(2), 191-208.

Kivinen, O., & Silvennoinen, H. (2002). Changing relations between education and work: on the mechanisms and outcomes of the educational system. *International journal of lifelong Education*, *21*(1), 44-54.

Klaus, P. (2010). Communication breakdown. *California Job Journal*, *28*(1248), 1-9.

Klein, M. L. (1990). Southern California food and agricultural firms. *NACTA Journal*, *34*(2), 30-34.

Knight, P. T., & Yorke, M. (2003). Employability and good learning in higher education. *Teaching in Higher education*, *8*(1), 3-16.

Kolb, D. A. (1984). *Experiential learning: experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice Hall.

Kubler, B., & Forbes, P. (2005). *Student Employability Profiles: A Guide for Employers, Degrees of Skill*. Council for Industry and Higher Education.

Laband, D. N., & Lentz, B. F. (1983). Occupational inheritance in agriculture. *American Journal of Agricultural Economics*, *65*(2), 311-314.

Laca, A. (2018). When college is the only option, low unemployment hurts farm country. Retrieved from https://www.agweb.com/article/when-college-is-the-only-option-low-unemployment-hurts-farm-country/

Lankard, B. A. (1995). *Business/education partnerships. ERIC Digest*. Retrieved from ERIC database. (ED383856)

Lee, W., & Pilossoph,L. (2006). Are they really ready to work? Retrieved from https://files.eric.ed.gov/fulltext/ED519465.pdf

Lees, D. (2002). *Graduate employability-literature review* (pp. 1-23). York: LTSN Generic Centre.

133

Little, B. (2001). Reading between the lines of graduate employment. *Quality in Higher Education*, *7*(2), 121-129.

Logan, J. (2002). 21st century assessment for the workplace. In *Wilhelm, William J.; Logan, Joyce; Smith, Sheila M.; Szul, Linda F. Meeting the Demand: Teaching" Soft" Skills.* (p. 51).

Lowden, K., Hall, S., Elliot, D., & Lewin, J. (2011). Employers' perceptions of the employability skills of new graduates. *London: Edge Foundation*.

Lynch, R. (2000). High school career and technical education for the first decade of the 21st century. *Journal of vocational education research*, *25*(2), 155-198.

Maclean, R., & Ordonez, V. (2007). Work, skills development for employability and education for sustainable development. *Educational Research for Policy and Practice*, *6*(2), 123-140.

Magazine, A. (2003). Soft skills that make a tester. *Retrieved from* https://www.stickyminds.com/article/soft-skills-make-tester

Maiga, A. A., Cartmell, D. D., Edwards, M. C., & Robinson, J. S. (2013). Competencies needed by graduates of agricultural communications in Mali: Implications for developing countries. *North American Colleges & Teachers of Agriculture Journal*, *57*(3), 139-145.

Mangan, K. (2007). MBA's may need more "soft skills.". *Chronicle of Higher Education*, *53*(50), 10.

Marimuthu, M., Arokiasamy, L., & Ismail, M. (2009). Human capital development and its impact on firm performance: Evidence from developmental economics. *Journal of international social research*, *2*(8).

McKim, B. R., & Pope, P. (2010). SPSS syntax for calculating mean weighted

discrepancy scores. In *Proceedings of the Western Region American Association

of Agricultural Educators Research Conference* (Vol. 29, pp. 355-358).

McLaughlin, M. (1995). Employability Skills Profile: What Are Employers Looking For?

Retrieved from ERIC database (ED399484)

Mitchell, G. W., Skinner, L. B., & White, B. J. (2010). Essential Soft Skills for Success

in the Twenty-First Century Workforce as Perceived by Business

Educators. *Delta Pi Epsilon Journal*, *52*(1).

Moad, J. (1995). Calculating the real benefit of training. *Datamation*, *41*(7), 45-47.

Morgan, A. C. (2010). Competencies needed by agricultural communication

undergraduates: An industry perspective. *Journal of Applied

Communications*, *94*(1-2), 19-32.

Morgan, A. C. (2012). Competencies needed by agricultural communication

undergraduates: A focus group study of alumni. *Journal of Applied

Communications*, *96*(2), 5.

Morgan, A. C., & Rucker, K. J. (2013). Competencies needed by agricultural

communication undergraduates: An academic perspective. *Journal of Applied

Communications*, *97*(1), 6.

Morley, L. (2001). Producing new workers: Quality, equality and employability in higher

education. *Quality in higher education*, *7*(2), 131-138.

Murnane, R. J., & Levy, F. (1996). *Teaching the New Basic Skills. Principles for

Educating Children To Thrive in a Changing Economy*. Free Press, 1230 Avenue

of the Americas, New York, NY 10020..

Murray, J. L. (1994). *Identification of Emerging New Workplace Skills for Community College Marketing Students as Identified by Employers and Graduates M: Implications for Community College Programs*. Michigan State University. Department of Higher, Adult and Lifelong Education.

Napoleon, L., Freedman, D., Seetharaman, K., & Sharma, P. (2006). An educational needs assessment of Pennsylvania workforce: opportunities to redefine secondary career and technical education to meet food industry needs. *Journal of Food Science Education*, *5*(2), 19-23.

Napoleon, L., Freedman, D., Seetharaman, K., & Sharma, P. (2006). An educational needs assessment of Pennsylvania workforce: opportunities to redefine secondary career and technical education to meet food industry needs. *Journal of Food Science Education*, *5*(2), 19-23.

National Association of Manufacturers (2005). 2005 skills gap report: a survey of the american manufacturing workforce. Washington, DC: Author Retrieved from http://www.themanufacturinginstitute.org/~/media/738F5D310119448DBB03DF 30045084EF/2005_Skills_Gap_Report.pdf

National Center on Education and the Economy. (1990). *America's choice: High skills or low wages* (p. 209). Rochester, NY: Author.

National Center on the Educational Quality of the Workforce (US), & United States. Bureau of the Census. (1995). *First Findings from the EQW National Employer Survey*. National Center on the Educational Quality of the Workforce, University of Pennsylvania.

National Union of Students (2011). *Working towards your future. Making the most of your time in Higher Education*. CBI. Retrieved from http://www.nus.org.uk/en/news/news/your-guideto-better-employability-skills/

North, A. B., & Worth, W. E. (2004). Trends in Selected Entry-Level Technology, Interpersonal, and Basic Communication Scans Skills: 1992-2002. *Journal of Employment Counseling*, 41(2), 60.

Noy, C. (2008). Sampling knowledge: The hermeneutics of snowball sampling in qualitative research. *International Journal of social research methodology*, *11*(4), 327-344.

Oliver, K. M., Russel, C., Gilli, L. M., Hughes, R. A., Schuder, T., Brown, J. L., & Towers, W. (1997). Skills for success in Maryland: Beyond workplace readiness. *Workforce readiness: Competencies and assessment*, 47-76.

Onisk, M. (2011). Is measuring soft-skills training really possible. *Appcon: Sidney, Australia*. Retrieved from https://appcon.com.au/Portals/0/Research_Case_Studies/Is%20Measuring%20Softskills%20Really%20Possible.pdf

Overtoom, C. (2000). *Employability skills: An update*. ERIC Clearinghouse. Retrieved from ERIC database. (ED445236)

Owens, D. M. (2009). College recruiting in a Downturn-The economic downturn has employers rethinking their campus recruitment strategies and seeking ways to invest in top talent once the job market improves. *HRMagazine*, *54*(4), 51.

Packer, A. (1998). The end of routine work and the need for a career transcript. *Hudson Institute's Workforce*, *2020*.

Partnership for 21st Century Skills (2008). *21st century skills, education competencies. ERIC Digest*. Retrieved from ERIC database. (ED519337)

Partnership for 21st Century Skills. (2008). *21st Century skills, education & competitiveness: A resource and policy guide.* Tucson: Partnership for 21st Century Skills.

http://www.p21.org/documents/21st_century_skills_education_and_competitiveness_guid e.pdf

Partnership for 21st Century Skills (2006). *Key Findings: Are they ready to work? Employers perspective on the basic knowledge and applied skills of new entrants to the 21st century workforce.*

http://www.p21.org/documents/key_findings_joint.pdf

Peddle, M. T. (2000). Frustration at the factory: Employer perceptions of workforce deficiencies and training trends. In *Journal of Regional Analysis & Policy*.

Perreault, H. (2004). Basic business-business educators can take a leadership role in character education. In *Business Education Forum* (Vol. 59, pp. 23-25). NATIONAL BUSINESS EDUCATION ASSOCIATION.

Perry, J. C., & Wallace, E. W. (2012). What schools are doing around career development: Implications for policy and practice. *New directions for youth development*, *2012*(134), 33-44.

Pratley, J. (2008). Workforce planning in agriculture: agricultural education and capacity building at the crossroads. *Farm Policy Journal*, *5*(3), 27-41.

Radhakrishna, R. B., & Bruening, T. H. (1994). Pennsylvania study: Employee and

    student perceptions of skills and experiences needed for careers in

    agribusiness. *NACTA Journal*, *38*(1), 15-18.

Rasul, M. S., Ismail, M. Y., Ismail, N., Rajuddin, M. R., & Rauf, R. A. A. (2009).

    Peranan institusi pendidikan teknikal dalam pemupukan kemahiran

    'employability'pelajar. *Sains Humanika*, *50*(1).

Ravitz, J., Hixson, N., English, M., & Mergendoller, J. (2012). Using project based

    learning to teach 21st century skills: Findings from a statewide initiative.

    In *American Educational Research Association Conference, Vancouver,*

    Canada (Vol. 16).

Redford, K. (2007). How to measure the impact of soft skills training. Retrieved from

    https://www.personneltoday.com/hr/how-to-measure-the-impact-of-soft-skills-

    training/

Robinson, J. P. (2000). What are employability skills. *The workplace*, *1*(3), 1-3.

Robinson, J. S., & Garton, B. L. (2007). An assessment of the employability skills needed

    by College of Agriculture, Food and Natural Resources graduates at the

    University of Missouri-Columbia. In *Proceedings of the 2007 AAAE Research*

    Conference (Vol. 34, pp. 385-401).Harlow, H. F. (1983). Fundamentals for

    preparing psychology journal articles. *Journal of Comparative and Physiological*

    Psychology, 55, 893-896.

Robinson, J. S., & Garton, B. L. (2008). An Assessment of the Employability Skills

    Needed by Graduates in the College of Agriculture, Food and Natural Resources

    at the University of Missouri. *Journal of agricultural education*, *49*(4), 96-105.

Robles, M. M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly*, *75*(4), 453-465.

Roche, A. (2001). What is this thing called workforce development. *Systems, settings, people: Workforce development challenges for the alcohol and other drugs field*, 5-22.

Sargent, S. D., Pennington, P., & Sitton, S. (2003). Developing Leadership Skills through Capstone Experiences.

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66: 701-716.

Scheetz, L. P. (1995). Recruiting Trends, 1995-96. Education Supplement. A Study of 294 Elementary and Secondary School Systems Employing New Teacher Education Graduates.

Schloss, C. N., & Schloss, P. J. (1982). The Influence of Exceptional Labels on Employer Expectatons for the Training and Success of Special Needs Adolescents. *Journal for Vocational Special Needs Education*, *4*(2), 5-7.

Schmidt, S. J. (1999). Using writing to develop critical thinking skills. *NACTA journal*, 31-38.

Schuele, K. & Madison, R. (January 2010). Navigating the 21st century job search. *Strategic Finance*. 49-53.

Schultz, T. W. (1963). *The economic value of education*. Columbia University Press.

Sheikh, S. (2009). Alumni perspectives survey: Comprehensive data report. *Graduate Management Admission Council*. Retrieved from

https://www.gmac.com/~/media/Files/gmac/Research/Measuring%20Program%2
0ROI/APR09Alumni_CDR_Web.pdf

Simmons-McDonald, H. Employability and lifelong learning ICDE Standing Conference
of Presidents-Quality in the Context of the Financial Crisis Barcelona, Spain-19-
21 November 2009.

Singh, G. K. G., & Singh, S. K. G. (2008). Malaysian graduates' employability
skills. *UNITAR e-Journal*, *4*(1), 15-45.

Sleezer, C. M., & Denny, D. (2004). Strategies for developing a high-skilled
workforce. *Performance Improvement Quarterly*, *17*(1), 41-55.

Slocombe, J. W., & Baugher, E. E. (1988). Revitalizing agricultural curricula. *NACTA
Journal*, *32*(3), 8-10.

Smith, B. N. (1997). Employers' Perceptions of Work Skills. In *Business Education
Forum* (Vol. 51, No. 4, pp. 11-17).

Smith, E. (2010). Sector-specific human capital and the distribution of earnings. *Journal
of Human Capital*, *4*(1), 35-61.

Smith, S. M. (2002). The skill building challenge: Preparing a bridge for the workforce
skills gap. In *Meeting the demand: Teaching "soft" skills* (pp. 1-11).

Smith, S. M. (2002). The skill building challenge: Preparing a bridge for the workforce
skills gap. In *Meeting the demand: Teaching "soft" skills* (pp. 1-11).

Stewart, D. M. (1977). Survey of community employer attitudes toward hiring the
handicapped. *Mental retardation*.

Stone, K. B., Kaminski, K., & Gloeckner, G. (2009). Closing the Gap: Education

    Requirements of the 21st Century Production Workforce. *Journal of Industrial*

    Teacher Education, *45*(3), 5-33.

Swanson, R. A. (2001). *Assessing the financial benefits of human resource development*.

    Cambridge, MA: Perseus Publishing.

Symonds, W. C., Schwartz, R., & Ferguson, R. F. (2011). Pathways to prosperity:

    Meeting the challenge of preparing young Americans for the 21st century.

Szul, L. F., & Moore, W. A. (1999). Preparing Career-Ready Students: A Process for

    Curriculum Revision. In *Business Education Forum* (Vol. 54, No. 1, pp. 42-44).

Tanyel, F., Mitchell, M. A., & McAlum, H. G. (1999). The skill set for success of new

    business school graduates: Do prospective employers and university faculty

    agree? *Journal of Education for Business*, *75*(1), 33-37.

Tetreault, P. A. (1997). Preparing students for work. *Adult Learning*, *8*(4), 10-13.

The Balance Careers (2018). Hard skills employers seek. Retrieved from

    https://www.thebalancecareers.com/what-are-hard-skills-2060829

Tullier, M. (2005). The skills you have and the skills they want. *MonsterTRAK. com.*

    Retrieved (2008, November 20) from http://www.monstertrak.com/career-

    guide/job-interview-tips/skills.

U.S. Census Bureau (2019). Educational attainment by selected characteristic: 2018.

    Retrieved from https://www.census.gov/data/tables/2018/demo/education-

    attainment/cps-detailed-tables.html

United States. Dept. of Labor. Secretary's Commission on Achieving Necessary Skills. (1992). *Skills and tasks for jobs: a SCANS report for America 2000*. US Dept. of Labor, Secretary's Commission on Achieving Necessary Skills.

Urutyan, V. E., & Litzenberg, K. K. (2010). Skills, qualities and experiences needed for future leaders in food and agribusiness industries of Armenia. *International Food and Agribusiness Management Review*, 13(1030-2016-82882), 1.

Van Loo, J. B., & Rocco, T. S. (2004). Continuing professional education and human capital theory. Paper presented at the *Academy of Human Resource Development International Conference (AHRD)*, 98-105.

Van Shelhamer, C. & Bishop, D. (1984). *Personal characteristics which make people more employable in agribusiness. ERIC Digest.* Retrieved from ERIC database. (ED253725)

Wachenheim, C. J., & Lesch, W. C. (2002). Assessing new-graduate applicants: academic perceptions and agribusiness realities. *Journal of Agribusiness*, *20*(345-2016-15162), 163.

Watty, K., Jackling, B., & Wilson, R.M.S. (2012). *Personal transferable skills in Accounting Education.* London: Routledge.

Wellington, J. K. (2005). The" soft skills" of success. *Vital speeches of the day*, *71*(20), 628.

White, E. (2005). Learning to be the boss; trial and error is the norm as new managers figure out how to relate to former peers. *The Wall Street Journal*, B1.

Wilhelm, W. J. (2004). Determinants of moral reasoning: Academic factors, gender, richness of life experiences, and religious preferences. *Delta Pi Epsilon Journal*, *46*(2), 105-123.

Wilhelm, W. J., Logan, J., Smith, S. M., & Szul, L. F. (2002). *Meeting the Demand: Teaching" Soft" Skills. ERIC Digest.* Retrieved from ERIC database. (ED477252)

Williams, K., Robertson, T., Kieth, L., & Deal, A. (2014). Skills, Knowledge and Abilities Employers Seek in New Professionals Entering Careers in the Fed Beef Industry. *NACTA Journal*, *58*(4).

Wise, B. (2008). High schools at the tipping point. *Educational Leadership*, *65*(8), 8.

Yorke, M., & Knight, P. (2004). *Employability: Judging and communicating achievements*. LTSN Generic Centre.

Zehr, M. A. (1998). New office economy putting greater demands on schools. *Education week*, *17*(23), 7.

Zubovic, J., Domazet, I., & Stosic, I. (2009). *Development of human capital as a tool for improving productivity of agricultural sector–case of Serbia* (No. 697-2016-47739, p. 451).

APPENDIX A:

EMPLOYERS SURVEY OF EMPLOYABILITY SKILLS

NEEDED IN CAFOS

OF THE SWINE, DAIRY, AND FED-BEEF INDUSTRIES

SURVEY OF EMPLOYABILITY SKILLS

NEEDED IN CONCENTRATED ANIMAL FEEDING OPERATIONS

OF THE SWINE, DAIRY, AND FED BEEF INDUSTRIES

Purpose

The purpose of this questionnaire is to secure information from managers in different industries of CAFOs. Specifically, the aim of this questionnaire is to identify what employability skills are needed by the workforce in the CAFOs specific to the Fed-beef industry.

Your participation in this study is strictly voluntary and greatly appreciated. The information you provide will assist the Department of Agricultural Sciences at West Texas A & M University in evaluating the areas that students are being prepared for employment. Your responses are crucial to understanding the important skill sets needed in the industry. However, you are not required to participate in this study. It is strictly voluntary. Should you decide to participate in this study, please respond and complete the online survey.

The responses you provide will remain confidential. The information provided in Qualtrics.com will stay strictly anonymous. No names will be associated with this study.

Thank you for participating in this important study. Through your participation, we can continue to provide West Texas A&M University students with a high quality education.

Purpose

The purpose of this questionnaire is to secure information from managers in different industries of Concentrated Animal Feeding Operations. Specifically, the aim of this questionnaire is to identify what employability skills are needed by the workforce in the Concentrated Animal Feeding Operations specific to the Fed Beef industry.

Your participation in this study is strictly voluntary and greatly appreciated. The information you provide will assist the Department of Agricultural Sciences at West Texas A & M University in evaluating the areas that students are being prepared for employment. Your responses are crucial to understanding the important skill sets needed in the industry. However, you are not required to participate in this study. It is strictly voluntary. Should you decide to participate in this study, please respond and complete the online survey.
The responses you provide will remain confidential. The information provided in Qualtrics will stay strictly anonymous. No names will be associated with this study.

Thank you for participating in this important study. Through your participation, we can continue to provide West Texas A&M University students with a high quality education.

Concentrated Animal Feeding Operations
Demographics

Please describe your position of placement.
- ◯ Corporate Office
- ◯ General Manager
- ◯ Assistant General Manager
- ◯ Departmental Manager

How many people are under your supervision?

[▾]

Majority of people I supervise have what type of formal education?
- ☐ No formal education
- ☐ High school
- ☐ Some technical training/education after high school
- ☐ Some college
- ☐ Associates degree
- ☐ Bachelors degree
- ☐ Master degree
- ☐ Doctoral degree

Concentrated Animal Feeding Operations
Section One

Skills and Competencies

By using the scale below, please rate how well individuals YOU supervise are prepared for entry level jobs in your organization in the preparedness (left) column. Then, in the importance (right) column, please indicate how important these skills or competencies are for entry level employees of your organization. Please mark the bubble which best applies.

5= Thoroughly prepared
4= Good preparation
3= Prepared
2= Somewhat prepared
1= Unprepared

5= Extremely important
4= Very important
3= Important
2= Somewhat important
1= Unimportant

Interpersonal Skills Needed

	Preparedness Level					Importance Level				
	1=Unprepared	2=Somewhat Prepared	3=Prepared	4=Well Prepared	5=Thoroughly Prepared	1=Unimportant	2=Somewhat Important	3=Important	4=Very Important	5=Extremely important
Ability to Work Independently	○	○	○	○	○	○	○	○	○	○
Decision Making/Problem Solving	○	○	○	○	○	○	○	○	○	○
Dependability/Dedication to the Job	○	○	○	○	○	○	○	○	○	○
Honesty/Integrity	○	○	○	○	○	○	○	○	○	○
Initiative	○	○	○	○	○	○	○	○	○	○
Maintaining a Positive Attitude	○	○	○	○	○	○	○	○	○	○
Management/Overseeing several tasks at once	○	○	○	○	○	○	○	○	○	○
Open-minded to new experiences or ideas	○	○	○	○	○	○	○	○	○	○
Organizational skills	○	○	○	○	○	○	○	○	○	○
Porssess a desire to see the business be successful	○	○	○	○	○	○	○	○	○	○
Porfessionalism	○	○	○	○	○	○	○	○	○	○
Setting Priortities	○	○	○	○	○	○	○	○	○	○
Working Well with Fellow Employees	○	○	○	○	○	○	○	○	○	○

Communication Skills Needed

	Preparedness Level					Importance Level				
	1=Unprepared	2=Somewhat Prepared	3=Prepared	4=Well Prepared	5=Thoroughly Prepared	1=Unimportant	2=Somewhat Important	3=Important	4=Very Important	5=Extremely Important
Ability to Speak a Second Language	○	○	○	○	○	○	○	○	○	○
Indulging/Responding to Others Comments during Conversation	○	○	○	○	○	○	○	○	○	○
Technical Writing	○	○	○	○	○	○	○	○	○	○
Understand and Follow Instructions	○	○	○	○	○	○	○	○	○	○

Computer Skills Needed

	Preparedness Level					Importance Level				
	1=Unprepared	2=Somewhat Prepared	3=Prepared	4=Well Prepared	5=Thoroughly Prepared	1=Unimportant	2=Somewhat Important	3=Important	4=Very Important	5=Extremely Important
Computerized Record Systems	○	○	○	○	○	○	○	○	○	○
Computer Control Systems	○	○	○	○	○	○	○	○	○	○
Spreadsheets/Word Processing	○	○	○	○	○	○	○	○	○	○

Technical Competencies:

	Preparedness Level					Importance Level				
	1=Unprepared	2=Somewhat Prepared	3=Prepared	4=Well Prepared	5=Thoroughly Prepared	1=Unimportant	2=Somewhat Important	3=Important	4=Very Important	5=Extremely Important
Animal Feeding/Nutrition	○	○	○	○	○	○	○	○	○	○
Animal Health	○	○	○	○	○	○	○	○	○	○
Animal Management/Animal Welfare	○	○	○	○	○	○	○	○	○	○
Business Comprehension	○	○	○	○	○	○	○	○	○	○
Feed Production/Processing/Management	○	○	○	○	○	○	○	○	○	○
Livestock Handling Procedures	○	○	○	○	○	○	○	○	○	○
Marketing Comprehension	○	○	○	○	○	○	○	○	○	○
Proper Safety Procedures	○	○	○	○	○	○	○	○	○	○
Record Keeping	○	○	○	○	○	○	○	○	○	○
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	○	○	○	○	○	○	○	○	○	○
Yard Maintenance/Welding	○	○	○	○	○	○	○	○	○	○

Section Two

Life Experiences of Potential Employees

Life Skills Needed

	Importance Level				
	1=Unimportant	2=Somewhat Important	3=Important	4=Very Important	5=Extremely Important
Career-related internships	○	○	○	○	○

	Importance Level				
	1=Unimportant	2=Somewhat Important	3=Important	4=Very Important	5=Extremely Important
Career-related employment	○	○	○	○	○
Farm and/or ranch experience	○	○	○	○	○
General work experience/manual labor	○	○	○	○	○
Native to local area	○	○	○	○	○
Service to community	○	○	○	○	○

Section Three

Trainings

Please rank in order of importance 1-8 Trainings needed for employees.

Specific Training Needed for Employees

- Animal Feeding/Nutrition

- Animal Health

- Animal Management/Animal Welfare

- Equipment/Facility Maintenance

- Human Behavioral Understanding

- Leadership/Management of People

- Livestock Handling Procedures

- Proper Safety Procedures

What skills are important to the success of your employees' job that have NOT been included in this survey?

What do you see as your biggest challenge in hiring new employees?

What would be the best advice you would give to a new employee?

What are the most important skills an employee should have in order for them to thrive in a leadership role in your organization?

If you are interested in a chance to win a $100 Gift Card, please use the following Key Word in the next link:

GOBUFFS

APPENDIX B:

DISSERTATION PANEL OF EXPERTS

Table 1		
Dissertation Panel of Experts *(n = 5)*		
Name	Role	Title
Dr. Angela Burkham	Member	State Program Leader, Texas A&M Agrilife Extension Service
Dr. Lance Kieth	Member	Professor of Agricultural Education Department Head - Department of Agriculture
Dr. Tanner Robertson	Member	Associate Professor of Agricultural Media and Communications
Dr. Mallory Vestal	Member	Associate Professor of Agricultural Business and Economics
Dr. Kevin Williams	Chair	Associate Professor of Agricultural Education

APPENDIX C:

INSTRUMENT PANEL OF EXPERTS

Table 2

Instrument Panel of Experts (n = 5)

Name	Title
Dr. Kevin Williams	Associate Professor of Agricultural Education
Dr. Tanner Robertson	Associate Professor of Agricultural Media and Comm.
Mr. Brady Miller	Market/Membership Manager - Texas Cattle Feeders Assoc.
Mr. Larry Hancock	Southwest Area Board of Directors - Dairy Farmers of Amer.
Mr. Corby Barrett	Housing Supervisor - Seaboard Swine

APPENDIX D:

INITIAL COVER LETTER TO EMPLOYERS

West Texas A&M University
Department of Agricultural Science

September 18, 2018

Dear Recipient,

  The Paul Engler College of Agriculture and Natural Sciences at West Texas A&M University is conducting a study on the employability skills needed to be successful in the Swine Industry. As a leader in your industry, your insight is highly valued. The purpose of this letter is to invite you to participate in this important study.

  We ask that the questionnaire be distributed to owners, general managers, assistant managers, and departmental managers throughout your enterprise. Please note that your participation in this study is completely voluntary; however, in order to assess the employability skills needed in the Swine Industry, I would appreciate your time in taking a few moments to complete this electronic questionnaire through the link below.

    Click Link below to take employability questionnaire:
    Employability Skills Questionnaire - Swine Industry

  Please complete the electronic questionnaire at your earliest convenience. Understand that your responses to this study will remain *completely* confidential. The findings from this study will be used to develop and enhance curriculum that is currently being taught at West Texas A&M University in an effort to better prepare tomorrow's graduates for employment. After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

    Click Link below to enter a chance to win a $100 Gift Card:
    Gift Card Drawing - Swine Industry

  Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565. You may also contact Dr. Kevin Williams, Committee Chair, at kwilliams@wtamu.edu. Additional questions may be addressed to Dr. Angela Spaulding, aspaulding@wtamu.edu, Vice President for Research and Compliance and Dean of graduate studies.

  Thank you in advance for your assistance and participation in this much-needed study. With your help, we can continue to graduate the best of the best!

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

WTAMU Box 60998 • Canyon, Texas 79016-0001 • 806-651-2550 • Fax 806-651-2938 • e-mail: nwolf@wtamu.edu

West Texas A&M University
Department of Agricultural Science

September 18, 2018

Dear Recipient,

The Paul Engler College of Agriculture and Natural Sciences at West Texas A&M University is conducting a study on the employability skills needed to be successful in the Dairy Industry. As a leader in your industry, your insight is highly valued. The purpose of this letter is to invite you to participate in this important study.

We ask that the questionnaire be distributed/forwarded to **owners**, **general managers**, **assistant managers**, and **departmental managers** throughout your enterprise. Please note that your participation in this study is completely voluntary; however, in order to assess the employability skills needed in the Dairy Industry, I would appreciate your time in taking a few moments to complete this electronic questionnaire through the link below.

Click Link below to take employability questionnaire:
Employability Skills Questionnaire - Dairy Industry

Please understand that your responses to this study will remain *completely* confidential. The findings from this study will be used to develop and enhance curriculum that is currently being taught at West Texas A&M University in an effort to better prepare tomorrow's graduates for employment. After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

Click Link below to enter a chance to win a $100 Gift Card:
Gift Card Drawing - Dairy Industry

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565. You may also contact Dr. Kevin Williams, Committee Chair, at kwilliams@wtamu.edu. Additional questions may be addressed to Dr. Angela Spaulding, aspaulding@wtamu.edu, Vice President for Research and Compliance and Dean of graduate studies.

Thank you in advance for your assistance and participation in this much-needed study. With your help, we can continue to graduate the best of the best!

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

September 18, 2018

Dear Recipient,

The Paul Engler College of Agriculture and Natural Sciences at West Texas A&M University is conducting a study on the employability skills needed to be successful in the Dairy Industry. As a leader in your industry, your insight is highly valued. The purpose of this letter is to invite you to participate in this important study.

We ask that the questionnaire be distributed/forwarded to **owners**, **general managers**, **assistant managers**, and **departmental managers** throughout your enterprise. Please note that your participation in this study is completely voluntary; however, in order to assess the employability skills needed in the Dairy Industry, I would appreciate your time in taking a few moments to complete this electronic questionnaire through the link below.

Click Link below to take employability questionnaire:
https://wtamuuw.az1.qualtrics.com/jfe/form/SV_39sP3ZBheRscC9L

Please understand that your responses to this study will remain *completely* confidential. The findings from this study will be used to develop and enhance curriculum that is currently being taught at West Texas A&M University in an effort to better prepare tomorrow's graduates for employment. After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

Click Link below to enter a chance to win a $100 Gift Card:
https://wtamuuw.az1.qualtrics.com/jfe/form/SV_0Swvzcd8iQiE4fz

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565. You may also contact Dr. Kevin Williams, Committee Chair, at kwilliams@wtamu.edu. Additional questions may be addressed to Dr. Angela Spaulding, aspaulding@wtamu.edu, Vice President for Research and Compliance and Dean of graduate studies.

Thank you in advance for your assistance and participation in this much-needed study. With your help, we can continue to graduate the best of the best!

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

WTAMU Box 60998 • Canyon, Texas 79016-0001 • 806-651-2550 • Fax 806-651-2938 • e-mail: nwolf@wtamu.edu

West Texas A&M University

Department of Agricultural Science

September 18, 2018

Dear Recipient,

The Paul Engler College of Agriculture and Natural Sciences at West Texas A&M University is conducting a study on the employability skills needed to be successful in the Fed Beef Industry. As a leader in your industry, your insight is highly valued. The purpose of this letter is to invite you to participate in this important study.

We ask that the questionnaire be distributed to owners, general managers, assistant managers, and departmental managers throughout your enterprise. Please note that your participation in this study is completely voluntary; however, in order to assess the employability skills needed in the Fed Beef Industry, I would appreciate your time in taking a few moments to complete this electronic questionnaire through the link below.

Click Link below to take employability questionnaire:
Employability Skills Questionnaire - Fed Beef Industry

Please complete the electronic questionnaire by **October 3, 2018**. Understand that your responses to this study will remain *completely* confidential. The findings from this study will be used to develop and enhance curriculum that is currently being taught at West Texas A&M University in an effort to better prepare tomorrow's graduates for employment. After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

Click Link below to enter a chance to win a $100 Gift Card:
Gift Card Drawing - Fed Beef Industry

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565. You may also contact Dr. Kevin Williams, Committee Chair, at kwilliams@wtamu.edu. Additional questions may be addressed to Dr. Angela Spaulding, aspaulding@wtamu.edu, Vice President for Research and Compliance and Dean of graduate studies.

Thank you in advance for your assistance and participation in this much-needed study. With your help, we can continue to graduate the best of the best!

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

APPENDIX E:

1ST FOLLOW-UP COVER LETTER TO EMPLOYERS

West Texas A&M University
Department of Agricultural Science

September 26, 2018

Dear Recipient,

Approximately one week ago, you were mailed a questionnaire from West Texas A&M University concerning the employability skills needed to be successful in the Swine Industry. As of today, we have only received minimal responses. Please take a few moments to complete the questionnaire. Please take a few moments to complete the questionnaire. Your responses are very important in effort to prepare our students. As a reminder, we ask that the questionnaire be distributed to **owners**, **general managers**, **assistant managers**, and **departmental managers** throughout your enterprise.

Click Link below to take employability questionnaire:
Employability Skills Questionnaire - Swine Industry

Please complete the electronic questionnaire. After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

Click Link below to enter a chance to win a $100 Gift Card:
Gift Card Drawing - Swine Industry

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

WTAMU Box 60998 • Canyon, Texas 79016-0001 • 806-651-2550 • Fax 806-651-2938 • e-mail: nwolf@wtamu.edu

161

West Texas A&M University
Department of Agricultural Science

September 26, 2018

Dear Recipient,

Approximately last week, you were mailed a questionnaire from West Texas A&M University concerning the employability skills needed to be successful in the Dairy Industry. As of today, we have only received minimal responses. Please take a few moments to complete the questionnaire. Your responses are very important in effort to prepare our students. As a reminder, we ask that the questionnaire be distributed to **owners**, **general managers**, **assistant managers**, and **departmental managers** throughout your enterprise.

> Click Link below to take employability questionnaire:
> Employability Skills Questionnaire - Dairy Industry

Please complete the electronic questionnaire. After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

> Click Link below to enter a chance to win a $100 Gift Card:
> Gift Card Drawing - Dairy Industry

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

September 26, 2018

Dear Recipient,

　　Approximately one week ago, you were mailed a questionnaire from West Texas A&M University concerning the employability skills needed to be successful in the Dairy Industry. As of today, we have only received minimal responses. Please take a few moments to complete the questionnaire and return, or you may type the attached link into your URL and complete the questionnaire electronically. Your responses are very important in effort to prepare our students. As a reminder, we ask that the questionnaire be distributed to **owners**, **general managers**, **assistant managers**, and **departmental managers** throughout your enterprise.

　　<u>Click Link below to take employability questionnaire</u>:
https://wtamuuw.az1.qualtrics.com/jfe/form/SV_39sP3ZBheRscC9L

　　Please complete the electronic questionnaire. After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

　　<u>Click Link below to enter a chance to win a $100 Gift Card</u>:
https://wtamuuw.az1.qualtrics.com/jfe/form/SV_0Swvzcd8iQiE4fz

　　Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the BUFF in You.

West Texas A&M University
Department of Agricultural Science

September 26, 2018

Dear Recipient,

Approximately one week ago, you were mailed a questionnaire from West Texas A&M University concerning the employability skills needed to be successful in the Fed Beef Industry. As of today, we have only received minimal responses. Please take a few moments to complete the questionnaire. Please take a few moments to complete the questionnaire. Your responses are very important in effort to prepare our students. As a reminder, we ask that the questionnaire be distributed to **owners**, **general managers**, **assistant managers**, and **departmental managers** throughout your enterprise.

Click Link below to take employability questionnaire:
Employability Skills Questionnaire - Fed Beef Industry

Please complete the electronic questionnaire. After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

Click Link below to enter a chance to win a $100 Gift Card:
Gift Card Drawing - Fed Beef Industry

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

APPENDIX F:

2ND FOLLOW-UP COVER LETTER TO EMPLOYERS

West Texas A&M University
Department of Agricultural Science

October 3, 2018

Good Afternoon Recipient,

Thank you to those that have kindly responded to the questionnaire! If you have responded, please disregard the following.

If you have not responded, I respectfully ask if you could respond to the questionnaire concerning employability skills needed to be successful in the Swine Industry. At this time, we have only received <u>minimal</u> responses. As a reminder, we ask that the questionnaire be distributed to the **Owners, General Managers, Assistant Managers,** and **Departmental Managers** throughout your enterprise.

<u>Click Link below to take employability questionnaire</u>:
<u>Employability Skills Questionnaire - Swine Industry</u>

After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

<u>Click Link below to enter a chance to win a $100 Gift Card</u>:
<u>Gift Card Drawing - Swine Industry</u>

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

West Texas A&M University
Department of Agricultural Science

October 3, 2018

Dear Recipient,

Thank you to those that have kindly responded to the questionnaire! If you have responded, please disregard the following message.

If you have **not** responded, I kindly ask if you could respond to the questionnaire concerning employability skills needed to be successful in the Dairy Industry by **November 11**. As of this time, we have only received <u>minimal</u> responses. As a reminder, we ask that the questionnaire be distributed to the **Owners, General Managers, Assistant Managers, and Departmental Managers** throughout your enterprise.

<u>Click Link below to take employability questionnaire</u>:
<u>Employability Skills Questionnaire - Dairy Industry</u>

After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

<u>Click Link below to enter a chance to win a $100 Gift Card</u>:
<u>Gift Card Drawing - Dairy Industry</u>

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the BUFF in You.

West Texas A&M University
Department of Agricultural Science

October 3, 2018

Good Afternoon Recipient,

Thank you to those that have kindly responded to the questionnaire! If you have responded, please disregard the following.

If you have not responded, I respectfully ask if you could respond to the questionnaire concerning employability skills needed to be successful in the Dairy Industry. As of this time, we have only received <u>minimal</u> responses. As a reminder, we ask that the questionnaire be distributed to the **Owners, General Managers, Assistant Managers,** and **Departmental Managers** throughout your enterprise.

<u>Click Link below to take employability questionnaire</u>:
https://wtamuuw.az1.qualtrics.com/jfe/form/SV_39sP3ZBheRscC9L

After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

<u>Click Link below to enter a chance to win a $100 Gift Card</u>:
https://wtamuuw.az1.qualtrics.com/jfe/form/SV_0Swvzcd8iQiE4fz

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

West Texas A&M University
Department of Agricultural Science

October 3, 2018

Good Afternoon Recipient,

 Thank you to those that have kindly responded to the questionnaire! If you have responded, please disregard the following.

 If you have not responded, I respectfully ask if you could respond to the questionnaire concerning employability skills needed to be successful in the Fed Beef Industry. As of this time, we have only received <u>minimal</u> responses. As a reminder, we ask that the questionnaire be distributed to the **Owners, General Managers, Assistant Managers**, and **Departmental Managers** throughout your enterprise.

 <u>Click Link below to take employability questionnaire</u>:
<u>Employability Skills Questionnaire - Fed Beef Industry</u>

 After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

 <u>Click Link below to enter a chance to win a $100 Gift Card</u>:
<u>Gift Card Drawing - Fed Beef Industry</u>

 Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

WTAMU Box 60998 • Canyon, Texas 79016-0001 • 806-651-2550 • Fax 806-651-2938 • e-mail: nwolf@wtamu.edu

169

APPENDIX G:

FINAL FOLLOW-UP COVER LETTER TO EMPLOYERS

West Texas A&M University
Department of Agricultural Science

October 16, 2018

Dear Recipient,

Thank you to those that have kindly responded to the questionnaire! If you have responded, please disregard the following.

If you have not responded, I respectfully ask if you could respond to the questionnaire concerning employability skills needed to be successful in the Swine Industry. At this time, we have only received <u>minimal</u> responses. As a reminder, we ask that the questionnaire be distributed to **ALL Owners**, **General Managers**, **Assistant Managers**, and **Departmental Managers** throughout your <u>entire</u> enterprise.

<u>Click Link below to take employability questionnaire</u>:
<u>Employability Skills Questionnaire - Swine Industry</u>

After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

<u>Click Link below to enter a chance to win a $100 Gift Card</u>:
<u>Gift Card Drawing - Swine Industry</u>

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the BUFF in You.

West Texas A&M University
Department of Agricultural Science

October 16, 2018

Dear Recipient,

     Thank you to those that have kindly responded to the questionnaire! If you have responded, please disregard the following.

     If you have not responded, I respectfully ask if you could respond to the questionnaire concerning employability skills needed to be successful in the Dairy Industry. As of this time, we have only received <u>minimal</u> responses. As a reminder, we ask that the questionnaire be distributed to **ALL Owners**, **General Managers**, **Assistant Managers**, and **Departmental Managers** throughout your <u>entire</u> enterprise.

     <u>Click Link below to take employability questionnaire</u>:
     <u>Employability Skills Questionnaire - Dairy Industry</u>

     After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

     <u>Click Link below to enter a chance to win a $100 Gift Card</u>:
     <u>Gift Card Drawing - Dairy Industry</u>

     Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

October 16, 2018

Dear Recipient,

Thank you to those that have kindly responded to the questionnaire! If you have responded, please disregard the following.

If you have not responded, I respectfully ask if you could respond to the questionnaire concerning employability skills needed to be successful in the Dairy Industry. As of this time, we have only received <u>minimal</u> responses. As a reminder, we ask that the questionnaire be distributed to **ALL Owners**, **General Managers**, **Assistant Managers**, and **Departmental Managers** throughout your <u>entire</u> enterprise.

<u>Click Link below to take employability questionnaire</u>:
https://wtamuuw.az1.qualtrics.com/jfe/form/SV_39sP3ZBheRscC9L

After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

<u>Click Link below to enter a chance to win a $100 Gift Card</u>:
https://wtamuuw.az1.qualtrics.com/jfe/form/SV_0Swvzcd8iQiE4fz

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

October 16, 2018

Dear Recipient,

Thank you to those that have kindly responded to the questionnaire! If you have responded, please disregard the following.

If you have not responded, I respectfully ask if you could respond to the questionnaire concerning employability skills needed to be successful in the Fed Beef Industry. As of this time, we have only received <u>minimal</u> responses. As a reminder, we ask that the questionnaire be distributed to **ALL Owners**, **General Managers**, **Assistant Managers**, and **Departmental Managers** throughout your <u>entire</u> enterprise.

<u>Click Link below to take employability questionnaire</u>:
<u>Employability Skills Questionnaire - Fed Beef Industry</u>

After taking the survey above, we would like to offer a chance to win a $100 gift card. To do so, please use the link below.

<u>Click Link below to enter a chance to win a $100 Gift Card</u>:
<u>Gift Card Drawing - Fed Beef Industry</u>

Should you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at nwolf@wtamu.edu or by phone (806) 654-5565.

Respectfully,

Nate Wolf, M.Ed.
Instructor - Agricultural Education and Leadership,
Department of Agricultural Sciences
Paul Engler College of Agriculture and Natural Sciences

Discover the **BUFF** in You.

APPENDIX H:

LIST OF TABLES

Table 1

Respondents by Position Placement

Position Placement	Swine		Dairy		Fed-Beef	
	f	%	f	%	f	%
Corporate	1	3.33	0	0.00	4	11.76
General Manager	11	36.67	14	77.78	22	64.71
Assistant General Manager	0	0.00	1	5.56	2	5.88
Department Manager	18	60.00	3	16.67	6	17.65
Total	30	100	18	100	34	100

Table 2

Respondents by Number of People Supervised

Number of People Supervised	Swine		Dairy		Fed-Beef	
	f	%	f	%	f	%
1-5	3	10.00	2	11.11	3	8.82
6-10	8	26.67	2	11.11	6	17.65
11-15	5	16.67	0	0.00	3	8.82
16-20	1	3.33	1	5.56	0	0.00
21-25	0	0.00	1	5.56	3	8.82
26-50	1	3.33	7	38.89	11	32.35
51-100	3	10.00	4	22.22	5	14.71
101-150	2	6.67	1	5.56	1	2.94
151-200	1	3.33	0	0.00	2	5.88
201-300	4	13.33	0	0.00	0	0.00
301-400	0	0.00	0	0.00	0	0.00
400+	2	6.67	0	0.00	0	0.00
Total	30	100	18	100	34	100

Table 3

Formal Education of Employees Supervised

Type of Formal Education	Swine		Dairy		Fed-Beef	
	f	%	f	%	f	%
No Formal Education	7	13.73	10	33.33	6	10.53
High School	16	31.37	11	36.67	26	45.61
Some Technical Training / Education after High School	7	13.73	5	16.67	7	12.28
Some College	8	15.69	4	13.33	7	12.28
Associate Degree	5	9.80	0	0.00	3	5.26
Bachelor Degree	8	15.69	0	0.00	6	10.53
Master Degree	0	0.00	0	0.00	1	1.75
Doctoral Degree	0	0.00	0	0.00	1	1.75
Total	51	100	30	100	57	100

Table 4

Employer Mean Values of Perceived Preparedness of Interpersonal Skills in the Swine Industry (n=30)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Honesty/Integrity	1	3.27	0.96
Working Well with Fellow Employees	2	3.07	0.96
Maintaining a Positive Attitude	3	2.97	0.84
Dependability/Dedication to the Job	4	2.93	1.08
Open-minded to new experiences or ideas	5	2.67	0.83
Ability to Work Independently	6	2.63	1.08
Professionalism	7	2.60	1.08
Possess a desire to see the business be successful	8	2.53	1.20
Initiative	9	2.47	1.06
Management/Overseeing several tasks at once	10	2.40	1.20
Organizational skills	11	2.37	0.80
Decision Making/Problem Solving	12	2.30	1.00
Setting Priorities	13	2.27	1.00

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 5

Employer Mean Values of Perceived Preparedness of Interpersonal Skills in the Dairy Industry (n=18)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Maintaining a Positive Attitude	1	3.17	0.90
Honesty/Integrity	2	3.06	0.97
Working Well with Fellow Employees	3	2.72	0.93
Open-minded to new experiences or ideas	4	2.61	0.83
Possess a desire to see the business be successful	5	2.50	1.12
Dependability/Dedication to the Job	6	2.44	1.26
Initiative	7	2.39	1.06
Setting Priorities	8	2.33	1.00
Ability to Work Independently	9	2.28	0.99
Professionalism	10	2.28	0.93
Organizational skills	11	2.06	0.87
Management/Overseeing several tasks at once	12	2.00	0.88
Decision Making/Problem Solving	13	1.78	0.92

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 6

Employer Mean Values of Perceived Preparedness of Interpersonal Skills in the Fed-Beef
Industry (n=34)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Honesty/Integrity	1	3.37	1.02
Working Well with Fellow Employees	2	3.23	0.96
Open-minded to new experiences or ideas	3	3.14	1.10
Dependability/Dedication to the Job	4	2.97	1.18
Initiative	5	2.94	1.01
Maintaining a Positive Attitude	6	2.91	0.84
Possess a desire to see the business be successful	7	2.83	1.25
Professionalism	8	2.74	1.02
Ability to Work Independently	9	2.63	0.90
Management/Overseeing several tasks at once	10	2.57	1.18
Organizational skills	11	2.53	0.98
Setting Priorities	12	2.49	1.05
Decision Making/Problem Solving	13	2.40	1.05

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 7

Employer Mean Values of Perceived Preparedness of Communication Skills in the Swine
Industry (n=30)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	2.72	0.94
Indulging/Responding to Others Comments during Conversation	2	2.55	0.67
Technical Writing	3	2.21	0.85
Ability to Speak a Second Language	4	1.80	0.83

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 8

Employer Mean Values of Perceived Preparedness of Communication Skills in the Dairy Industry (n=18)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	2.83	0.83
Indulging/Responding to Others Comments during Conversation	2	2.33	0.88
Ability to Speak a Second Language	3	1.89	0.87
Technical Writing	4	1.59	0.69

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 9

Employer Mean Values of Perceived Preparedness of Communication Skills in the Fed-Beef Industry (n=34)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	2.91	0.97
Indulging/Responding to Others Comments during Conversation	2	2.62	0.84
Ability to Speak a Second Language	3	2.09	0.97
Technical Writing	4	1.91	1.05

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 10

Employer Mean Values of Perceived Preparedness of Computer Skills in the Swine Industry (n=30)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	2.13	0.72
Computer Control Systems	2	1.93	0.74
Spreadsheets/Word Processing	3	1.93	0.81

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 11

Employer Mean Values of Perceived Preparedness of Computer Skills in the Dairy Industry
(n=18)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	1.82	0.98
Computer Control Systems	2	1.65	0.90
Spreadsheets/Word Processing	3	1.53	0.92

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 12

Employer Mean Values of Perceived Preparedness of Computer Skills in the Fed-Beef Industry
(n=34)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	2.63	1.02
Computer Control Systems	2	2.57	0.99
Spreadsheets/Word Processing	3	2.49	1.18

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 13

Employer Mean Values of Perceived Preparedness of Technical Skills in the Swine Industry
(n=30)

Technical Skills Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	2.70	1.24
Livestock Handling Procedures	2	2.63	1.22
Proper Safety Procedures	3	2.57	1.15
Record Keeping	4	2.43	0.84
Animal Health	5	2.40	1.23
Animal Feeding/Nutrition	6	2.30	1.24
Business Comprehension	7	2.00	1.03
Feed Production/Processing/Management	8	1.80	0.98
Marketing Comprehension	9	1.70	0.94
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	10	1.70	0.94
Yard Maintenance/Welding	11	1.57	0.84

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 14

Employer Mean Values of Perceived Preparedness of Technical Skills in the Dairy Industry (n=30)

Technical Skills Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	2.56	1.17
Proper Safety Procedures	2	2.44	1.12
Livestock Handling Procedures	3	2.33	1.15
Animal Health	4	2.28	0.93
Record Keeping	5	2.22	0.97
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	6	2.22	0.79
Yard Maintenance/Welding	7	2.06	0.62
Animal Feeding/Nutrition	8	1.72	0.73
Feed Production/Processing/Management	9	1.61	0.76
Business Comprehension	10	1.39	0.59
Marketing Comprehension	11	1.39	0.59

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 15

Employer Mean Values of Perceived Preparedness of Technical Skills in the Fed-Beef Industry (n=30)

Technical Skills Needed	Rank	Mean	Standard Deviation
Proper Safety Procedures	1	2.71	0.99
Animal Management/Animal Welfare	2	2.68	1.08
Livestock Handling Procedures	3	2.62	0.97
Animal Health	4	2.53	1.01
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	5	2.50	0.92
Yard Maintenance/Welding	6	2.47	0.95
Record Keeping	7	2.43	0.96
Animal Feeding/Nutrition Feed	8	2.35	1.00
Production/Processing/Management	9	2.35	1.16
Business Comprehension	10	2.15	0.91
Marketing Comprehension	11	2.00	0.97

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).

Table 16

Employer Mean Values of Importance of Interpersonal Skills in the Swine Industry (n=30)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Dependability/Dedication to the Job	1	4.63	0.55
Maintaining a Positive Attitude	2	4.38	0.67
Setting Priorities	3	4.33	0.65
Open-Minded to New Experiences or Ideas	4	4.21	0.67
Decision Making/Problem Solving	5	4.17	0.73
Working Well with Fellow Employees	6	4.10	0.91
Management/Overseeing several tasks at once	7	3.97	0.71
Ability to Work Independently	8	3.90	0.80
Possess a desire to see the business be successful	9	3.87	0.81
Organizational skills	10	3.83	0.78
Honesty/Integrity	11	3.80	0.87
Initiative	12	3.80	0.79
Professionalism	13	3.57	0.84

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 17

Employer Mean Values of Importance of Interpersonal Skills in the Dairy Industry (n=18)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Honesty/Integrity	1	4.83	0.37
Dependability/Dedication to the Job	2	4.50	0.69
Working Well with Fellow Employees	3	4.33	0.94
Initiative	4	4.22	0.92
Possess a desire to see the business be successful	5	4.22	1.13
Maintaining a Positive Attitude	6	4.17	0.93
Management/Overseeing several tasks at once	7	3.67	1.29
Organizational skills	8	3.67	1.00
Setting Priorities	9	3.67	1.05
Decision Making/Problem Solving	10	3.61	1.06
Open-minded to New Experiences or Ideas	11	3.56	0.90
Professionalism	12	3.56	1.01
Ability to Work Independently	13	3.33	0.94

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 18

Employer Mean Values of Importance of Interpersonal Skills in the Fed-Beef Industry (n=34)

Interpersonal Skills Needed	Rank	Mean	Standard Deviation
Honesty/Integrity	1	4.82	0.38
Dependability/Dedication to the Job	2	4.38	0.79
Working Well with Fellow Employees	3	4.34	0.86
Initiative	4	4.11	0.71
Possess a desire to see the business be successful	5	4.03	0.84
Ability to Work Independently	6	3.89	0.78
Maintaining a Positive Attitude	7	3.89	0.85
Decision Making/Problem Solving	8	3.80	0.82
Setting Priorities	9	3.74	0.91
Organizational skills	10	3.66	0.86
Management/Overseeing several tasks at once	11	3.50	0.87
Open-minded to New Experiences or Ideas	12	3.49	0.94
Professionalism	13	3.46	1.10

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 19

Employer Mean Values of Importance of Communication Skills in the Swine Industry (n=30)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	4.48	0.56
Indulging/Responding to Others Comments during Conversation	2	3.45	0.56
Technical Writing	3	3.03	1.00
Ability to Speak a Second Language	4	2.93	1.12

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 20

Employer Mean Values of Importance of Communication Skills in the Dairy Industry (n=18)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	4.50	0.60
Ability to Speak a Second Language	2	3.44	1.21
Indulging/Responding to Others Comments during Conversation	3	3.39	1.16
Technical Writing	4	2.59	1.37

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 21

Employer Mean Values of Importance of Communication Skills in the Fed-Beef Industry (n=34)

Communication Skills Needed	Rank	Mean	Standard Deviation
Understand and Follow Instructions	1	4.26	0.77
Indulging/Responding to Others Comments during Conversation	2	3.50	0.92
Ability to Speak a Second Language	3	3.03	1.03
Technical Writing	4	2.54	0.97

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 22

Employer Mean Values of Importance of Computer Skills in the Swine Industry (n=30)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	3.17	1.07
Computer Control Systems	2	3.17	1.18
Spreadsheets/Word Processing	3	3.00	1.05

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 23

Employer Mean Values of Importance of Computer Skills in the Dairy Industry (n=18)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	3.00	1.24
Computer Control Systems	2	2.82	1.29
Spreadsheets/Word Processing	3	2.12	1.08

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 24

Employer Mean Values of Importance of Computer Skills in the Fed-Beef Industry (n=34)

Computer Skills Needed	Rank	Mean	Standard Deviation
Computerized Record Systems	1	3.40	1.05
Computer Control Systems	2	3.40	0.93
Spreadsheets/Word Processing	3	3.11	1.06

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 25

Employer Mean Values of Importance of Technical Skills in the Swine Industry (n=30)

Technical Skills Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	4.57	0.76
Proper Safety Procedures	2	4.37	1.02
Livestock Handling Procedures	3	4.33	0.79
Animal Health	4	4.20	0.91
Record Keeping	5	3.93	0.94
Animal Feeding/Nutrition	6	3.83	1.24
Business Comprehension	7	3.13	1.06
Feed Production/Processing/Management	8	2.90	1.25
Marketing Comprehension	9	2.67	1.16
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	10	2.21	1.16
Yard Maintenance/Welding	11	2.17	1.19

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 26

Employer Mean Values of Importance of Technical Skills in the Dairy Industry (n=18)

Technical Skills Needed	Rank	Mean	Standard Deviation
Livestock Handling Procedures	1	4.50	0.83
Proper Safety Procedures	2	4.44	0.76
Animal Management/Animal Welfare	3	4.39	0.68
Animal Health	4	4.11	0.87
Record Keeping	5	3.67	1.25
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	6	3.61	0.95
Animal Feeding/Nutrition	7	3.39	1.11
Feed Production/Processing/Management	8	3.00	1.11
Yard Maintenance/Welding	9	3.00	1.20
Business Comprehension	10	2.67	1.15
Marketing Comprehension	11	1.94	1.13

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 27

Employer Mean Values of Importance of Technical Skills in the Fed-Beef Industry (n=35)

Technical Skills Needed	Rank	Mean	Standard Deviation
Proper Safety Procedures	1	4.24	0.94
Animal Management/Animal Welfare	2	4.15	0.97
Livestock Handling Procedures	3	4.09	0.92
Animal Health	4	3.79	1.09
Record Keeping	5	3.77	1.04
Feed Production/Processing/Management	6	3.65	1.13
Animal Feeding/Nutrition	7	3.53	1.01
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	8	3.44	1.14
Yard Maintenance/Welding	9	3.26	1.12
Business Comprehension	10	3.15	1.09
Marketing Comprehension	11	2.71	1.23

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 28

Overall Mean Weighted Discrepancy Scores for Interpersonal Skills in the Swine Industry (n=30)

Interpersonal Skills Needed	Rank	Preparedness		Importance		MWDS
		M	SD	M	SD	
Setting Priorities	1	2.27	1.00	4.17	0.73	7.92
Decision Making/Problem Solving	2	2.30	1.00	4.10	0.91	7.38
Initiative	3	2.47	1.06	4.21	0.67	7.36
Dependability/Dedication to the Job	4	2.93	1.08	4.38	0.67	6.34
Honesty/Integrity	5	3.27	0.96	4.63	0.55	6.33
Possess a Desire to see the Business be Successful	6	2.53	1.20	3.97	0.71	5.69
Working Well with Fellow Employees	7	3.07	0.96	4.33	0.65	5.49
Organizational skills	8	2.37	0.80	3.80	0.79	5.45
Professionalism	9	2.60	1.08	3.83	0.78	4.73
Open-minded to new experiences or ideas	10	2.67	0.83	3.87	0.81	4.64
Ability to Work Independently	11	2.63	1.08	3.80	0.87	4.43
Management/Overseeing several tasks at once	12	2.40	1.20	3.57	0.84	4.16
Maintaining a Positive Attitude	13	2.97	0.84	3.90	0.80	3.62

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 29

Overall Mean Weighted Discrepancy Scores for Interpersonal Skills in the Dairy Industry (n=18)

| Interpersonal Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Dependability/Dedication to the Job	1	2.44	1.26	4.50	0.69	9.25
Honesty/Integrity	2	3.06	0.97	4.83	0.37	8.59
Initiative	3	2.39	1.06	4.22	0.92	7.74
Possess a Desire to see the Business be Successful	4	2.50	1.12	4.22	1.13	7.27
Working Well with Fellow Employees	5	2.72	0.93	4.33	0.94	6.98
Decision Making/Problem Solving	6	1.78	0.92	3.61	1.06	6.62
Management/Overseeing several tasks at once	7	2.00	0.88	3.67	1.29	6.11
Organizational skills	8	2.06	0.87	3.67	1.00	5.90
Setting Priorities	9	2.33	1.00	3.67	1.05	4.89
Professionalism	10	2.28	0.93	3.56	1.01	4.54
Maintaining a Positive Attitude	11	3.17	0.90	4.17	0.83	4.17
Ability to Work Independently	12	2.28	0.99	3.33	0.94	3.52
Open-minded to new experiences or Ideas	13	2.61	0.83	3.56	0.90	3.36

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 30

Overall Mean Weighted Discrepancy Scores for Interpersonal Skills in the Fed-Beef Industry (n=34)

| Interpersonal Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Honesty/Integrity	1	3.37	1.02	4.82	0.38	7.00
Dependability/Dedication to the Job	2	2.97	1.18	4.38	0.80	6.19
Decision Making/Problem Solving	3	2.40	1.05	3.80	0.82	5.32
Ability to Work Independently	4	2.63	0.90	3.89	0.78	4.88
Possess a Desire to see the Business be Successful	5	2.83	1.25	4.03	0.86	4.84
Working Well with Fellow Employees	6	3.23	0.96	4.34	0.86	4.84
Initiative	7	2.94	1.01	4.11	0.71	4.82
Setting Priorities	8	2.49	1.05	3.74	0.91	4.71
Organizational skills	9	2.53	0.98	3.66	0.86	4.12
Maintaining a Positive Attitude	10	2.91	0.84	3.89	0.85	3.77
Management/Overseeing several tasks at once	11	2.57	1.18	3.50	0.88	3.25
Professionalism	12	2.74	1.02	3.46	1.10	2.47
Open-minded to new experiences or Ideas	13	3.14	1.10	3.49	0.94	1.20

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 31

Overall Mean Weighted Discrepancy Scores for Communication Skills in the Swine Industry (n=30)

Communication Skills Needed	Rank	Preparedness		Importance		MWDS
		M	*SD*	*M*	*SD*	
Understand and Follow Instructions	1	2.72	0.94	4.48	0.56	7.88
Ability to Speak a Second Language	2	1.80	0.83	2.93	1.12	4.21
Indulging/Responding to Others Comments during Conversation	3	2.55	0.67	3.45	0.56	3.09
Technical Writing	4	2.21	0.85	3.03	1.00	2.51

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 32

Overall Mean Weighted Discrepancy Scores for Communication Skills in the Dairy Industry (n=18)

Communication Skills Needed	Rank	Preparedness		Importance		MWDS
		M	*SD*	*M*	*SD*	
Understand and Follow Instructions	1	2.83	0.83	4.50	0.60	7.50
Ability to Speak a Second Language	2	1.89	0.87	3.44	1.21	5.07
Indulging/Responding to Others Comments during Conversation	3	2.33	0.88	3.39	1.16	3.58
Technical Writing	4	1.59	0.69	2.59	1.37	2.59

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 33

Overall Mean Weighted Discrepancy Scores for Communication Skills in the Fed-Beef Industry (n=34)

| Communication Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Understand and Follow Instructions	1	2.91	0.97	4.26	0.77	5.72
Indulging/Responding to Others Comments during Conversation	2	2.62	0.84	3.50	0.92	3.09
Ability to Speak a Second Language	3	2.09	0.97	3.03	1.03	2.86
Technical Writing	4	1.91	1.05	2.54	0.97	1.60

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 34

Overall Mean Weighted Discrepancy Scores for Computer Skills in the Swine Industry (n=30)

| Computer Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Computer Control Systems	1	1.93	0.74	3.17	1.18	3.94
Computerized Record Systems	2	2.13	0.72	3.17	1.07	3.27
Spreadsheets/Word Processing	3	1.93	0.81	3.00	1.05	3.20

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 35

Overall Mean Weighted Discrepancy Scores for Computer Skills in the Dairy Industry (n=18)

| Computer Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Computerized Record Systems	1	1.82	0.98	3.00	1.24	3.53
Computer Control Systems	2	1.65	0.90	2.82	1.29	3.32
Spreadsheets/Word Processing	3	1.53	0.92	2.12	1.08	1.25

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 36

Overall Mean Weighted Discrepancy Scores for Computer Skills in the Fed-Beef Industry (n=34)

| Computer Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Computer Control Systems	1	2.57	0.99	3.40	0.93	2.82
Computerized Record Systems	2	2.63	1.02	3.40	1.05	2.62
Spreadsheets/Word Processing	3	2.49	1.18	3.11	1.06	1.96

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 37

Overall Mean Weighted Discrepancy Scores for Technical Skills in the Swine Industry (n=30)

Technical Skills Needed	Rank	Preparedness		Importance		MWDS
		M	*SD*	*M*	*SD*	
Animal Management/Animal Welfare	1	2.70	1.24	4.57	0.76	8.52
Proper Safety Procedures	2	2.57	1.15	4.37	1.02	7.86
Animal Health	3	2.40	1.23	4.20	0.91	7.56
Livestock Handling Procedures	4	2.63	1.22	4.33	0.79	7.37
Record Keeping	5	2.43	0.84	3.93	0.94	5.89
Animal Feeding/Nutrition	6	2.30	1.24	3.83	1.24	5.88
Business Comprehension	7	2.00	1.03	3.13	1.06	3.55
Feed Production/ Processing/Management	8	1.80	0.98	2.90	1.25	3.19
Marketing Comprehension	9	1.70	0.94	2.67	1.16	2.58
Yard Maintenance/Welding	10	1.57	0.84	2.17	1.19	1.30
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	11	1.70	0.94	2.21	1.16	1.12

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0). Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 38

Overall Mean Weighted Discrepancy Scores for Technical Skills in the Dairy Industry (n=18)

Technical Skills Needed	Rank	Preparedness		Importance		MWDS
		M	*SD*	*M*	*SD*	
Livestock Handling Procedures	1	2.33	1.15	4.5	0.83	9.75
Proper Safety Procedures	2	2.44	1.12	4.44	0.76	8.89
Animal Management/Animal Welfare	3	2.56	1.17	4.39	0.68	8.05
Animal Health	4	2.28	0.93	4.11	0.87	7.54
Animal Feeding/Nutrition	5	1.72	0.73	3.39	1.11	5.65
Record Keeping	6	2.22	0.97	3.67	1.25	5.30
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	7	2.22	0.79	3.61	0.95	5.02
Feed Production/ Processing/Management	8	1.61	0.76	3.00	1.11	4.17
Business Comprehension	9	1.39	0.59	2.67	1.15	3.41
Yard Maintenance/Welding	10	2.06	0.62	3.00	1.20	2.83
Marketing Comprehension	11	1.39	0.59	1.94	1.13	1.08

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 39

Overall Mean Weighted Discrepancy Scores for Technical Skills in the Fed-Beef Industry (n=34)

| Technical Skills Needed | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Proper Safety Procedures	1	2.71	0.99	4.24	0.94	6.48
Animal Management/Animal Welfare	2	2.68	1.08	4.15	0.97	6.10
Livestock Handling Procedures	3	2.62	0.97	4.09	0.92	6.01
Record Keeping	4	2.43	0.96	3.77	1.04	5.06
Animal Health	5	2.53	1.01	3.79	1.09	4.77
Feed Production/ Processing/Management	6	2.35	1.16	3.65	1.13	4.72
Animal Feeding/Nutrition	7	2.35	1.00	3.53	1.01	4.15
Vehicle & Heavy Equipment Operation/Maintenance/Mechanics	8	2.50	0.92	3.44	1.14	3.24
Business Comprehension	9	2.15	0.91	3.15	1.09	3.15
Yard Maintenance/Welding	10	2.47	0.95	3.26	1.12	2.59
Marketing Comprehension	11	2.00	0.97	2.71	1.23	1.91

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 40

Overall Mean Weighted Discrepancy Scores for Section One in Swine Industry (n=30)

| | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Interpersonal Skills	1	2.64	1.03	3.98	0.84	5.66
Technical Skills	2	2.24	1.02	3.55	1.09	4.98
Communication Skills	3	2.31	0.89	3.42	0.94	4.20
Computer Skills	4	2.17	1.00	3.10	1.12	3.47

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 41

Overall Mean Weighted Discrepancy Scores for Section One in Dairy Industry (n=18)

| | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Interpersonal Skills	1	2.43	0.97	3.95	0.93	6.07
Technical Skills	2	2.02	0.86	3.52	1.00	5.61
Communication Skills	3	2.16	0.82	3.48	1.08	4.76
Computer Skills	4	1.67	0.93	2.65	1.20	2.55

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 42

Overall Mean Weighted Discrepancy Scores for Section One in Fed-Beef Industry (n=35)

| | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Interpersonal Skills	1	2.83	1.04	3.93	0.82	4.42
Technical Skills	2	2.43	0.99	3.62	1.06	4.27
Communication Skills	3	2.38	0.95	3.33	0.92	3.31
Computer Skills	4	2.56	1.06	3.30	1.01	2.47

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 43

Overall Mean Weighted Discrepancy Scores for Section One in Swine, Dairy, Fed-Beef Industry (n=83)

| | Rank | Preparedness | | Importance | | |
		M	*SD*	*M*	*SD*	*MWDS*
Interpersonal Skills	1	2.68	1.03	3.98	0.84	5.20
Technical Skills	2	2.24	1.02	3.55	1.09	4.78
Communication Skills	3	2.31	0.89	3.42	0.67	3.93
Computer Skills	4	2.17	1.00	2.87	1.12	2.86

Note. Preparedness scale (Real Limits): 1 = *Unprepared* (RL = 1.0-1.50), 2 = *Somewhat prepared* (RL = 1.51-2.50), 3 = *Prepared* (RL = 2.51-3.50), 4 = *Well prepared* (RL = 3.51-4.50), 5 = *Thoroughly prepared* (RL = 4.51-5.0).Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0). *MWDS =Mean Weighted Discrepancy Score* (RL = -20-20).

Table 44

Employer Mean Values of Importance of Life Skills Needed in the Swine Industry (n=30)

Life Skills Needed	Rank	Mean	Standard Deviation
General work experience/manual labor	1	3.43	1.02
Farm and/or Ranch Experience	2	2.93	1.03
Career-related employment	3	2.87	0.92
Service to Community	4	2.40	1.11
Career-related internships	5	2.37	1.05
Native to Local Area	6	1.93	1.06

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 45

Employer Mean Values of Importance of Life Skills Needed in the Dairy Industry (n=18)

Life Skills Needed	Rank	Mean	Standard Deviation
General work experience/manual labor	1	3.39	1.01
Farm and/or Ranch Experience	2	3.17	1.12
Career-related employment	3	2.83	1.21
Career-related internships	4	2.28	0.73
Service to Community	5	2.00	1.00
Native to Local Area	6	1.61	0.76

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 46

Employer Mean Values of Importance of Life Skills Needed in the Fed-Beef Industry (n=35)

Life Skills Needed	Rank	Mean	Standard Deviation
General work experience/manual labor	1	4.00	0.77
Career-related employment	2	3.44	1.01
Farm and/or Ranch Experience	3	3.18	1.01
Career-related internships	4	2.86	1.10
Native to Local Area	5	2.62	1.24
Service to Community	6	2.51	1.13

Note. Importance scale (Real Limits): 1 = *Unimportant* (RL = 1.0-1.50), 2 = *Somewhat important* (RL = 1.51-2.50), 3 = *Important* (RL = 2.51-3.50), 4 = *Very important* (RL = 3.51-4.50), 5 = *Extremely important* (RL = 4.51-5.0).

Table 47

Employer Mean Values of Potential Trainings Needed in the Swine Industry (n=30)

Trainings Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	3.00	1.41
Proper Safety Procedures	2	3.54	2.23
Animal Health	3	3.86	1.55
Animal Feeding/Nutrition	4	4.25	2.20
Livestock Handling Procedures	5	4.36	1.63
Leadership/Management of People	6	4.93	2.74
Human Behavioral Understanding	7	5.00	2.35
Equipment/Facility Maintenance	8	7.07	1.19

Note. Items ranked the greatest need first and the least valued needed eighth, with all other items in between. The lower the mean score, the greater the importance.

Table 48

Employer Mean Values of Potential Trainings Needed in the Dairy Industry (n=18)

Trainings Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	2.50	1.21
Animal Health	2	3.00	1.33
Livestock Handling Procedures	3	3.78	2.15
Proper Safety Procedures	4	4.28	2.28
Animal Feeding/Nutrition	5	5.17	1.38
Leadership/Management of People	6	5.56	2.65
Human Behavioral Understanding	7	5.61	2.67
Equipment/Facility Maintenance	8	6.11	0.81

Note. Items ranked the greatest need first and the least valued needed eighth, with all other items in between. The lower the mean score, the greater the importance.

Table 49

Employer Mean Values of Potential Trainings Needed in the Fed-Beef Industry (n=35)

Trainings Needed	Rank	Mean	Standard Deviation
Animal Management/Animal Welfare	1	3.34	1.93
Proper Safety Procedures	2	3.83	2.48
Livestock Handling Procedures	3	4.03	1.81
Leadership/Management of People	4	4.07	2.53
Animal Feeding/Nutrition	5	4.41	1.87
Animal Health	6	4.83	1.66
Human Behavioral Understanding	7	5.17	2.64
Equipment/Facility Maintenance	8	6.31	1.78

Note. Items ranked the greatest need first and the least valued needed eighth, with all other items in between. The lower the mean score, the greater the importance.