Exploring the Competencies, Skills, and Abilities Needed by Agricultural Communications Students: A Delphi Study

by

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ABSTRACT

The agricultural industry is rapidly changing; as educators it is crucial that students are prepared to meet the changes of the industry. It is important to constantly review curriculum to ensure existing curriculum effectively prepares students for the communications industry. The purpose of this study was to gain a better understanding of what skills, knowledge, and competencies the future agricultural communications student must possess to be successful in the workplace. The study utilized a three-round Delphi study with a panel of industry professionals, followed by a survey of agricultural communications faculty members.

The results showed that industry professionals value more soft-skills, but university faculty members were overall in agreement with the importance of competencies. The results also revealed a list of competencies that are now expected for agricultural communications graduates. Future research should be conducted to see if agricultural communications departments are teaching the important competencies.

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CHAPTER I

INTRODUCTION

Background and Setting

Agriculture's roots in the United States run deep and the country would not be what it is today if it were not for the strong foundation built on agriculture. Agriculture was once necessary fundamental knowledge for those who first settled the land. However, an industry that once required nothing more than land, a plow, some seeds, and maybe a few head of livestock has become increasingly complex with changes in technology, genetics, and markets as well as the scale of farm operations.

The rapid advancements in agriculture have in part resulted from and further fueled growth in agriculture research and development. "U.S. public-sector agricultural research and development (R&D) began in earnest with the establishment of the U.S. Department of Agriculture and the passage of the Morrill Land Grant College Act in 1862, to be followed 25 years later by the passage of the Hatch Experiment Station Act in 1887" (Alston, Andersen, James, & Pardey, 2009, p. 1). It was with the passage of both acts that the biggest changes in agriculture were seen. Both public and private R&D played a major role in bringing about these changes (Alston et al., 2009).

To understand just how much agriculture has changed since its beginnings on United States soil, examining the change of gross domestic product will help to paint that picture. "The share of U.S. gross domestic product (GDP) accounted for by farm value-added declined significantly—from 37.5 percent of GDP in 1869 to 0.8 percent of GDP in 2006" (Alston et al., 2009, pp. 9-10). This was not the result of a shrinking farm

sector, but rather a boom in the economy. "Over the period 1929–2006, U.S. farm value-added grew nearly six fold, from $17 billion to $98 billion, while U.S. GDP increased thirteen fold, from $866 billion to $11.3 trillion" (Alston et al., 2009, p. 10). Agriculture's share of the economy decreased, but productivity in the industry increased during this period.

The number of farms has decreased, but the size of the farms has increased and farms are significantly larger than they ever have been (Alston et al., 2009). Much of the change has been attributed to the consolidation of several smaller farms into one large farm.

During the mid-20th century, the geography of the United States rural production and urban areas also shifted. Production shifted south and west and became more concentrated than ever before. With the shift in geography came a major shift of the population; people were moving off of the farms and into urban areas. Improved infrastructure for communication, electrification, transportation, and logistics encouraged and supported this move. Substantial on- and off-farm technological innovation underpinned much of these changes (Alston et al., 2009).

The change in the numbers of farmers in the past 150 years has been dramatic. In 1869, the U.S. farm population constituted 46.3 percent (18 million people) of the total U.S. population (Alston et al., 2009). The farm population actually increased until the 1920s. After that, however, the U.S. population continued to grow while the farm population declined to 2.9 million in 2006. Farmers now make up just 1% of the United States population (Alston et al., 2009).

Since 1900, new technology and the development of rural infrastructure linked farm households more tightly to national markets. "As farm work and household consumption have required more cash and less labor, members of farm households have had both incentive and opportunity to seek off-farm work, which has made rural areas increasingly attractive to nonfarm industries" (Dimitri, Effland, & Conklin, 2005, p. 35). This has made the need for communication between rural farmers, consumers, retailers, and everyone else involved in farm production even more important. Agricultural communications was born out of this need to keep up with the new technologies that our rural farmers were dealing with.

Agricultural communications can be traced back to the 1800s when the need to share important farm and home information with isolated rural audiences (Tucker, Whaley, & Cano, 2003). At that time, their role was much simpler and involved sending farming and agricultural news to the rural farmer. By the 1900s, agricultural communications was becoming a highly competitive field and required knowledge of editing, farming, and business skills (Burnett & Tucker, 2001). Publication attrition rate was higher, and only those publication entrepreneurs who were willing to invest full-time energy and a large start-up capital could survive (Tucker et al., 2003).

The 1920s created even more competition for media sources with the introduction of new media: movies and radio (Evans & Salcedo, 1974). Despite the addition of this new media, farm publications did not see them as a threat to profitability. Farm publications were hit hard, however, in the 1980s when farming experienced economic downturn (Tucker et al., 2003). The publications already had a dwindling readership and now had decreased revenues; many publications did not survive the tough time while

larger companies bought others out in an effort to survive, and many of those publications are still around today. Publications were the initial platform for agricultural communicators; today it is just a small part of the toolbox for success within the industry.

Agricultural communications has changed drastically over the past 100 years, from print and radio broadcasts to social media and websites. Likewise, the agricultural industry has made drastic improvements of their farm mechanical and plant technologies. While both agriculture and agricultural communications have advanced, we must ask if our academic institutions have been changing at the same pace?

"For education to contribute significantly to economic growth and development, it must be of high quality to meet the skill-demand needs of the economy" (Olaniyan & Okemakinde, 2008, p. 155). Education is seen as both a consumer and a capital good because it offers utility to the consumer and also an input to the production of other goods and services (Olaniyan & Okemakinde, 2008). As a capital good, "education can be used to develop the human resources necessary for economic and social transformation" (Olaniyan & Okemakinde, 2008, p. 157). Several human capital theorists argue that an educated population is a productive population, and the more human capital invested, the more productive they will be. Which raises the question of whether or not agricultural communicators are as productive as the industry they are involved in?

Other college departments have been criticized as being incapable of producing qualified, employable professionals (Trauth, Farwell, & Lee, 1993). Universities should be meeting the needs of the ever-changing agricultural industry. Programs should constantly be asking: Are the agricultural communicators of tomorrow ready for the demands of the workplace (Irlbeck & Akers, 2009; Morgan, 2008)? This study attempts

to answer that question and establishes the need for constantly reviewing curriculum and industry needs.

Problem Statement

Are the agricultural communications educators preparing tomorrow's student to enter the workforce? Nearly 25 years ago, Boyer (1990) contended that the need for connecting the work of the university to the social and environmental challenges beyond the campus has never been greater. In today's global information-driven economy, one could make the case that this need has grown exponentially.

Akers (2000) stated that agricultural communication programs should frequently review their programs and graduates to ensure existing curriculum effectively prepares students for the communication industry. Several studies over the past 40 years have reviewed agricultural communication curriculum, industry needs, and skills required of our undergraduates and graduate students (Bailey-Evans, 1994; Doerfert & Miller, 2006; Irlbeck & Akers, 2009; Kroupa & Evans, 1973; Morgan, 2008, 2012; Sitton, Cartmell, & Sargeant, 2005; Sprecker & Rudd, 1997; Terry et al., 1994). Why is it so important to determine if agricultural communications students are meeting the needs of the industry? Technology and agriculture are changing at a very rapid pace, unmatched by any other time in history. Agriculture has seen particularly large growth and change in this information age (Doerfert & Miller, 2006). How do we prepare our students to be successful in this transformation? "The aggressive changes in technology indicate a pressing need to examine the curriculum in an effort to make it applicable to students and their future employers" (Bailey-Evans, 1994, p. 1).

Past studies about the importance of agricultural communication skills have indicated that specific skills are the most important. However, information from conversations with alumni (J. B. Campbell, personal communication, August 20, 2012) noted entrepreneurship, critical thinking, and problem solving as the most critical skills for students to possess in the future. There is much debate between the need for technical skills versus the need for soft skills. Faculty and instructors need to understand what they can do to meet the industry's need for the next generation of students. There is often a gap between industry and education (Trauth et al. 1993), so working to close that gap should be of the utmost importance. The expectation gap explains the difference between what employers expect from recent graduates and what they actually come prepared with from the university. Understanding the basic principles of the expectation gap can help to identify the skills, knowledge, and competencies needed for students to be successful in the workplace.

Purpose and Objectives

The purpose of this study was to gain a better understanding of what skills, knowledge, and competencies the future agricultural communications student must possess to be successful in the workplace. The study sought to understand what those in the agricultural communications industry deemed as most important. The following objectives were investigated throughout the course of the study:

1. Determine the skills that the agricultural communications industry deem as important for their employees.
2. Describe the knowledge, skills, and competencies required for agricultural communications students to be successful in the workplace.

3. Prioritize the employability skills needed by agricultural communications students, as determined by employers.
4. Understand the gaps in knowledge, skills, and competencies within the agricultural communications undergraduate curriculum.
5. Determine if there is an expectation gap between industry needs and agricultural communications academic programs.

Definition of Terms

The following terms and definitions are important to fully understand the study. For the purpose of this study, a knowledge, skill, or competency - Identifiable skills or abilities necessary for success in the workplace; the body of truth, information, or principles acquired by mankind; or a learned power of doing something competently.

Agricultural Communications – academic program that involves agriculture and a variety of communications practices, including but not limited to, journalism, marketing, magazine writing, reporting, social media, advertising, design, and advertising. All information in this study is related to undergraduate courses (Tucker, Whaley, & Cano, 2003).

Curriculum – A course, set of courses, and subject specific content offered at a school or university.

Delphi Technique – A group forecasting technique that generally uses inputs from experts to guide and focus a direction of thought into a group consensus (Kingery, 2010).

Expectation Gap – Perceived difference between what one is expected to accomplish by others and what one personally believes he must accomplish (Zikmund, 2008).

Need: Need implies a problem that should be attended to or resolved. When there is a need, something is missing, wrong, or not working right, and action must be taken (Altschuld & Kumar, 2010).

Limitations of Study

The following limitations must be taken into consideration:

1. The sample size is small, and the goal of a Delphi study is not to generalize to the entire population.
2. The method of collection used was email. The accuracy of responses depends on the thoroughness of answering questions, distractions during completion of questionnaire, and the time spent to complete the questionnaire.
3. The study was limited to professionals in agricultural communications and were chosen based on pre-determined criteria.

Basic Assumptions

The following basic assumptions were made about this study:

1. Each respondent answered all questions honestly.
2. Members of the panel understand agricultural communications and the degree programs.
3. The Delphi study is a compelling research technique and is an accurate means of measuring and acquiring a consensus in a group without interaction among group members.
4. Members of the panel are a professional group of participants with knowledge in this area of study.

Significance of the Study

The agricultural industry has changed rapidly, and as educators, it is of the utmost importance that our students are able to be successful in the workplace. Not only has the agricultural industry changed, the communications industry continually adds new technologies and students should have knowledge of the changes being made within the industry. Additionally, employers have noted that things like problem solving, critical thinking, creativity, and various other soft-skills are essential for student success. Without knowing what the industry deems as essential knowledge, skills, and competencies, it is difficult to know if the university is adequately preparing its' agricultural communications students for related employment after graduation.

It is crucial that the gap is identified because "the relationship between industry and academia is discordant at times. Each entity has different opinions as to what is important when preparing future agricultural communicators" (Doerfert & Miller, 2006, p. 17). The opinions of industry need to be identified so that academia can gauge if they are teaching and assessing the desired competencies in the classroom. It is an important enough need that it has been identified at the national level as a priority.

The National Research Agenda priority area three has the key outcome of creating "a sufficient supply of well-prepared agricultural scientists and professionals drive sustainable growth, scientific discovery, and innovation in public, private, and academic settings" (Doerfert, 2011). As educators, professors and faculty members should strive to create efficient and effective programs to foster the growth of the students that are so needed in the industry.

The difficult task is identifying what is important for agricultural communications students to be a successful professional. Other studies have looked at soft skills or experiences, but they either focus on all college of agriculture students or just the general student body. Agricultural communications students are a unique set of students; they have a much different degree plan than animal science students even though they are both in the college of agriculture. The skills that agricultural communicators require are substantially different from their peers in other departments, and therefore, general studies about students in the college of agriculture cannot be generalized to agricultural communicators.

CHAPTER II

LITERATURE REVIEW

Understanding the value of one's degree, experiences, skills, attitude, and various other factors has become widely popular in recent years. As the job market has become tighter, students want to know what degrees will help them to obtain a job or if studying abroad will give them more income (National Association of Colleges and Employers, 2011). The purpose of this study is to gain a better understanding of the skills, knowledge, and competencies undergraduate agricultural communications students should possess when entering the workforce. This study also looks at several agricultural communications programs and the use of these competencies within their program. The following review of literature was compiled to strengthen the foundation of which this study is based.

The literature review is divided into the following sections: (a) agricultural communications history; (b) drivers of change within agricultural communications; (c) assessing needs; (d) curriculum change; (e) theoretical and applied framework; (f) the Delphi technique; and (g) the summary and significance of the literature review.

Agricultural Communications History

The agricultural communications industry was around nearly 100 years before it was recognized in academia (Tucker, 1996). Agricultural communicators were first used to get information out to the rural farming areas. The first course in agricultural journalism was offered by Will H. Oglive at Iowa State University in 1905 (Duncan, 1957). Shortly thereafter, the first department of agricultural journalism was created at

the University of Wisconsin-Madison in 1908 and the first course they offered was Farm News Writing (Burnett & Tucker, 2001). By 1928, seven colleges were offering courses in agricultural journalism (Weckman, Witham, & Telg, 2000). Initially, a large part of the course work offered by newly established schools of journalism employed professional writers and editors from the private sector (Tucker et al., 2003). Due to limited resources, agricultural journalism courses were limited in scope.

Since that time, a shift in name from agricultural journalism to agricultural communications has occurred. Early agricultural communications programs were created to assist in communicating the information discovered at land grant universities (Duley, Jensen, & O'Brien, 1984). With the increase of new media outlets, like broadcasting, public relations, and web-based communications, programs changed the name to agricultural communications (Irani & Scherler, 2002). Programs created prior to 1970 are referred to as journalism, while those established after 1970 are communications (Boone, Meisenbach, & Tucker, 2000). Programs have continued to grow and there are approximately 30 programs in the United States today (Irani & Scherler, 2002).

Agricultural Communication Competencies at the Undergraduate Level

Terry et al. (1994), determined that agricultural communication coursework should consist of courses from 28 disciplines consisting of 89 concepts. The concepts in 100% agreement, decided on by a experts in agricultural communications and public relations, were grammar, government policies, history of American agriculture, communicating agriculture to the public-domestic, communicating agriculture to the public-international, agricultural policy, geography, word processing, creative strategies, campaign planning, graphic design, news writing, reporting, editing, ethics, design and

layout, problem solving, speech writing, oral communication, scripting writing, and an internship that allows students to apply learned concepts.

Sprecker and Rudd (1997) interviewed 10 faculty members, six alumni of the University of Florida program, and 14 practitioners on the board of directors for the Agriculture Institute of Florida. Four themes emerged: (1) A broad overview of Florida food, agriculture, and natural resources including commodities, trade/economics, and policy/law is essential; (2) Communications skills are more important to the job of an agricultural communicator than is agricultural knowledge; (3) Students need to be versatile, able to do many communication tasks thoroughly; and (4) Networking is an integral component of agricultural communication. Additionally, instructors and practitioners said that internships were critical for students. This same group also envisioned a majority of students working in public relations. Practitioners and alumni emphasized the need for desktop publishing skills and other computer applications. All three groups agreed that writing skills are the most valuable communication skills.

Akers (2000) conducted a study with industry leaders, high school agricultural education teachers, and agricultural communications university faculty to determine what agricultural communications competencies should be attained by high school students who take courses in agricultural communications. While several competencies were identified and classified what year they should be taken (freshman, sophomore, junior, and senior) several items were identified to be taught at the college level. Some of those competencies included: the use of video editing software; preparing a public relations campaign; identify the basics of corporate communications; discuss the role of public

relations in advertising agencies; radio and TV broadcast; targeting audiences; and several other items related to general agriculture knowledge or public policy.

Weckman et al. (2000) realized that agricultural communications had changed with focus had shifting away from agricultural journalism and more to general communications. The authors sought to examine agricultural communications programs in the southern United States and to identify baseline characteristics. A majority of the responding universities stated that their enrollment had increased in the past five years. Programs were asked to classify their program's preparation in these three areas: program focuses primarily on teaching professional skills; program primarily teaches broad-based critical thinking skills; and the program provides an equal combination of both professional and critical thinking skills. The respondents were almost equal between professional skills and professional skills/critical thinking. Programs believed that they had best prepared their students in applied professional skills.

Additionally, two-thirds of the respondents believed that a national agricultural communications accreditation process would benefit their program (Weckman et al., 2000). Programs were also asked what challenges they were facing. Some of the common themes were lack of understanding about what agricultural communications is; the image problem; and poor attitudes of journalism faculty towards the program.

Irani and Scherler (2002) were among the first researchers to look at job satisfaction of agricultural communications graduates. Graduates obtained jobs both in agriculture as well as several agencies outside of the industry. Just over half said their job related to agriculture. The majority of the respondents said that their education in agricultural communications prepared them for their job. However, when asked if they

could take additional courses to develop professionally, they would take courses in marketing, public relations, management, and web design. Interestingly, M.S. graduates seem to have higher job satisfaction than B.S. graduates did, but overall graduates were satisfied with their career preparation.

Critical thinking was identified as an important skill for students to have. Telg and Irani (2005) looked at why agricultural communications instructors believed their students were not critical thinkers. The study identified the following as possible reasons for the lack of critical thinking: students do not read critically; students lack curiosity; instructors need to implement critical thinking strategies; and students' inability to analyze information. The researchers offered several suggestions for increasing critical thinking in the classroom.

Sitton et al. (2005) conducted a study to determine the public relations proficiencies in agricultural communications curriculum, as determined by agricultural public relations professionals. There were five technical agricultural proficiencies that were deemed important by 75% or more of the respondents: (1) discuss the impact of government and legislative policy upon agriculture; (2) interpret charts, graphs, and maps to make specific decisions related to business; (3) define conservation; (4) identify governmental regulatory agencies related to agribusiness; and (5) identify current government programs that support agricultural business. There were a total of 36 competencies that were perceived as important to 50% or more by the respondents.

Three technical agricultural proficiencies were deemed required subject matter for agricultural communications undergraduates: (1) interpret charts, graphs, and maps to

make specific decisions related to business; (2) prepare a budget; and (3) list the purposes of governmental farm agencies (p. 29).

Additionally, Sitton et al. (2005) identified general communications proficiencies that were important. Of the 67 general communications proficiencies presented, 51 proficiencies were perceived to be important by 75% or more of respondents. More than 75% of the public relations professionals used the following general communications proficiencies daily: (1) demonstrate the characteristics of responsibility and credibility; (2) model proficiency in time management and organization; (3) navigate the Internet [and] send and receive e-mail; (4) transfer and download information through a network; (5) apply human relations skills; (6) work under pressure; (7) correctly report facts; and (8) perform basic word processing (p. 32).

After a breakout session at the 2008 national meeting of the American Association for Agricultural Educators, the question was asked if agricultural communications students were adequately prepared for the demands of the industry (Irlbeck & Akers, 2009). An online survey was completed with agricultural communications professionals to determine what themes would be important for the industry's future employees. Four themes emerged: (1) communication needs, wants, and expectation to change rapidly; (2) agricultural producers change and have differing communication wants, needs, and preferences; (3) the response time for communication is shortening; and (4) the image of agriculture is of growing importance for agricultural communications professionals. The study was consistent with Telg and Irani (2005) findings that agricultural communications students lacked curiosity, critical thinking, and analytical skills. Agricultural communications faculty members believed that theirs

students did not know how to think critically and were not using critical thinking skills in the classroom (Telg & Irani, 2005).

A Delphi study was conducted to determine the competencies needed by agricultural communications graduates as perceived by industry professionals (Morgan, 2008). Thirty-seven industry professionals reached consensus on 85 statements after three rounds of questions. Following are the ten statements receiving the highest level of agreement were:

- Conduct activities in an ethical manner
- Ability to meet deadlines
- Dependability
- Strong work ethic
- Reliable
- Organizational skills
- Demonstrate professional/business etiquette in workplace
- Ability to multi-task
- Time management skills
- Ability to be a productive member of a team" (p. 1)

Morgan (2012) conducted a focus group study with University of Georgia agricultural communications alumni. All participants agreed that students must write well. When looking at the styles of writing, participants felt that newspaper writing was declining, but stated that magazine and public relations style writing are important. Overall, good communication skills were identified as important because they will use them in most of what they do as a professional. Communication skills identified in the

study included: “understanding one’s audience, identifying the desired outcome from communication, editing, broad skill base, getting words down on paper, ability to organize thoughts, proper grammar, using proper style, and strategic writing” (p. 23).

Doerfert and Miller (2006) conducted an industry needs assessment prior to the 2004 National Agricultural Communications Summit. The purpose of the study was to “describe the current status and future needs of the agricultural communications industry to summit participants” (p. 23). Four themes emerged from the study: (1) The agriculture industry and its communication needs, wants, and expectations are changing rapidly; (2) The stakeholders of agricultural communications activities and products are changing, and these stakeholders have diverse communication needs, wants, and preferences; (3) The response time for communication-related activities continues to shorten; and (4) Image is increasing in importance for the agriculture industry and agricultural communications professionals.

Figure 1 gives an over view of the past studies in agricultural communications curriculum. While it shows studies that include opinions of faculty members, high school teachers, alumni, and industry professionals, there are some trends within industry respondents. The topic of policies and laws was seen as important from 1994-2000, but has not surfaced since then. General agriculture was seen in 1994 through 2006, but has not emerged in studies since then. Soft skills or more personal traits like trustworthy, credible, and reliable emerged in 2005 and have continued to show importance since then. Topics like video, web design, graphic design, photography, public relations, writing and grammar, audience analysis, ethics, and problem solving remain as consistent factors over the past 20 years.

	Terry et al (1994)	Sprecker & Rudd (1997	Akers (2000)	Weckman et all (2000)	Irani & Scherler (2002)	Tel & Irani (2005)	Sitton et al (2005)	Doerfert & Miller (2006)	Morgan (2008)	Irlbeck & Akers (2009)	Morgan (2012)
Respondents: F = College Faculty, I = Industry Professionals, A =Alumni, HS = High School Teacher	**I**	**F, I, A**	**F, I, HS**	**F**	**A**	**F**	**I**	**I**	**I**	**I**	**A**
Video, Web Design, Radio	—	—	X	—	X	—	—	—	—	X	—
Graphic Design, Layout, Photography	—	—	—	—	—	X	X	—	—	X	—
Policies and Laws	X	X	X	—	—	—	—	—	—	—	—
Business Analysis and Statistics	—	—	X	—	—	—	X	—	—	—	—
Management	—	—	—	—	X	—	X	—	—	—	—
Public Relations	X	—	X	—	—	—	X	—	—	X	—
Writing and Grammar	X	—	—	—	—	—	X	—	—	X	X
Audience Analysis	—	—	X	—	—	—	X	—	—	—	X
General Agricultural	X	X	X	—	—	—	X	X	—	—	—
Trustworthy, Credible, Reliable, Strong Work Ethic	—	—	—	—	—	—	X	—	X	X	—
Networking	—	X	X	—	—	—	X	—	—	—	—
Ethical	X	—	—	—	—	—	X	—	X	—	—
Problem solving and Critical Thinking	X	—	—	X	—	X	X	—	—	—	—

Figure 1: Curriculum Priorities Identified by Through Research during the Past 30 Years.

Agricultural Communications Competencies at the Graduate Level

Simon (2003) conducted a national Delphi study to identify the areas of study that should be included in an agricultural communications master's degree. Simon selected both industry professionals and faculty members. One hundred percent of the panel agreed that the following topic areas should be included in the curriculum: (1) electives regarding major; (2) mass communications; (3) public relations; and (4) writing. Several other areas were identified as being important, but those were the only four that received 100% agreement.

Smith (2012) examined the core components of a doctoral program in agricultural communications. The national Delphi study identified 50 core competencies that were agreed upon by the panel of university faculty members. Seven areas of categories were identified: (1) agricultural knowledge and news; (2) communications knowledge; (3) employability skills; (4) media; (5) research; (6) teaching and education; (7) and writing. Recommendations were made to have additional populations look at the components identified.

Drivers of Change

Past agricultural communications graduates sought careers in the news field. This is tied closely to the fact that many agricultural communications programs are part of land grant colleges, so agricultural communicators would disseminate research findings to the agricultural public (Lockaby & Vernon, 1998). Today, agricultural programs focus on more than just journalism, "agricultural communications programs have taken on a broader need to educate while communicating about agriculture" (Lockaby & Vernon, 1998, p. 16).

Today's agricultural communicators share a different responsibility, but they still share important farm information to both the rural farmer and the urban consumer, and every individual in between. To prepare for a career in this field, students go through academic programs typically housed in the department of agricultural education (Tucker et al., 2003). Students are recruited to the profession through various organizations including: Agricultural Communicators of Tomorrow (ACT); Agricultural Relations Council, National Association of Farm Broadcasters, and Livestock Publications Council that sponsor a variety of internships, scholarships, and mentor programs to attract qualified students (Tucker et al., 2003). "Because of their relatively small size and reliance on other academic units to deliver curricula, agricultural communications programs face special challenges to future development in the university setting" (Tucker et al., 2003).

Agriculture

Agriculture has changed vastly, and the demographics continue to shift to a more urban way of life. The number of farmers is smaller, but the size of farms has increased and production rates are at an all-time high. Additionally, farms become more specialized and the number of commodities produced at each farm decreases (Dimitri et al., 2005). Following World War II, technology boomed. As technology and mechanization on the farm increased, the decline of farms and rural populations became more evident as well.

"Technology has had a dramatic impact on agriculture over the past century. From having a farmer feed less than 10 people to over 212 is a significant leap forward that is a result of technological advances" (Stewart, Moore, & Flowers, 2004, p. 63).

Farmers have found a way to adapt to the changes of the last century. Those who remained in agriculture learned to increase their productivity and increased efficiency by expanding or specializing their operation (Dimitri et al., 2005). While it seems like agriculture has changed so much in the past 100 years, "technological development and market integration remain forces of change" (Dimitri et al., 2005, p. 12).

Technology

The 20th century brought on a dramatic technological change. Agricultural communications has been directly impacted by this change. Several researchers note the importance of evaluating agricultural communications curriculum because of the rapidly changing technology (Akers, 2000; Bailey-Evans, 1994; Doerfert & Miller, 2006). The agribusiness sector has utilized the ever improving communications network to improve production and technology (Doerfert & Miller, 2006). A major change in communications came from the introduction of new media for entertainment, including movies and radio in the 1920s (Evans & Salcedo, 1974). While neither movies nor radio were a direct threat to farm publications, they did compete for audiences' time and money.

Within agricultural communications, the change and shift in technology can be seen from the way the university programs are structured. The first agricultural communications programs was offered by the school of journalism (Ogilvie, 1974). Journalism schools began to phase out agricultural journalism, and the college of agriculture picked up the responsibility for the growing interest in agricultural journalism (Tucker et al., 2003). These courses had a limited scope due to the lack of resources and were often taken as a mix as part of a larger curriculum. Despite these programs being

small, the numbers continued to grow as more academic programs were added across the country (Doerfert & Cepica, 1991; Reisner, 1990; Tucker et al., 2003).

By 1974, most programs went by "agricultural communications," a change from their original name as "agricultural journalism" (Evans, 1975). Weckman et al. (2000) looked at where agricultural communications programs are housed, their main focus, faculty background, and several other factors that influence an agricultural communications program. The focus of agricultural journalism has shifted to an overall view of communications. This could be a driving force in the change of the name from agricultural journalism to communications. While journalism is still a part of today's curriculum, it is just one of many areas of an agricultural communications program.

Assessing Needs

A needs assessment is the "process of identifying needs, prioritizing them, making needs-based decisions, allocating resources, and implementing actions in organizations to resolve problems underlying important needs" (Altschuld & Kumar, 2010, p. 20). There are two basic conditions of a need: what should be and what is (Altschuld & Kumar, 2010). The process of a needs assessment is often fragmented, and often does not lead to organizational change. The two conditions must be measured to understand the difference between the two. When the discrepancy between the two conditions is determined, the need is identified.

Sometimes the need is often referred to as a problem, gap, deficiency, discrepancy, issue, or concern (Altschuld & Kumar, 2010). Things like education, health, and social structure are often lost in the "needs assessment shuffle" but they should not be lost. If things like automobiles and airplanes are not maintained, the systems will

eventually fail. Maintenance is often used when a problem arises or a condition changes, but it is important to continue to do maintenance when the system is functioning without any major problems.

Needs assessment has three phases:

Phase I: Pre-assessment

Focusing needs assessment, and what is known about possible needs?

Key steps:

1. Focusing the assessment
2. Forming a needs assessment committee (NAC)
3. Learning as much as we can about preliminary "what should be" and "what is" conditions from available data sources
4. Moving to Phases II and/or III or stopping

Phase II: Assessment

Is more information needed, and what ideas are there about what are the causes of needs?

Key steps:

1. Conducting a full assessment about "what should be" and "what is" conditions
2. Identifying discrepancies (Level 1, 2, and 3)
3. Prioritizing discrepancies
4. Casually analyzing needs
5. Preliminary identification of solution criteria and possible solution strategies
6. Moving to Phase III

Phase III: Post-assessment

Are we ready to take action, and have we learned enough about the need to feel comfortable with our proposed action?

Key steps:

1. Making final decisions to resolve needs and selecting solution strategies
2. Developing action plans for solution strategies, communicating plans, and building bases of support
3. Implementing and monitoring plans
4. Evaluating the overall needs assessment endeavor (document with an eye to revisit and reuse)

Expectation Gap

Much like a needs assessment, the expectation gap focuses on the difference between what is and what should be. Expectation gap has been used widely in the accounting and finance field, as well as information systems. Within accounting and finance, it is used by practitioners. The expectation gap states that there is a gap "between the needs of the industry and the academic preparation of those intended to satisfy them" (Trauth et al., 1993, p. 293). However, it has been discussed within the field of agricultural communications. "The relationship between industry and academia is discordant at times. Each entity has different opinions as to what is important when preparing future agricultural communicators" (Doerfert & Miller, 2006, p. 17).

Industry employers say that the university or department is unable adequately prepare qualified, employable professionals. On the other side, professors and instructors complain of inadequate and contradictory advice from industry about appropriate

qualifications. Another burden on faculty members is meeting accreditation and university standards on what they teach their students. "The purpose of much of this research was to identify gaps in curriculum and clarify learning outcomes to align them more closely with what is sought by industry" (McGill, 2009, p. 129),

Trauth et al. (1993) conducted a study on information systems (IS) students and employers. Their Delphi study has several phases, and the first phase was a brainstorming session CIOs, vendors, consultants, and professors. They focused on the growing concern if IS practitioners about the relevance of IS curriculum. Phase II looked at (1) entry-level job descriptions; (2) satisfaction with new hires; (3) recommendations for IS curricula; and (4) qualifications of IS professionals in the future. Several of their concerns were about the decline in computer programing. Respondents suggested a "greater emphasis on "real world" experience, communication skills, analytical ability, and problem solving" (p. 294). During phase three, focus groups took place with IS managers, consultants, professors, and recent graduates of IS academic programs. IS managers and consultants were asked to describe their ideal employee while recent graduates of IS programs were asked to discuss how their IS program is contributing to the achievement of career goals. "IS professors were asked to comment on key issues that they face in providing a relevant IS education to their students" (p. 294).

Overall, practitioners wanted a high-quality person with intellectual depth, communication skills, and functional business knowledge. Professors were concerned with having adequate resources to prepare students by stimulating the problem-solving environment of the workplace. Recent graduates "noted that in school they were given

small, isolated problems that did not prepare them to bring together disparate parts in the solution of large, 'real world' problems" (Trauth et al., 1993, p. 294).

Results from the Trauth et al. 1993) study confirmed the gap between practitioners need and recent graduates ability. "It was expected that this "curriculum gap" resulted from the absence of a shared vision of the appropriate knowledge and skill mix for the IS professional" (Trauth et al., 1993, p. 294). Researchers noted that bridging the gap between what IS practitioners expect and what graduates actually learn will require a fresh look at the IS curriculum.

Other studies have looked at the expectation gap as a basis for developing new programs. McGill (2009) examined game development curriculum and applied the expectation gap. McGill asked the industry what skills they wanted in their employees, what qualifications are taught in game development programs at post-secondary institutions, and if there was an expectation gap between what industry wanted and what was being taught. A cross-sectional survey was sent to employers and industry leaders. (McGill, 2009) sums up the importance of the expectation gap:

> Understanding the qualifications desired in game developer positions is a valid resource for academics to consider when developing game concentrations and curriculum. Knowing that certain qualifications may take precedence over others may also aid in determining the allocation of unit hours given to certain subjects. Additionally, if alignment of curriculum with industry needs is a department goal, the graduates of the department may fulfill the roles needed within industry with a greater degree of those qualifications met (p. 130).

Soft Skills

Outside of agricultural communications, several researchers have looked at specific skills needed to be successful. For the purpose of this study, a soft skills are subjective skills, related to the way a person interacts with other people, or interpersonal skills. One of the largest studies was conducted on the important soft skills. What soft skills do college graduates need? Crawford, Lang, Fink, Dalton, and Fielitz (2011) used multiple perspectives of students, employers, alum, and faculty to identify important "soft skills needed for successful transition from completion of baccalaureate degrees to competitive employment in agriculture, natural resources and related careers" (p. 1). The researchers read over 80 articles to understand what information already existed on soft skills. They identified the seven soft skills clusters:

1. Experiences
2. Team skills
3. Communication skills
4. Leadership skills
5. Decision making/problem solving skills
6. Self-management skills
7. Professionalism skills

Communication skills was the highest ranked cluster overall, and leadership skills was the lowest rank cluster. Crawford et al. (2011) emphasized that all skills are important, and the rankings serve as a priority when trade-offs are to be considered in decision making. Students responded that they did not get enough experience while in college. Faculty and employers both agreed that graduates' communication skills were

lacking, but employers also pointed out a lack of critical thinking. Lastly, alumni stressed the importance of personal finance and work experience.

Curriculum Change

"Agriculture, along with information and communication technologies, is changing every day, making it more and more challenging to keep agricultural communications programs current" (Doerfert & Miller, 2006). Agricultural communications programs should frequently review the status of their graduates to determine if the existing curriculum is meeting their needs (Akers, 2000).

Today's agricultural communications graduates are finding themselves in careers related to agribusiness, commodity associations, government agencies, and agricultural journalism (Lockaby & Vernon, 1998). This broad range of career opportunities requires students to not only be proficient and knowledgeable in communications, but they must also have a broad range of agricultural knowledge as well. Bailey-Evans (1994) conducted a study to look at agricultural communications curriculum and addressed the revisions and the changes needed to keep pace with the technological and industry needs. Again, she recommended that curriculum be continually expanded and updated to reflect the technological advancements.

"It is the responsibility of higher education and agricultural communications programs to observe and keep pace with the ever-changing workplace to ensure that they can provide the preparation and skills that produce high-quality graduates" (Doerfert & Miller, 2006). Akers (2000) stated that curriculum revision is a collaborative effort. It should involve students who are part of the program, faculty who teach the skills and administer the curriculum standards, and professionals who actually use the skills.

Doerfert and Miller (2006) noted that university agricultural communications programs have the "primary role is to prepare individuals for entry to and advancement in the agricultural communications profession in the private and public sectors" (p. 16).

Theoretical and Applied Framework

Even student's GPA has been looked at to compare how having a 4.0 versus a 3.5 can impact what the student will make upon graduation. The Human Capital Theory looks at skills, knowledge, or characteristics and individual possesses that contributes to his or her productivity (Acemoglu & Autor, n.d.).

Human capital theory is the "stock of individual knowledge, capability, and skills that are economically usable" (Burda, 2006, p. 1). That may be all characteristics of an employee that may raise his or her salary. Additionally, it may include any skills acquired through education, talents, I.Q., practical experience, as well as several other variables (Burda, 2006). Babalola (as cited in Olaniyan & Okemakinde, 2008), believed the rationale behind investment in human capital is based on three arguments (1) that the new generation must be given the appropriate parts of the knowledge which has already been accumulated by previous generations; (2) that new generation should be taught how existing knowledge should be used to develop new products, to introduce new processes and production methods and social services; and (3) that people must be encouraged to develop.

Much of the justification behind education is due in part to the human capitol theory. The appeal of public education was based on the presumed economic return on investment of education (Olaniyan & Okemakinde, 2008). Because of the presumed economic value of education, human capital can be compared to real capitol and the two

share several similarities (a) sluggish – because the stock can change only slowly; (b) investment – current expenditures are interchanged with future returns; (c) return – the effect of an additional year on earnings; and (d) depreciation – due to new knowledge or technical progress, but also because people forget knowledge once it has been acquired (Burda, 2006).

Despite the similarities to real capital, there are several differences between the two. Human capital cannot be sold and it cannot be separated from its owner (Burda, 2006). Individuals have several benefits in investing in human capital, which may include future payoff (higher wages), element of consumption (generates fun), as well as other benefits.

There are also different categories of the types of human capital (Burda, 2006, p. 3): (a) general human capital: transferable to every other job and thus improves overall productivity and thus wage; (b) industry-specific human capital: transferable to other industries only with some wage loss; and (c) firm-specific human capital: not transferable to any other firm and therefore does not improve productivity and thus wages anywhere else.

General human capital, such as literacy, is useful to all employers. Specific human capital directly relates to an industry or a set of skills needed at that firm, much like using the Adobe Creative Suite within agricultural communications. Becker (1994) explained that individuals with highly specific skills are less likely to quit their jobs and are more highly paid.

One benefit to the very broad definition of the human capital theory is that the researcher can think of not just one or two categories that may attribute to a person's

success, but rather an umbrella of items that fit the study. However, the notion of human capitol can be pushed too far and every difference in the market can be seen due to human capital (Acemoglu & Autor, n.d.). Human capital theory can be encapsulated into a mode (Figure 2) that describes inputs (investments) in relation to outputs (Law, 2010).

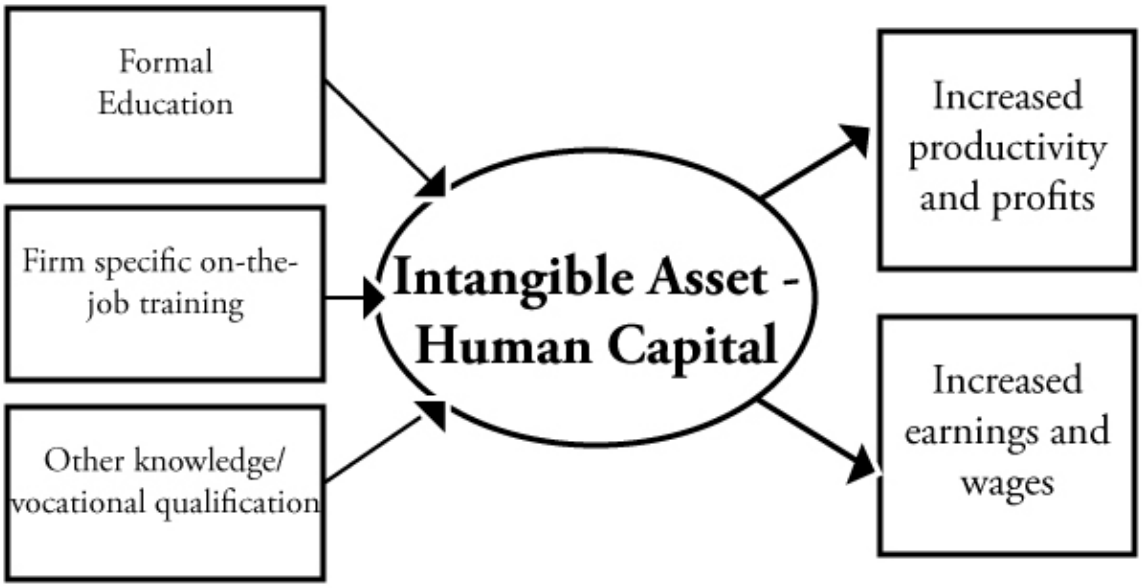

Figure 2: Empirical Evidence of the Human Capitol Theory (Law, 2010)

Evidence of the Human Capital Theory

Evidence of the Human Capital Theory has seen spectacular growth in East Asia, and has strongly contributed to the knowledge of the theory (Olaniyan & Okemakinde, 2008). Several countries in East Asia have seen unprecedented economic growth while making large investments in education. Still, the idea that education generates positive externalities is nothing new. That has been the rationale behind government support of education.

Besides viewing education as an investment in human capital, viewing education as a critical input for innovations, research and development activities shows its

importance (Olaniyan & Okemakinde, 2008). Thus, "education is seen as an intentional effort to increase the resources needed for creating new ideas, and thus, any increase in education will directly accelerate technological progress" (Olaniyan & Okemakinde, 2008, p. 159). Within agriculture, technological advancements have created a huge impact on not just the industry, but on the world population. Farmers continue to feed more of the world on less land than ever before because of the new developments and technology. Several scholars believe that education is an investment in the future creation of jobs, entrepreneurial activity, and technological innovation (Olaniyan & Okemakinde, 2008).

Within agriculture, the Human Capital Theory has been used widely in agricultural economics as well as in explaining farmer adoption behavior (Rahm & Huffman, 1984; Tamura, 2002). Rahm and Huffman (1984) looked at the effect of human capital investments on adoption behavior of farmers. They note that adoption of new agricultural technologies is not always economically feasible, but human capital variables enhance the efficiency of adoption decisions. (Tamura, 2002) explored the shift from agriculture to industry with changes of human capital inputs. His study looked at different countries and the shift from agricultural labor to industry with the introduction of new technology and mechanization.

Education Variable of the Human Capital Theory

Differences of school quality could attribute to differences in earnings of two individuals. "Two individuals with the same years of schooling might have very different skills and very different earnings because one went to a much better school, with better teachers, instruction and resources" (Acemoglu & Autor, n.d., p. 20). Differences in

school quality would go unseen in the human capital theory. Because of the many variables like teacher-pupil ratios, spending per-pupil, length of school year, and educational qualifications of teachers, it is hard to make good estimates within education that account for a difference in outputs. One way to increase human capital is to increase the quality of instruction in schools (Acemoglu & Autor, n.d.).

Within the school system, students can belong to difference peer groups and seek different role models. Theorists argue the extent to which this should be taken into consideration in the theory. Should students who promote positive externalities be placed in a class together or should they be mixed in with all students? Much like sending a student to a private school, the types of students they are associated with can strongly impact their peer group (Acemoglu & Autor, n.d.). The peer group effect can be looked at by thinking of it being socially efficient, "to have parents with good backgrounds to send their children to school with other parents with good backgrounds" (Acemoglu & Autor, n.d., p. 24). This becomes an equilibrium outcome. If there are two parents with different backgrounds, the parent with high-income can always outbid the low-income parent for the opportunity to send their child to a better school. With profit maximizing schools, segregation will arise as the outcome (Acemoglu & Autor, n.d.).

Even within the school, differences will occur with the "good apple" theory, which states that " the kids with the best characteristics and attitudes bring the rest of the class up" (Acemoglu & Autor, n.d., p. 25). In all classroom situations, there is likely to be a good mix of good and bad students. All students will still benefit from being in the classroom with exceptionally good students.

Criticisms of the Human Capital Theory

Everything above assumes that education does in fact improves productivity and can thus explain higher wages (Burda, 2006). However, there are several other variables that may impact an individual's salary: their natural ability; family background and social circles; unions regulating wages ignoring individuals; discrimination; industry variables; and regions of the state and country (Burda, 2006).

Within education, maintaining equilibrium is essential to seeing positive outcomes of the human capital theory (Olaniyan & Okemakinde, 2008). When equilibrium is in place, there is no shortage or excess of educated people. However, when there is a shortage could limit growth and a surplus may create unemployment and limit economic growth and development (Babalola as cited in Olaniyan & Okemakinde, 2008).

> Another major problem in the application of the theory is its failure to account for a growing gap between people's increasing learning efforts and knowledge base and the diminishing number of commensurate jobs to apply their increasing knowledge investment, especially in developing nations (Olaniyan & Okemakinde, 2008, p. 160).

The great increases in learning efforts have not resulted in equal economic gains. This could be due to the declining quality of education, and the lopsided and politically motivated education system seen within the United States.

Bowles and Gintis (1975) noted that "labor is not a commodity, but rather an active agent whose efforts on behalf of its own objectives must be channeled, thwarted, or used to generate profits" (p. 76). Additionally, when workers are working at their top

performance, it does not benefit the worker; it benefits the employer (the capitalists). Employers can use this knowledge to their benefit and hold down the value of labor power (wage) and give rise to profits, by getting as much labor as possible out of the employee (Bowles & Gintis, 1975).

Delphi

The Delphi technique was developed by Dalkey and Helmber (1963) at the RAND Corporation from a series of research studies conducted in the 1950s. Dalkey (1972) had the rationale that, "two heads are better than one, or...n heads are better than one" (p. 15). The objective was to develop a technique to obtain the most reliable consensus of a group of experts (Dalkey & Helmber, 1963).

The Delphi technique is a "group communication process which aims to achieve a convergence of opinion on a specific real-world issue" (Hsu & Sandford, 2007, p. 1). The technique is used in various fields including program planning, needs assessment, policy determination, and resource utilization. It is well suited as a method for consensus-building by using a series of questionnaires delivered using multiple iterations to collect data from a panel of selected subjects (Dalkey & Helmber, 1963; Hsu & Sandford, 2007; Linstone & Turoff, 1975).

Researchers have applied the methodology to a wide-variety of situations as a tool for expert problem solving. While researchers have changed the methodology since it was initiated, Linstone and Turoff (1975) captured common characteristics:

> Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem. To accomplish this "structured

> communication" there is provided: some feedback of individual contributions of information and knowledge; some assessment of the group judgment or view; some opportunity for individuals to revise views; and some degree of anonymity for the individual responses.

"A Delphi study does not depend on a statistical sample that attempts to be representative of any population. It is a group decision mechanism requiring qualified experts who have deep understanding of the issues. Therefore, one of the most critical requirements is the selection of qualified experts" (Okoli & Pawlowski, 2004, p. 20).

What is interesting about the Delphi technique is that it allows the selected participants to reassess their initial judgments about the information they provided. Most studies only allow participants to submit their statement, in the form of an interview or a survey. The Delphi technique allows results to be changed or modified by individual panel members "based on their ability to review and assess the comments and feedback provided by the other Delphi panelists" (Hsu & Sandford, 2007, p. 2)

Anonymity is always kept throughout the survey. Unlike in a focus group, which also allows consensus, there is no dominant voice overshadowing other panel members (Dalkey & Helmber, 1963). Linstone and Turoff (1975) identified four distinct phases the Delphi process must go through:

Phase 1: Exploration of the subject under discussion, wherein each individual contributes additional information he feels is pertinent to the issue.

Phase 2: The second Phase involves the process of reaching an understanding of how the group views the issue (i.e., where the members agree or disagree and what they mean by relative terms such as importance, desirability, or feasibility)

Phase 3: If there is significant disagreement, then that disagreement is explored in the third phase to bring out the exposure of misrepresentation in a Delphi summary than in a typical, group study report.

Phase 4: Misunderstandings may arise from differences in language and logic if participants come from diverse cultural backgrounds.

The Delphi technique can be used for achieving the following objectives (Delbecq, Van de Ven, & Gustafson, 1975): (1) to determine or develop a range of possible program alternatives; (2) to explore or expose underlying assumptions or information leading to different judgments; (3) to seek out information which may generate a consensus on the part of the respondent group; (4) to correlate informed judgments on a topic spanning a wide range of disciplines, and; (5) to educate the respondent group as to the diverse and interrelated aspects of the topic (p. 11).

Number of Rounds Needed

Delphi literature cites anywhere from two to five rounds as being common practice (Custer, Scarcella, & Stewart, 1999; Dalkey & Helmber, 1963; Delbecq et al., 1975; Hsu & Sandford, 2007; Linstone & Turoff, 1975; Ludwig, 1997). Hsu and Sandford (2007) argued that four rounds is often needed to present any new ideas that may have formed from the third round. However, most researchers believe that three is an appropriate number of rounds (Custer et al., 1999; Linstone & Turoff, 1975; Ludwig,

1997). Theoretically, however, a Delphi study can continue until a consensus has been made. Linstone and Turoff (1975) cautioned that contacting the panel too many times because they may upset participants and have a lower response rate.

Delphi Questionnaire Design

The first round traditionally begins with an open-ended questionnaire (Hsu & Sandford, 2007). However, modified Delphi studies have been used that obtain a list of statements from another source. The goal is to solicit specific information about a content area from the Delphi subjects (Custer et al., 1999). After the responses have been collected, the investigators convert the information into a well-structured questionnaire (Hsu & Sandford, 2007).

The newly developed questionnaire is used as the survey for the second round of data collections. Participants receive the second questionnaire and are asked to review the items. Panelists are either ask to rate or rank-order the items listed to establish preliminary priorities (Hsu & Sandford, 2007). Round Two begins to define areas of agreement and disagreement (Ludwig, 1997).

In the third round, Delphi panelists receive a questionnaire that "includes the items and ratings summarized by the investigators in the previous rounds and are asked to revise his/her judgments" (Hsu & Sandford, 2007). This round allows panelists to make further clarification for both the information and the relative importance of each item. Compared to the previous Round, only a slight increase in the degree of consensus can be expected (Dalkey, 1972; Jacobs, 1996). There is often a fourth round that lists the remaining items, but many researchers include the opinions in the third round (Delbecq et al., 1975).

Panel Selection

Choosing the subjects is the most important step in the Delphi process (Hsu & Sandford, 2007; Taylor, Judd, Witt, & Moutinho, 1989). "Since the Delphi technique focuses on eliciting expert opinions over a short period of time, the selection of Delphi subjects is generally dependent upon the disciplinary areas of expertise required by the specific issue" (Hsu & Sandford, 2007, p. 3). While the literature lacks specific criteria for selecting panel members, individuals are qualified if they have backgrounds or experiences concerning the target issue, are capable of contributing helpful input, and are willing to revise their initial judgments for the purpose of reaching a consensus (Oh, 1974; Pill, 1971). (Delbecq et al., 1975) stated that there are three groups of people who qualified to be panel members in a Delphi study: (1) the top management decision makers who will utilize the outcomes of the Delphi study; (2) the professional staff members together with their support team; and (3) the respondents to the Delphi questionnaire whose judgments are being sought.

Principal investigators need to strongly screen the potential panel members (Oh, 1974). Identify stakeholders with interests related to the target issue is essential to the success of the Delphi study.

Size of Panel

Researchers should use a sufficient number of subjects and should seek to verify the results through follow-up explorations (Delbecq et al., 1975). The Delphi literature never comes to a comes to a consensus in the literature (Hsu & Sandford, 2007; Ludwig, 1997; Weatherman & Swenson, 1974), but note that the panel needs to have a representative pooling of judgments. Delbecq et al. (1975) recommended that ten to

fifteen subjects is sufficient if the background of the subjects is homogenous. However, if various reference groups are to be used, then more subjects are anticipated to be needed.

Reason for Choosing Delphi Over Other Methodologies

The Delphi method provides incentives for subjects to participate over other types of studies because (1) being chosen in a diverse but selective group; (2) the opportunity to learn from the consensus building; and (3) increasing their own visibility in their organization and outside. These factors often persuade busy individuals to participate in a Delphi study over other methods.

The use of technology is a benefit to the Delphi process. Witkin and Altschuld (1995) noted that electronic technology provides the opportunity for individuals to more easily employ the Delphi process by:

1. Using the storage, processing, and speed of transmission capabilities of computers;
2. The maintenance of respondent anonymity; and
3. The potential for rapid feedback.

Summary and Significance of the Literature Review

Agricultural communications has changed drastically in the past 100 years. The industry has seen major changes from its roots in discrimination information to the rural farmers. The introduction of radio, television, Internet, and social media has directly impacted the university agricultural communications programs. Within the university, what was once known as agricultural journalism is today known as agricultural communication.

Several researchers have conducted studies to ensure that curriculum is meeting industry standards. Yet, a study that was conducted ten or even five years ago does not do justice to the program. Students, faculty, and industry professionals must continually evaluate curriculum. The literature shows research studies that have looked at competencies needed, but few studies have evaluated the competencies collected and then assessed by university professionals to determine if those competencies are actually used in programs.

The Delphi method has been used in several other agricultural communications competencies studies. It is the best method to obtain rich, original data, which must reach a consensus by panel members. It requires panel members to review their competencies more than once, ensuring that the final competencies are a strong representation of the industry needs. Additionally, the use of technology and Internet surveys creates a quicker response rate between the panel members and researchers.

CHAPTER III

METHODOLOGY

The purpose of this study was to gain a better understanding of what skills, knowledge, and competencies the future agricultural communications student must possess to be successful in the workplace. The study sought to understand what those in the agricultural communications industry deemed as most important. The following objectives were investigated throughout the course of the study:

1. Determine the skills that the agricultural communications industry deem as important for their employees.
2. Describe the knowledge, skills, and competencies required for agricultural communications students to be successful in the workplace.
3. Prioritize the employability skills needed by agricultural communications students, as determined by employers.
4. Understand the gaps in knowledge, skills, and competencies within the agricultural communications undergraduate curriculum.
5. Determine if there is an expectation gap between industry needs and agricultural communications academic programs.

Reliability and Validity

Reliability and validity were concerns for the researcher and were addressed at early stages of the research design. Through this mixed-methods research study, validity and reliability are used in conjunction with Lincoln and Guba (1985) qualitative term of

"trustworthiness." Trustworthiness contains four aspects: credibility, transferability, dependability, and confirmability, and are used within the realm of qualitative research.

Trustworthiness is a critical component of research because if the research is going to impact human knowledge, it must guarantee some measure of credibility about what it has inquired (Lincoln & Guba, 1985). To ensure trustworthiness is maintained, Lincoln and Guba (1985) proposed 10 criteria for judging trustworthiness, however a few relate directly to mixed methods research and this research study:

1. Triangulation refers to the use of multiple sources, methods, theories, and investigators in the process of data collection and transformation.
2. Member checking refers to procedures for confirming the veracity of data and interpretations with representatives of the target population.
3. Peer debriefing refers to the process of engaging professional colleagues in analytic discussions about data interpretation.
4. Thick description refers to the detailed depiction of the study's participants, context, and procedures; the purpose of which is to permit consumers to make decisions about transferability of findings.
5. Audit trail refers to the systematic documentation and record keeping of all the procedures and data relevant to the study, the purpose of which is to permit review (audit) of the study and potential replication of the research process.

Within a mixed-methods study, reliability and validity take the form of triangulation. Triangulation is broadly defined by Denzin (1978) as "the combination of methodologies in the study of the same phenomenon" (p. 291). Triangulation allows

researchers to improve the accuracy of their judgments by collecting different kinds of data within the same phenomenon (Jick, 1979). In this study, triangulation between methods was accomplished by using two phases including a Delphi and a survey.

Number of Participants

To address Delphi standards of reliability and validity, the number of panel members was an important factor. The Delphi method is deemed reliable when there are ten to 15 panel members of a homogenous group (Dalkey, 1972; Dalkey & Helmber, 1963). Delbecq et al. (1975) recommended that ten to fifteen subjects is sufficient if the background of the subjects is homogenous. Dalkey and Helmber (1963) indicated that when the number of participants is greater than 15, the question of process reliability can satisfactorily be answered. The groups of participants selected were members of the National AgriMarketing Association (NAMA). They all had familiarity with the agricultural industry, and those in a similar position were selected, creating a homogenous group of panel members.

Fifty-two members from California, Iowa, and Texas were asked to participate in the study. Initially, 19 participants agreed to participate. However, after all three rounds some participants were lost to attrition. A total of 14 participants completed all three rounds for a response rate of 73.7%. Based off of the recommendations of Dalkey (1972), Delbecq et al. (1975), and Dalkey and Helmber (1963), 14 participants falls within their range of a sufficient number of Delphi participants. Additionally, using participants who have knowledge and interest in the subject help to support the internal validity of a Delphi (Goodman, 1987).

Number of Rounds

Delphi literature cites anywhere from two to five rounds as being common practice (Custer et al., 1999; Dalkey & Helmber, 1963; Delbecq et al., 1975; Hsu & Sandford, 2007; Linstone & Turoff, 1975; Ludwig, 1997). Most researchers believe that three is an appropriate number of rounds (Custer et al., 1999; Linstone & Turoff, 1975; Ludwig, 1997). Theoretically, however, a Delphi study can continue until a consensus has been made. This study planned on using three rounds of the Delphi study, but had the potential of using a fourth round if any clarification was needed for the new ideas in Round Three.

The study was completed after the third round of the Delphi study. The new statements added from Round Two were deemed sufficient by the panel and a consensus was made.

Dropout and Mortality

Linstone and Turoff (1975) cautioned that contacting the panel too many times because they may upset participants and have a lower response rate. Below are the contacts made with the panel members:

Table 3.1: *Research Study Timeline*

Activity	Primary Question or Focus	Date
IRB Approval: Round One	Round 1 IRB Approval	April 4
Invitation	Invitation was sent to potential panel members to see if they would participate	April 5
Phase I: Round One	Single question asked: "*What skills, competencies, and knowledge should agricultural communications undergraduates be prepared with before entering the workforce?"*	April 10
Reminder: Round 1	Panel members were sent a reminder email to complete Round One	April 15
IRB Approval: Round Two	IRB reviewed the survey for Round Two, based upon the results of Round One	April 26
Phase I: Round Two	Using the Round One responses, each participant will indicate their level of agreement with the item using a four-point Likert-type scale.	April 30
Reminder: Round Two	Panel members were sent a reminder email to complete Round Two	May 10
IRB Approval: Round Three	IRB reviewed the survey for Round Three, based upon the results of Round Two	May 23
Phase I: Round Three	Using the Round Two items that achieved a 75% level of agreement, participants will further refine each item.	May 24
Reminder: Round Two	Panel members were sent a reminder email to complete Round Three	May 28
Reminder Calls: Round Two	Panel members were called to complete Round Three of the survey	June 3 June 10
IRB Approval: Phase II	IRB reviewed the survey for Phase II, based upon the results of Phase I	June 12
Phase II: Ag Comm. Faculty Round	Based on the Round Three, faculty members were sent a list of final Phase I items. They must then match the item to a course in the department (if applicable) and explain how it is assessed in their course. Final analysis will identify patterns and expectation gaps that exist	June 12

Activity	Primary Question or Focus	Date
Reminder: Phase II	Panel members were sent a reminder email to complete Phase II	July 1
Reminder Calls: Phase II	Panel members were called to complete Phase II of the survey	July 15 August 1

Panel members were contacted several times throughout the Delphi process; fear of participant attrition was an issue. Just over a quarter of the participants were lost during the process (n = 5). Even though members were contacted several times, the number of participants who completed the Delphi (n = 14) still met the criteria of ten to 15 panel members (Dalkey, 1972; Dalkey & Helmber, 1963).

Survey Research

In Phase II of the research study, a survey method was used. One large concern of survey research is size. However, there are approximately 30 agricultural communications programs in the entire United States (Irani & Scherler, 2002). With a small sample size, measuring test reliability would have shown little if any differences. Five of the largest universities were contacted to complete the survey. They were also located in some of the states that were used from Phase I.

Research Design

A mixed-method research design guided the study. The Delphi method was the principle procedure used in this study. Delphi studies seek to gain a consensus among a panel without the panel members actually interacting (Hsu & Sandford, 2007; Linstone & Turoff, 1975). Linstone and Turoff (1975) gave further reasons for using the Delphi technique:

- The problem does not lend itself to precise analytical techniques but can benefit from subjective judgments on a collective basis.
- The individuals needed to contribute to the examination of a broad or complex problem have no history of adequate communication and may represent diverse backgrounds with respect to experience or expertise.
- More individuals are needed than can effectively interact in a face-to-face exchange.
- Time and cost make frequent group meetings unfeasible.
- A supplemental group communication process can increase the efficiency of face-to-face meetings (p. 4).

The number of rounds in a Delphi study can either be predetermined or can continue until a complete consensus is made. Studies can range from two to five rounds. This study used three rounds in Phase I in order to achieve 80 percent consensus needed to gain valid and reliable results.

Phase II is based upon the results of Phase I. After the consensus list was completed on Phase I, all competencies were sent to university faculty members. With each competency, faculty members were asked to evaluate each statement on two difference measures.

Selection of Panel

This study was divided into two phases. Each phase utilizes two very different populations: industry professionals and faculty members.

Phase I

The population frame for Phase I was agricultural communications industry professionals from California, Iowa, and Texas. These three states represent the top three states for total agricultural cash receipts (United States Department of Agricultural Economic Research Service, 2013). Additionally, these top three states represent each region of the American Association for Agricultural Education (AAAE) as part of the Western, North Central, and Southern regions.

Members of the National Agri-Marketing Association (NAMA) were chosen because of their involvement with the agricultural communications industry. Members from each of the three states were chosen from the *AgriMarketing Annual Marketing Service Guide* (National Agri-Marketing Association, 2013). The directory is created by NAMA and is put out annually. The goal was to have an even representation from each of the three states. Ten members from California, Iowa, and Texas were contacted and asked to complete the Dephi survey. The companies list a contact person, and that is whom the initial invitation letter was sent to. If an individual declined, they were first asked if someone else would be able to complete the survey, or the human resources person was contacted if no recommendation was made.

The initial contact with industry professionals began April 5, 2013. An email was sent to 52 members of NAMA (Appendix B). Of the 52 members emailed, 19 confirmed that they would be able to participate. Some of those that declined listed not knowing enough about agricultural communications, being out of town for an extended period of time, not having enough time, or did not feel qualified to participate.

Of those who agreed to participate, five were from California, seven were from Iowa, seven and were from Texas. However, only 14 participants completed all three rounds of the Delphi: 21.4% from California (n = 3), 35.7% from Iowa (n = 5), and 42.8% from Texas (n = 6).

Phase II

Based on the outcomes of Phase I, the resulting list of items was sent to faculty members in the five largest agricultural communications programs. These programs have the largest number of undergraduate enrollment. To keep the confidentiality, the universities will be identified by numbers (1 – 5).

The faculty member who is responsible for undergraduate assessment coordinator was initially contacted to complete the survey. If they were unable to complete it, they referred the researcher to the person best suited to fill out the survey.

Instrumentation

The researcher developed an open-ended instrument consisting of one question. Open-ended questions tend to receive more complete answers with the use of electronic questionnaires than by using paper forms (Dillman, 2007). The content validity of all surveys was reviewed by selected staff within the department of agricultural education and communications at Texas Tech University in order to ensure content validity as well as thoroughness. All surveys were sent via email using Qualtrics to complete the survey.

The purpose of the initial instrument (Appendix D) was to develop questions that would elicit responses from the panel regarding the skills, competencies, knowledge required for agricultural communications graduates to be successful in the workplace. The one initial question was:

What skills, competencies, and knowledge must agricultural communications graduates possess to be successful in the workplace?

The response from this question was the only information used to construct Round Two. The data collected from Round Two was used to construct Round Three. Rounds two and three consisted of a four-point Likert-type scale and additional categorizations of statements in Round Three. Data from round and two were used to create the survey that was sent to faculty members in the second phase of the study. The surveys were sent out as soon as the researchers reached agreement and IRB approval was obtained.

Data Collection

Initial contact with the panel members began as soon as IRB approval was received. Prior to sending out the first round of surveys, panel members were sent an email invitation.

Round One

The initial email for Round One was emailed on April 15, 2013. The email included the cover letter to the participants to further explain the instructions for the study, as well as a link to the study on Qualtrics (Appendix C & D). Panel members were requested to complete the survey by April 19, 2013. A follow up email (Appendix N) was sent on April 18, 2013 and again on April 23, 2013. When the data collection closed on April 25th, 15 participants had responded for a response rate of 78.9%.

A total of 116 statements were created as a result of Round One.

Round Two

Responses from Round One were summarized and reworded into common statements, with all responses included in Round Two. The researcher used qualitative research techniques to determine knowledge, skills, and competencies statements and topic areas. Researchers used open coding, which is the process of breaking down, examining, comparing, conceptualizing, and categorizing data (Corbin & Strauss, 1990). Once open coding was completed, the researcher then began axial coding, which is a set of procedures where data are put back together in new ways after open coding by making connections between categories (Corbin & Strauss, 1990). After the primary researcher coded the data, two other independent researchers reviewed the statements and categorized them.

There were seven categories created: writing and grammar; communication; agriculture; business; specific skills; personal traits; and technology. When the three researchers were in agreement on statements and categories, the second survey was sent to IRB for approval (Appendix E).

In Round Two, the panel members were sent another email (Appendix F) with a link to the survey (Appendix G). The survey asked the panel members to rank the skill on a four-point Likert-type scale. The Likert-type scale was assigned a numerical variable with 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. The researcher determined that a competency of 80 percent or higher agreement should be considered as a knowledge, skill, or competency needed by agricultural communications graduates.

Additionally, panel members had the opportunity to add in new statements at the end of each statement. There were a total of 20 new statements created from these responses.

Round Two was sent out April 30, 2013 with the request for it to be completed May 7, 2013. Reminder emails (Appendix N) were sent out May 3, 2013. A second reminder was not sent out because the responses were completed by May 5, 2013. All 15 panel members completed Round Two for a 100 percent response rate.

Round Three

In Round Three, responses that had reached an 80 percent agreement were ranked. A total of 77 statements of the 116 reached 80 percent agreement. The top 25 statements created a separate question. Panel members were asked to rank the 25 statements in the order of agreement to least agreement.

Question two included the 20 new statements created from Round Two. Panel members were asked to use a four-point Likert-type scale to determine if they agreed or disagreed with the statements. The Likert-type scale was assigned a numerical variable with 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree.

The third question looked again at the 20 new statements. Members were asked to determine where they fit in with the top 25 statements from question one. They could select:

- *Would be ranked in the top 5 priority statements*
- *Would be ranked 6-10 in the list*
- *Would be ranked 11-25 in the list*
- *Would not be ranked in the top 25.*

Question four looked at the statements from Round Two that reached 80 percent agreement but were not in the top 25. Respondents were asked to select the statements they believe should have been included in the top 25, but were not.

The remaining 39 statements that did not reach 80 percent agreement in Round Two were listed in question five. Panel members were asked to select if the statement was:

- Expected competence
- No longer needed
- Uncertain as to need

Following review by three researchers, the survey was sent to IRB for approval on May 23, 2013. IRB approval was obtained May 23, 2013 (Appendix H). On May 23, 2013, the 15 panel members were emailed (Appendix I) and sent a link to the survey (Appendix J). Members were asked to complete the survey my May 31, 2013. A reminder email was sent to panel members on May 28, 2013. Following that reminder, one panel member had not completed the survey. They were called June 10, 2013. The last panel member never responded and was considered to have left the study. There were a total of 14 participants who completed all three Rounds of the Delphi study.

Phase II

Phase II involved contacting faculty members from agricultural communications departments. All statements (those initially created from Round One and the additions from Round Two) were composed into one survey. Faculty members were asked to evaluate each statement on two categories: (1) how important is this topic and (2) to what

extent does your department teach this topic? Within the "How important is this topic," faculty members could select one of the four options:

- Very important
- Important
- Somewhat important
- Little to no importance

When asked "What percentage of your courses teach this?" faculty members were asked to enter a percentage.

The survey was sent to IRB and received IRB approval June 12, 2013 (Appendix K). The cover letter (Appendix L) was sent to faculty members June 17, 2013 with a link to the survey (Appendix M). Faculty members were asked to complete the survey by July 15.

Data Analysis

A two-digit code was assigned to each participant prior to sending out the first survey. Respondents had to enter the code on the first page of the survey in order to proceed within the Qualtrics survey. The code kept the anonymity of the respondents and helped the researchers to know who had completed the survey and who had not. The codes were used for all three rounds of the Delphi study.

Round One of the Delphi required the researcher and two additional researchers to evaluate the response into statements to send to Round Two.

For rounds two and three, variables received a numerical variable. Responses for these questions were analyzed using Statistical Package for Social Sciences (SPSS) on a personal computer.

During Phase II, faculty members received a three-digit code when the initial letter and survey was sent out. The data was analyzed using Statistical Package for Social Sciences (SPSS) on a personal computer.

CHAPTER IV

RESULTS

The purpose of this study was to gain a better understanding of what skills, knowledge, and competencies the future agricultural communications student must possess to be successful in the workplace. The study sought to understand what those in the agricultural communications industry deemed as most important. The following objectives were investigated throughout the course of the study:

1. Determine the skills that the agricultural communications industry deem as important for their employees.
2. Describe the knowledge, skills, and competencies required for agricultural communications students to be successful in the workplace.
3. Prioritize the employability skills needed by agricultural communications students, as determined by employers.
4. Understand the gaps in knowledge, skills, and competencies within the agricultural communications undergraduate curriculum.
5. Determine if there is an expectation gap between industry needs and agricultural communications academic programs.

Round One

Round One was used to answer a single question: What skills, competencies, and knowledge should agricultural communication graduates have to be successful in the work place?

With the open-ended question, the researcher received a wide variety of feedback and opinions from the panel members. The primary researcher analyzed the responses carefully and then again by additional researchers to ensure that the true meaning was being carried on to the second round. The responses were reworded so that other panel members could easily understand the statements in Round Two. During the analysis, content was not tampered and the original context of the statement remained intact.

Responses to Round One

Responses from Round One yielded 116 statements in seven categories. The categories that emerged were:

- Writing and grammar
- Communication skills
- Agriculture
- Technology
- Personal skills
- Specific skills
- Business

Within each category, the following statements emerged:

Writing and Grammar

- Understand multiple writing styles (AP, magazine writing, or an advertising campaign)
- Effective written social media skills
- Effective written communication for formal communications (emails, letters)
- Effective written communication for informational websites

- Effective written communication for report writing
- Effective written communication for feature writing
- Write to various audiences (internal, media, general public, etc.)
- Clearly articulate writing (sentence structure, word choice)
- Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)
- Create a compelling written narrative
- Write using flawless grammar
- Evaluate writing (proofreading, editing)
- Demonstrate that perspective and context are essential to good reporting

Communication Skills

- Employ effective verbal communication
- Demonstrate consistency in writing a communication campaign
- Demonstrate consistency in planning a communication campaign
- Show a high level of interviewing skills for a story
- Utilize effective research skills
- Show good presentation skills
- Analyze an audience
- Execute a communication plan
- Ability to distill a lot of information into a simple, easily understood communications message
- Respect and identify the influence leaders or primary audience (spouse's impact)
- Identify the gatekeeper (the person who controls access to the primary target)

- Communicate and interact with co-workers
- Choose the most effective method of communication
- Strong public communication skills
- Create a strategic vision
- Develop and test messages
- Identify risks that could become a crisis
- Plan and manage for a crisis
- Evaluate the value of media (media analysis)
- Form collaborative communication partnerships
- Maintain communication partnerships
- Adapt speech to various audiences
- Evaluate and communicate the essential message
- Understand the specific needs of the client and their industry
- Identify final objectives of a project
- Identify the relevance of a project
- Evaluate how to improve success
- Utilize internal knowledge of non-communication individuals

Agriculture

- Fundamental and basic understanding of agriculture
- Understand the issues impacting food, fiber, fuel, and flower production in the United States.
- Possess an insatiable curiosity about all things having to do with agriculture
- Recognize the impact of policy and regulation on agricultural business costs

- Understand that there are a limited number of people who are farming and ranching
- Understand that the professional quality of the people in agriculture may vary
- Understand that the public may not understand agriculture
- Economic impact of agriculture in local, state, regional, national and international spheres
- Understand the influence of agriculture at every socio-economic level
- Realize the impact of international relations on agricultural business costs
- Ability to simplifying commodity specific language to general audiences

Technology

- Identify various social media technologies
- Employ effective social media skills
- Demonstrate effective use of technology
- Working knowledge of the Adobe Creative Suite
- Operate Adobe InDesign
- Operate Adobe Dreamweaver
- Operate Adobe Photoshop
- Operate Adobe Illustrator
- Operate Adobe Flash
- Operate Adobe Bridge
- Operate Adobe Fireworks
- Operate Adobe Acrobat
- General knowledge of the Microsoft Office programs

- Demonstrate use of the Microsoft Office programs
- Demonstrate use of the Microsoft Word
- Demonstrate use of the Microsoft Outlook
- Demonstrate use of the Microsoft Access
- Demonstrate use of the Microsoft Excel
- Demonstrate use of the Microsoft OneNote
- Demonstrate use of the Microsoft Publisher
- Demonstrate use of the Microsoft Power Point

Personal Skills

- Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)
- Possess a positive attitude
- Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)
- Speak more than one language
- Good time management
- Demonstrate a high level of organization
- Apply creativity (think outside of the box)
- Maintain strong work ethic
- Be self-motivated
- Demonstrate common sense in decision making
- Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)

- Trustworthy
- Reliable (committed to what they say they will do)
- Be consistently prepared (prioritizing tasks, then acting on them)
- Show strategic thinking ability
- Always be respectful
- Be empathetic (relate to others)
- Evaluate real-life experiences
- The ability to be comfortable talking to many types of people in different situations
- Relationship development with peers
- Relationship development with clients
- Maintain professionalism under pressure
- Possess a working knowledge over a multitude of subjects (e.g. history, economics, business, science, and engineering)
- Be assertive without being insulting
- Create and maintain relationships
- Ability to ask others more qualified for help
- Strong desire to succeed in the workplace
- Understand the consequences of your actions
- Think critically on a project

Specific Skills

- Demonstrate a high level of photography skills
- Illustrate knowledge of graphic design

- Ability to create page layouts
- Operate video editing software
- Illustrate knowledge of web design

Business

- Analyze numbers, charts, graphs, demographics or statistics
- Recognize basic business principals
- Ability to work on a multi-dimensional team
- Political sensitivity to stakeholder issues
- Understand human capital (competencies, knowledge, social and personality attributes as it relates to an economic value for the company)
- Understand the basics associated with building contractual relationships
- Outline project planning
- Outline project scheduling
- Employ organization tools (like Gantt charts)

Round Two

In Round Two, panel members were asked to rate the 116 competencies using a four-point Likert-type scale. Panel members were asked to select 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, or 4 = Strongly Agree. The overall agreement of the panel was determined by the percentage of the panel that either answered strongly disagree or agree. The statements that reached 80 percent agreement were deemed as important for agricultural graduates to be successful in the workplace. Results of the panel's level of agreement for each competency are illustrated in Table 4.1.

Table 4.1

Competencies that reached the 80% agreement level by panel members during Round Two

Competency	Topic Area	% of Agreement
1. Trustworthy	Personal	98.33%
2. Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)	Writing	96.67%
3. Ability to distill a lot of information into a simple, easily understood communications message	Communication	96.67%
4. Effective written communication for formal communications (emails, letters)	Writing	95.00%
5. Clearly articulate writing (sentence structure, word choice)	Writing	95.00%
6. Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)	Personal	95.00%
7. Reliable (committed to what they say they will do)	Personal	95.00%
8. Write to various audiences (internal, media, general public, etc.)	Writing	93.33%
9. Employ effective verbal communication	Communication	93.33%
10. Demonstrate effective use of technology	Technology	93.33%
11. Maintain strong work ethic	Personal	93.33%
12. Choose the most effective method of communication	Communication	91.67%
13. Form collaborative communication partnerships	Communication	91.67%
14. Maintain communication partnerships	Communication	91.67%
15. Evaluate and communicate the essential message	Communication	91.67%
16. Understand the specific needs of the client and their industry	Communication	91.67%
17. Possess a positive attitude	Personal	91.67%
18. Good time management	Personal	91.67%
19. Apply creativity (think outside of the box)	Personal	91.67%
20. Demonstrate common sense in decision making	Personal	91.67%
21. Evaluate writing (proofreading, editing)	Writing	90.00%
22. Communicate and interact with co-workers	Communication	90.00%
23. Employ effective social media skills	Technology	90.00%

Table 4.1. Continued

Competency	Topic Area	% of Agreement
24. Demonstrate a high level of organization	Personal	90.00%
25. Be self-motivated	Personal	90.00%
26. Strong desire to succeed in the workplace	Personal	90.00%
27. Understand the consequences of your actions	Personal	90.00%
28. Analyze an audience	Communication	88.33%
29. Fundamental and basic understanding of agriculture	Agriculture	88.33%
30. Be consistently prepared (prioritizing tasks, then acting on them)	Personal	88.33%
31. Always be respectful	Personal	88.33%
32. The ability to be comfortable talking to many types of people in different situations	Personal	88.33%
33. Understand multiple writing styles (AP, magazine writing, or an advertising campaign)	Writing	88.33%
34. Effective written social media skills	Writing	86.67%
35. Effective written communication for feature writing	Writing	86.67%
36. Create a compelling written narrative	Writing	86.67%
37. Demonstrate that perspective and context are essential to good reporting	Writing	86.67%
38. Demonstrate consistency in writing a communication campaign	Communication	86.67%
39. Demonstrate consistency in planning a communication campaign	Communication	86.67%
40. Show good presentation skills	Communication	86.67%
41. Strong public communication skills	Communication	86.67%
42. Adapt speech to various audiences	Communication	86.67%
43. Understand that the public may not understand agriculture	Agriculture	86.67%
44. Ability to simplifying commodity specific language to general audiences	Agriculture	86.67%
45. Show strategic thinking ability	Personal	86.67%
46. Maintain professionalism under pressure	Personal	86.67%
47. Create and maintain relationships	Personal	86.67%
48. Think critically on a project	Personal	86.67%

Table 4.1. Continued

Competency	Topic Area	% of Agreement
49. Recognize basic business principals	Business	86.67%
50. Effective written communication for informational websites	Writing	85.00%
51. Show a high level of interviewing skills for a story	Communication	85.00%
52. Identify final objectives of a project	Communication	85.00%
53. Identify various social media technologies	Technology	85.00%
54. General knowledge of the Microsoft Office programs	Technology	85.00%
55. Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)	Personal	85.00%
56. Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)	Personal	85.00%
57. Write using flawless grammar	Writing	83.33%
58. Execute a communication plan	Communication	83.33%
59. Identify the gatekeeper (the person who controls access to the primary target)	Communication	83.33%
60. Identify the relevance of a project	Communication	83.33%
61. Evaluate how to improve success	Communication	83.33%
62. Economic impact of agriculture in local, state, regional, national and international spheres	Agriculture	83.33%
63. Be empathetic (relate to others)	Personal	83.33%
64. Ability to ask others more qualified for help	Personal	83.33%
65. Utilize effective research skills	Communication	81.67%
66. Respect and identify the influence leaders or primary audience (spouse's impact)	Communication	81.67%
67. Create a strategic vision	Communication	81.67%
68. Understand the issues impacting food, fiber, fuel and flower production in the United States.	Agriculture	81.67%
69. Recognize the impact of policy and regulation on agricultural business costs	Agriculture	81.67%
70. Ability to work on a multi-dimensional team	Business	81.67%
71. Effective written communication for report writing	Writing	80.00%

Table 4.1. Continued

Competency	Topic Area	% of Agreement
72. Utilize internal knowledge of non-communication individuals	Communication	80.00%
73. Understand the influence of agriculture at every socio-economic level	Agriculture	80.00%
74. Demonstrate use of the Microsoft Word	Technology	80.00%
75. Relationship development with clients	Personal	80.00%
76. Be assertive without being insulting	Personal	80.00%
77. Political sensitivity to stakeholder issues	Business	80.00%

There was a high number of competencies that the panel believed were essential for agricultural communications graduates to possess to be successful in the workplace. Of the 116 competencies, 77 reached the 80 percent agreement level.

Statements that had a 95-98.3% agreement were “Trustworthy” (98.3%), “Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)” (96.6%), “Ability to distill a lot of information into a simple, easily understood communications message” (96.6%), “Effective written communication for formal communications (emails, letters)” (95%), “Clearly articulate writing (sentence structure, word choice)” (95%), “Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)” (95%), and “Reliable (committed to what they say they will do) (95%).

Statements with a 90-94.9% agreement were “Write to various audiences (internal, media, general public, etc.)” (93.3%), “Employ effective verbal communication” (93.3%), “Demonstrate effective use of technology” (93.3%), “Maintain strong work ethic” (93.3%), “Choose the most effective method of communication” (91.6%), “Form collaborative communication partnerships” (91.6%), “Maintain

communication partnerships" (91.6%), "Evaluate and communicate the essential message" (91.6%), "Understand the specific needs of the client and their industry" (91.6%), "Possess a positive attitude" (91.6%), "Good time management" (91.6%), "Apply creativity (think outside of the box) " (91.6%), "Demonstrate common sense in decision making" (91.6%), "Evaluate writing (proofreading, editing)" (90%), "Communicate and interact with co-workers" (90%), "Employ effective social media skills" (90%), "Demonstrate a high level of organization" (90%), "Be self-motivated" (90%), "Strong desire to succeed in the workplace" (90%), and "Understand the consequences of your actions" (90%).

The competencies receiving between 85-89.9% agreement were Analyze an audience" (88.3%), "Fundamental and basic understanding of agriculture" (88.3%), "Be consistently prepared (prioritizing tasks, then acting on them)" (88.3%), "Always be respectful" (88.3%), "The ability to be comfortable talking to many types of people in different situations" (88.3%), "Understand multiple writing styles (AP, magazine writing, or an advertising campaign)" (88.3%), "Effective written social media skills" (86.6%), "Effective written communication for feature writing" (86.6%), "Create a compelling written narrative" (86.6%), "Demonstrate that perspective and context are essential to good reporting" (86.6%), "Demonstrate consistency in writing a communication campaign" (86.6%), "Demonstrate consistency in planning a communication campaign" (86.6%), "Show good presentation skills" (86.6%), "Strong public communication skills" (86.6%), "Adapt speech to various audiences" (86.6%), "Understand that the public may not understand agriculture" (86.6%), "Ability to simplifying commodity specific language to general audiences" (86.6%), "Show strategic thinking ability" (86.6%),

"Maintain professionalism under pressure" (86.6%), "Create and maintain relationships" (86.6%), "Think critically on a project" (86.6%), "Recognize basic business principals" (86.6%), "Effective written communication for informational websites" (85%), "Show a high level of interviewing skills for a story" (85%), "Identify final objectives of a project" (85%), "Identify various social media technologies" (85%), "General knowledge of the Microsoft office programs" (85%), "Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)" (85%), and "Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)" (85%).

Competencies receiving between 80-84.9% agreement were "Write using flawless grammar" (83.3%), "Execute a communication plan" (83.3%), "Identify the gatekeeper (the person who controls access to the primary target)" (83.3%), "Identify the relevance of a project" (83.3%), "Evaluate how to improve success" (83.3%), "Economic impact of agriculture in local, state, regional, national and international spheres" (83.3%), "Be empathetic (relate to others) " (83.3%), "Ability to ask others more qualified for help" (83.3%), "Utilize effective research skills" (81.6%), "Respect and identify the influence leaders or primary audience (spouse's impact)" (81.6%), "Create a strategic vision" (81.6%), "Understand the issues impacting food, fiber, fuel and flower production in the United States" (81.6%), "Recognize the impact of policy and regulation on agricultural business costs" (81.6%), "Ability to work on a multi-dimensional team" (81.6%), "Effective written communication for report writing" (80%), "Utilize internal knowledge of non-communication individuals" (80%), "Understand the influence of agriculture at every socio-economic level" (80%), "Demonstrate use of the Microsoft Word" (80%),

"Relationship development with clients" (80%), "Be assertive without being insulting" (80%), and "Political sensitivity to stakeholder issues" (80%).

Fifty-seven competencies were below the 80 percent agreement rate, as illustrated in Table 4.2.

Table 4.2

Agreement levels of the competencies below the 80 percent level by the panel after Round Two.

Competency	Topic Area	% of Agreement
Develop and test messages	Communication	78.33%
Plan and manage for a crisis	Communication	78.33%
Evaluate real-life experiences	Personal	78.33%
Relationship development with peers	Personal	78.33%
Possess an insatiable curiosity about all things having to do with agriculture	Agriculture	76.67%
Demonstrate use of the Microsoft Office programs	Technology	76.67%
Understand human capital (competencies, knowledge, social and personality attributes as it relates to an economic value for the company)	Business	76.67%
Realize the impact of international relations on agricultural business costs	Agriculture	75.00%
Identify risks that could become a crisis	Communication	73.33%
Demonstrate use of the Microsoft Outlook	Technology	73.33%
Analyze numbers, charts, graphs, demographics or statistics	Business	73.33%
Evaluate the value of media (media analysis)	Communication	71.67%
Understand that there are a limited number of people who are farming and ranching	Agriculture	71.67%
Understand that the professional quality of the people in agriculture may vary	Agriculture	71.67%
Outline project scheduling	Business	71.67%
Working knowledge of the Adobe Creative Suite	Technology	70.00%
Demonstrate use of the Microsoft Power Point	Technology	70.00%
Possess a working knowledge over a multitude of subjects (e.g. history, economics, business, science, and engineering)	Personal	70.00%
Outline project planning	Business	70.00%
Demonstrate use of the Microsoft Excel	Technology	68.33%
Understand the basics associated with building contractual relationships	Business	68.33%
Operate Adobe Acrobat	Technology	65.00%
Demonstrate a high level of photography skills	Specific Skills	65.00%

Table 4.2. Continued

Competency	Topic Area	% of Agreement
Operate Adobe InDesign	Technology	63.33%
Speak more than one language	Personal	63.33%
Employ organization tools (like Gantt charts)	Business	61.67%
Operate Adobe Photoshop	Technology	60.00%
Demonstrate use of the Microsoft Publisher	Technology	60.00%
Ability to create page layouts	Specific Skills	58.33%
Operate Adobe Dreamweaver	Technology	56.67%
Operate Adobe Flash	Technology	56.67%
Demonstrate use of the Microsoft Access	Technology	56.67%
Illustrate knowledge of graphic design	Specific Skills	56.67%
Operate Adobe Illustrator	Technology	55.00%
Operate video editing software	Specific Skills	55.00%
Operate Adobe Bridge	Technology	53.33%
Operate Adobe Fireworks	Technology	53.33%
Illustrate knowledge of web design	Specific Skills	53.33%
Demonstrate use of the Microsoft OneNote	Technology	51.67%

New Competencies from Round Two

Panel members were given the option to add additional competencies that were not shown in Round Two. Twenty new statements were created as a result. Below are the new competencies:

Writing and Grammar

- Distinguish between narrative voice and academic grammar. Know when to use each voice
- Individual understands and exhibits professionalism

- Individual understands and exhibits professional standards of organization

Communication Skills

- Ability to inform public in an unbiased manner
- Ability to create persuasive messages

Technology

- Ability to watch for and respond to changes in audiences behaviors
- Awareness and ability to respond to changes in channels used to deliver information to diverse audiences
- Individual is a lifelong learner that seeks to remain on the cutting edge of the profession
- Understand a Customer Relationship Management (CRM) Database
- Knowledge of data mining
- Knowledge of database marketing
- Use technology to work virtually
- Use technology to stay connected virtually
- Understand HTML
- Understand web application

Personal

- Serve as a vehicle to tell stories of others; not of self
- Strong intrapersonal skills (occurring within the individual mind or self)

Specific Skills

- Ability to tell a story through images (photos, video, etc.)

Business

- Read and understand a variety of business reports to contribute to internal discussion
- Effectively disseminate a variety of business reports to an external audience

Round Three

Based on the results of Round Two, panel members were asked to rank order the top 25 statements that emerged from Round Two with the highest level of agreement. Table 4.3 shows the ranking of the top 25 statements.

Table 4.3

Rankings of the top 25 statements, listed by mean

Competency	N	Mean	Std. Dev.	Highest Ranking	Lowest Ranking
1. Trustworthy	14	5.29	6.16	1	23
2. Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)	14	6.86	7.92	1	25
3. Ability to distill a lot of information into a simple, easily understood communications message	14	7.86	8.12	1	23
4. Effective written communication for formal communications (emails, letters)	14	8.21	5.77	2	18
5. Clearly articulate writing (sentence structure, word choice)	14	8.57	6.00	1	22
6. Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)	14	9.07	5.05	2	19
7. Reliable (committed to what they say they will do)	14	10.00	6.08	2	22
8. Write to various audiences (internal, media, general public, etc.)	14	11.21	5.71	3	20
9. Employ effective verbal communication	14	11.79	4.89	6	23
10. Demonstrate effective use of technology	14	11.93	6.87	3	25
11. Maintain strong work ethic	14	12.21	7.30	3	24
12. Choose the most effective method of communication	14	12.29	5.80	4	24
13. Form collaborative communication partnerships	14	13.29	6.97	3	24
14. Maintain communication partnerships	14	13.43	6.87	2	23
15. Evaluate and communicate the essential message	14	14.00	5.99	5	23
16. Understand the specific needs of the client and their industry	14	15.14	5.88	2	23
17. Possess a positive attitude	14	15.64	6.30	3	24
18. Good time management	14	15.71	6.40	1	24
19. Apply creativity (think outside of the box)	14	15.71	5.24	6	24
20. Demonstrate common sense in decision making	14	16.29	7.11	5	24
21. Evaluate writing (proofreading, editing)	14	16.93	5.99	7	25
22. Communicate and interact with co-workers	14	17.14	5.08	7	25

Table 4.3. Continued

Competency	N	Mean	Std. Dev.	Highest Ranking	Lowest Ranking
23. Employ effective social media skills	14	17.79	6.31	4	25
24. Demonstrate a high level of organization	14	18.43	6.96	4	25
25. Be self-motivated	14	20.21	5.90	7	25

Panel members were asked to rate the new competencies created in Round Two (Table 4.4). Panel members were asked to select 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, or 4 = Strongly Agree. The overall agreement of the panel was determined by the percentage of the panel that either answered strongly disagree or agree.

Table 4.4

Agreement levels of the new competencies created from Round Two

Competency	Topic Area	% of Agreement
Individual understands and exhibits professionalism	Writing	92.8%
Individual understands and exhibits professional standards of organization	Writing	87.5%
Ability to create persuasive messages	Communication	87.5%
Ability to watch for and respond to changes in audiences behaviors	Technology	87.5%
Awareness and ability to respond to changes in channels used to deliver information to diverse audiences	Technology	87.5%
Individual is a lifelong learner that seeks to remain on the cutting edge of the profession	Technology	85.8%
Serve as a vehicle to tell stories of others; not of self	Personal	85.8%
Ability to tell a story through images (photos, video, etc.)	Specific Skills	84.0%
Strong intrapersonal skills (occurring within the individual mind or self)	Personal	82.5%
Ability to inform public in an unbiased manner	Communication	80.3%
Use technology to stay connected virtually	Technology	78.5%
Effectively disseminate a variety of business reports to an external audience	Business	78.5%
Use technology to work virtually	Technology	76.8%
Understand a Customer Relationship Management (CRM) Database	Technology	76.8%
Distinguish between narrative voice and academic grammar. Know when to use each voice	Writing	75.8%
Read and understand a variety of business reports to contribute to internal discussion	Business	75.0%
Knowledge of data mining	Technology	69.8%
Knowledge of database marketing	Technology	69.8%
Understand web application	Technology	65.5%
Understand HTML	Technology	60.8%

The panel members were asked to evaluate the new statements created from Round Two. They were asked to think back to their previous rankings and determine where the new statements would fall. They could select "Would be ranked in the top 5 priority statements," "Would be ranked 6 - 10 in the list," "Would be ranked 11 - 25 in the list," or "Would not be ranked in the top 25."

With the small population, responses were weighted to more clearly identify potential differences that may exist. The following weight was applied: "Would be ranked in the top 5 priority statements" received four points; "Would be ranked 6 - 10 in the list" received three points; "Would be ranked 11 - 25 in the list" received two points; and "Would not be ranked in the top 25" received 1 point. Below are the statements ordered by their sum of points.

Table 4.5

New statements created from Round Two that were added to the previous rankings

Competency	Sum of Weighted Points	Mean
Ability to create persuasive messages	55	2.21
Awareness and ability to respond to changes in channels used to deliver information to diverse audiences	51	1.93
Serve as a vehicle to tell stories of others; not of self	46	2.38
Ability to tell a story through images (photos, video, etc.)	39	2.21
Read and understand a variety of business reports to contribute to internal discussion	39	2.5
Individual is a lifelong learner that seeks to remain on the cutting edge of the profession	38	2.29
Understand a Customer Relationship Management (CRM) database	37	2.93
Individual understands and exhibits professionalism	37	1.79
Effectively disseminate a variety of business reports to an external audience	33	2.64
Knowledge of data mining	30	3.43
Understand HTML	28	3.57
Strong intrapersonal skills (occurring within the individual mind or self)	28	2.23
Ability to watch for and respond to changes in audiences behaviors	24	2.14
Distinguish between narrative voice and academic grammar. Know when to use each voice	24	2.54
Use technology to work virtually	23	3.07
Use technology to stay connected virtually	23	2.79
Knowledge of database marketing	22	3.43
Understand web application	22	3.31
Individual understands and exhibits professional standards of organization	20	2.14
Ability to inform public in an unbiased manner	14	2.29

Below are the statements that reached 80 percent agreement, but were not included in the top 25. Panel members were asked to select five items that should have been included in the top 25. Table 4.5 shows the percentage of agreement of what statements should have been included in the top 25.

Table 4.6

Statements that reached established agreement levels, but were not included in the top 25

Competency	% of agreement
1. Show strategic thinking ability	43%
2. Understand the consequences of your actions	36%
3. Fundamental and basic understanding of agriculture	36%
4. Analyze an audience	29%
5. Be consistently prepared (prioritizing tasks, then acting on them)	29%
6. Always be respectful	21%
7. Understand multiple writing styles (AP, magazine writing, or an advertising campaign)	21%
8. Strong public communication skills	21%
9. Maintain professionalism under pressure	21%
10. Create and maintain relationships	21%
11. Relationship development with clients	21%
12. The ability to be comfortable talking to many types of people in different situations	14%
13. Effective written social media skills	14%
14. Show good presentation skills	14%
15. Recognize basic business principals	14%
16. Write using flawless grammar	14%
17. Create a strategic vision	14%
18. Be assertive without being insulting	14%
19. Create a compelling written narrative	7%
20. Adapt speech to various audiences	7%
21. Understand that the public may not understand agriculture	7%
22. Ability to simplifying commodity specific language to general audiences	7%
23. Think critically on a project	7%
24. Identify final objectives of a project	7%
25. Identify various social media technologies	7%
26. Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)	7%

Table 4.6. Continued

Competency	% of agreement
27. Execute a communication plan	7%
28. Economic impact of agriculture in local, state, regional, national and international spheres	7%
29. Be empathetic (relate to others)	7%
30. Understand the issues impacting food, fiber, fuel and flower production in the United States.	7%
31. Understand the influence of agriculture at every socio-economic level	7%
32. Political sensitivity to stakeholder issues	7%
33. Strong desire to succeed in the workplace	0%
34. Effective written communication for feature writing	0%
35. Demonstrate that perspective and context are essential to good reporting	0%
36. Demonstrate consistency in writing a communication campaign	0%
37. Demonstrate consistency in planning a communication campaign	0%
38. Effective written communication for informational websites	0%
39. Show a high level of interviewing skills for a story	0%
40. General knowledge of the Microsoft office programs	0%
41. Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)	0%
42. Identify the gatekeeper (the person who controls access to the primary target)	0%
43. Identify the relevance of a project	0%
44. Evaluate how to improve success	0%
45. Ability to ask others more qualified for help	0%
46. Utilize effective research skills	0%
47. Respect and identify the influence leaders or primary audience (spouse's impact)	0%
48. Recognize the impact of policy and regulation on agricultural business costs	0%
49. Ability to work on a multi-dimensional team	0%
50. Effective written communication for report writing	0%
51. Utilize internal knowledge of non-communication individuals	0%
52. Demonstrate use of the Microsoft Word	0%

Below are the competencies that were eliminated in Round Two by not reaching 80% agreement. Panel members were asked to determine if the competency is an "expected competency," "no longer needed," or "uncertain as to need." The results are displayed in Table 4.7.

Table 4.7

Determining the need for statements that did not reach the 80% agreement level

	Percentage		
Competency	Expected Competency	No Longer Needed	Uncertain as to Need
Relationship development with peers	92.9%	0.0%	7.1%
Demonstrate use of Microsoft Office programs	92.9%	0.0%	7.1%
Microsoft Office			
Microsoft Outlook	78.6%	14.3%	7.1%
Microsoft Excel	71.4%	7.1%	21.4%
Microsoft Power Point	64.3%	7.1%	21.4%
Microsoft Publisher	28.6%	7.1%	64.3%
Microsoft Access	21.4%	7.1%	71.4%
Microsoft OneNote	14.3%	7.1%	78.6%
Plan and manage for a crisis	85.7%	0.0%	14.3%
Analyze numbers, charts, graphs, demographics or statistics	85.7%	0.0%	14.3%
Evaluate the value of media (media analysis)	85.7%	0.0%	14.3%
Understand human capital (competencies, knowledge, social and personality attributes as it relates to an economic value for the company)	78.6%	7.1%	14.3%
Realize the impact of international relations on agricultural business costs	78.6%	7.1%	14.3%
Identify risks that could become a crisis	78.6%	0.0%	21.4%
Understand that there are a limited number of people who are farming and ranching	71.4%	7.1%	21.4%
Develop and test messages	69.2%	0.0%	28.6%
Evaluate real-life experiences	64.3%	7.1%	28.6%
Possess an insatiable curiosity about all things having to do with agriculture	64.3%	0.0%	35.7%
Possess a working knowledge over a multitude of subjects (e.g. history, economics, business, science, and engineering)	64.3%	0.0%	35.7%
Outline project scheduling	57.1%	14.3%	28.6%

Table 4.7. Continued

	Percentage		
Competency	Expected Competency	No Longer Needed	Uncertain as to Need
Outline project planning	57.1%	14.3%	28.6%
Understand the basics associated with building contractual relationships	57.1%	14.3%	28.6%
Illustrate knowledge of graphic design	57.1%	0.0%	42.9%
Demonstrate use of Adobe Creative Suite programs			
Working knowledge of the Adobe Creative Suite	50.0%	14.3%	35.7%
Adobe Acrobat	42.9%	7.1%	50.0%
Adobe Photoshop	42.9%	0.0%	57.1%
Adobe InDesign	35.7%	7.1%	57.1%
Adobe Dreamweaver	35.7%	7.1%	57.1%
Adobe Flash	35.7%	7.1%	57.1%
Adobe Illustrator	35.7%	7.1%	57.1%
Adobe Bridge	28.6%	7.1%	64.3%
Adobe Fireworks	28.6%	7.1%	64.3%
Ability to create page layouts	50.0%	0.0%	50.0%
Operate video editing software	50.0%	0.0%	50.0%
Demonstrate a high level of photography skills	42.9%	14.3%	42.9%
Illustrate knowledge of web design	42.9%	0.0%	57.1%
Speak more than one language	35.7%	7.1%	57.1%
Employ organization tools (like Gantt charts)	21.4%	21.4%	57.1%

*Not in the top 80%

Phase II

In Phase II, university faculty members were asked to evaluate each competency. Faculty members were asked to determine the importance of each competency on a Likert-type scale with 1 = Little to no importance, 2 = Somewhat important, 3 =

Important, or 4 = Very important. The results of all competencies, included the new additions from Round Two, are shown in Table 4.8.

Table 4.8

Agreement levels of all competencies by university faculty members

			Frequency			
Competency	Topic Area	Mean	Very Important	Important	Somewhat Important	Little to no Importance
Understand multiple writing styles (AP, magazine writing, or an advertising campaign)	Writing	4.0	5	0	0	0
Individual is a lifelong learner that seeks to remain on the cutting edge of the profession	Technology	4.0	5	0	0	0
Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)	Personal	4.0	5	0	0	0
Trustworthy	Personal	4.0	5	0	0	0
Reliable (committed to what they say they will do)	Personal	4.0	5	0	0	0
Always be respectful	Personal	4.0	5	0	0	0
Create and maintain relationships	Personal	4.0	5	0	0	0
Analyze an audience	Communication	3.8	4	1	0	0
General knowledge of the Microsoft Office programs	Technology	3.8	4	1	0	0
Demonstrate use of the Microsoft Office programs	Technology	3.8	4	1	0	0
Demonstrate use of the Microsoft Word	Technology	3.8	4	1	0	0
Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)	Personal	3.8	4	1	0	0
Be self-motivated	Personal	3.8	4	1	0	0

Table 4.8. Continued

Competency	Topic Area	Mean	Frequency			
			Very Important	Important	Somewhat Important	Little to no Importance
Be consistently prepared (prioritizing tasks, then acting on them)	Personal	3.8	4	0	0	0
Understand the consequences of your actions	Personal	3.8	4	1	0	0
Think critically on a project	Personal	3.8	4	1	0	0
Write to various audiences (internal, media, general public, etc.)	Writing	3.6	3	2	0	0
Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)	Writing	3.6	3	2	0	0
Effective written communication for feature writing	Writing	3.6	3	2	0	0
Show a high level of interviewing skills for a story	Communication	3.6	3	2	0	0
Ability to distill a lot of information into a simple, easily understood communications message	Communication	3.6	3	2	0	0
Identify risks that could become a crisis	Communication	3.6	3	2	0	0
Understand the issues impacting food, fiber, fuel and flower production in the United States.	Agriculture	3.6	3	2	0	0
Employ effective social media skills	Technology	3.6	3	2	0	0
Demonstrate effective use of technology	Technology	3.6	3	2	0	0
Working knowledge of the Adobe Creative Suite	Technology	3.6	3	2	0	0
Awareness and ability to respond to changes in channels used to deliver information to diverse audiences	Technology	3.6	3	2	0	0

Table 4.8. Continued

Competency	Topic Area	Mean	Frequency			
			Very Important	Important	Somewhat Important	Little to no Importance
Possess a positive attitude	Personal	3.6	3	2	0	0
Good time management	Personal	3.6	3	2	0	0
Maintain strong work ethic	Personal	3.6	3	2	0	0
Be empathetic (relate to others)	Personal	3.6	3	2	0	0
Evaluate real-life experiences	Personal	3.6	3	2	0	0
Relationship development with clients	Personal	3.6	3	2	0	0
Maintain professionalism under pressure	Personal	3.6	3	2	0	0
Strong desire to succeed in the workplace	Personal	3.6	3	2	0	0
Ability to tell a story through images (photos, video, etc.)	Specific Skills	3.6	3	2	0	0
Clearly articulate writing (sentence structure, word choice)	Writing	3.4	3	1	1	0
Effective written communication for formal communications (emails, letters)	Writing	3.4	3	1	1	0
Create a compelling written narrative	Writing	3.4	2	3	0	0
Individual understands and exhibits professionalism	Writing	3.4	2	3	0	0
Evaluate writing (proofreading, editing)	Writing	3.4	2	3	0	0
Employ effective verbal communication	Communication	3.4	2	3	0	0
Utilize effective research skills	Communication	3.4	2	3	0	0

Table 4.8. Continued

Competency	Topic Area	Mean	Frequency			
			Very Important	Important	Somewhat Important	Little to no Importance
Communicate and interact with co-workers	Communication	3.4	2	3	0	0
Plan and manage for a crisis	Communication	3.4	2	3	0	0
Evaluate and communicate the essential message	Communication	3.4	2	3	0	0
Understand the specific needs of the client and their industry	Communication	3.4	2	3	0	0
Fundamental and basic understanding of agriculture	Agriculture	3.4	2	3	0	0
Understand that the public may not understand agriculture	Agriculture	3.4	2	3	0	0
Economic impact of agriculture in local, state, regional, national and international spheres	Agriculture	3.4	2	3	0	0
Identify various social media technologies	Technology	3.4	2	3	0	0
Operate Adobe InDesign	Technology	3.4	3	1	1	0
Operate Adobe Photoshop	Technology	3.4	3	1	1	0
Demonstrate common sense in decision making	Personal	3.4	2	3	0	0
Show strategic thinking ability	Personal	3.4	2	3	0	0
Relationship development with peers	Personal	3.4	2	3	0	0
Ability to ask others more qualified for help	Personal	3.4	2	3	0	0
Serve as a vehicle to tell stories of others; not of self	Personal	3.4	2	3	0	0

Table 4.8. Continued

Competency	Topic Area	Mean	Frequency			
			Very Important	Important	Somewhat Important	Little to no Importance
Analyze numbers, charts, graphs, demographics or statistics	Business	3.4	2	3	0	0
Ability to work on a multi-dimensional team	Business	3.4	2	3	0	0
Effective written communication for report writing	Writing	3.2	1	4	0	0
Effective written communication for informational websites	Writing	3.2	1	4	0	0
Demonstrate consistency in writing a communication campaign	Communication	3.2	1	4	0	0
Show good presentation skills	Communication	3.2	1	4	0	0
Execute a communication plan	Communication	3.2	2	2	1	0
Adapt speech to various audiences	Communication	3.2	2	2	1	0
Identify final objectives of a project	Communication	3.2	1	4	0	0
Ability to create persuasive messages	Communication	3.2	1	4	0	0
Operate Adobe Illustrator	Technology	3.2	3	0	2	0
Operate Adobe Acrobat	Technology	3.2	2	2	1	0
Demonstrate use of the Microsoft Power Point	Technology	3.2	2	2	1	0
Demonstrate a high level of organization	Personal	3.2	2	2	1	0
Ability to watch for and respond to changes in audiences behaviors	Technology	3.2	1	4	0	0
Apply creativity (think outside of the box)	Personal	3.2	2	2	1	0

Table 4.8. Continued

Competency	Topic Area	Mean	Frequency			
			Very Important	Important	Somewhat Important	Little to no Importance
Strong intrapersonal skills (occurring within the individual mind or self)	Personal	3.2	2	2	1	0
Ability to create page layouts	Specific Skills	3.2	1	4	0	0
Recognize basic business principals	Business	3.2	1	4	0	0
Demonstrate that perspective and context are essential to good reporting	Writing	3.0	1	3	1	0
Write using flawless grammar	Writing	3.0	1	3	1	0
Demonstrate consistency in planning a communication campaign	Communication	3.0	1	3	1	0
Strong public communication skills	Communication	3.0	1	3	1	0
Evaluate the value of media (media analysis)	Communication	3.0	1	3	1	0
Form collaborative communication partnerships	Communication	3.0	1	3	1	0
Maintain communication partnerships	Communication	3.0	1	3	1	0
Identify the relevance of a project	Communication	3.0	1	3	1	0
Evaluate how to improve success	Communication	3.0	0	5	0	0
Ability to inform public in an unbiased manner	Communication	3.0	1	3	1	0
Possess an insatiable curiosity about all things having to do with agriculture	Agriculture	3.0	1	3	1	0
Understand that there are a limited number of people who are farming and ranching	Agriculture	3.0	2	1	2	0

Table 4.8. Continued

Competency	Topic Area	Mean	Frequency			
			Very Important	Important	Somewhat Important	Little to no Importance
Ability to simplifying commodity specific language to general audiences	Agriculture	3.0	2	2	0	1
Demonstrate use of the Microsoft Outlook	Technology	3.0	2	1	2	0
Use technology to stay connected virtually	Technology	3.0	1	3	1	0
The ability to be comfortable talking to many types of people in different situations	Personal	3.0	0	5	0	0
Possess a working knowledge over a multitude of subjects (e.g. history, economics, business, science, and engineering)	Personal	3.0	2	1	2	0
Be assertive without being insulting	Personal	3.0	1	3	1	0
Demonstrate a high level of photography skills	Specific Skills	3.0	1	3	1	0
Illustrate knowledge of graphic design	Specific Skills	3.0	1	3	1	0
Political sensitivity to stakeholder issues	Business	3.0	2	2	0	1
Understand human capital (competencies, knowledge, social and personality attributes as it relates to an economic value for the company)	Business	3.0	1	3	1	0
Understand the basics associated with building contractual relationships	Business	3.0	2	2	0	1
Identify the gatekeeper (the person who controls access to the primary target)	Communication	2.8	1	2	2	0
Develop and test messages	Communication	2.8	0	4	1	0
Understand the influence of agriculture at every socio-economic level	Agriculture	2.8	1	3	0	1

Table 4.8. Continued

Competency	Topic Area	Mean	Frequency			
			Very Important	Important	Somewhat Important	Little to no Importance
Realize the impact of international relations on agricultural business costs	Agriculture	2.8	1	2	2	0
Operate Adobe Dreamweaver	Technology	2.8	1	2	2	0
Demonstrate use of the Microsoft Excel	Technology	2.8	1	2	2	0
Use technology to work virtually	Technology	2.8	1	2	2	0
Operate video editing software	Specific Skills	2.8	1	2	2	0
Effectively disseminate a variety of business reports to an external audience	Business	2.8	0	4	1	0
Individual understands and exhibits professional standards of organization	Writing	2.6	1	2	1	1
Respect and identify the influence leaders or primary audience (spouse's impact)	Communication	2.6	0	4	0	1
Create a strategic vision	Communication	2.6	0	3	2	0
Utilize internal knowledge of non-communication individuals	Communication	2.6	0	4	0	1
Recognize the impact of policy and regulation on agricultural business costs	Agriculture	2.6	0	3	2	0
Understand that the professional quality of the people in agriculture may vary	Agriculture	2.6	0	4	0	1
Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)	Personal	2.6	0	3	2	0
Illustrate knowledge of web design	Specific Skills	2.6	0	3	2	0

Table 4.8. Continued

Competency	Topic Area	Mean	Frequency			
			Very Important	Important	Somewhat Important	Little to no Importance
Outline project planning	Business	2.6	0	3	2	0
Outline project scheduling	Business	2.6	0	3	2	0
Employ organization tools (like Gantt charts)	Business	2.6	0	3	2	0
Read and understand a variety of business reports to contribute to internal discussion	Business	2.6	0	3	2	0
Operate Adobe Bridge	Technology	2.4	0	2	3	0
Understand HTML	Technology	2.4	0	2	3	0
Understand web application	Technology	2.4	0	2	3	0
Demonstrate use of the Microsoft Access	Technology	2.2	1	0	3	1
Distinguish between narrative voice and academic grammar. Know when to use each voice	Writing	2.0	0	0	5	0
Demonstrate use of the Microsoft OneNote	Technology	2.0	0	1	3	1
Knowledge of data mining	Technology	2.0	0	1	3	1
Knowledge of database marketing	Technology	2.0	0	1	3	1
Operate Adobe Flash	Technology	1.8	0	1	2	2
Operate Adobe Fireworks	Technology	1.8	0	1	2	2
Understand a Customer Relationship Management (CRM) Database	Technology	1.8	0	1	2	2

Table 4.8. Continued

			Frequency			
Competency	Topic Area	Mean	Very Important	Important	Somewhat Important	Little to no Importance
Speak more than one language	Personal	1.8	0	0	4	1
Effective written social media skills	Writing	1.4	0	1	2	0
Demonstrate use of the Microsoft Publisher	Technology	1.2	0	0	1	4

University faculty members were asked to rate the importance for each competency using a four-point Likert-type scale 1 = Little to No Importance, 2 = Somewhat Important, 3 = Important, or 4 = Very Important. Competencies that had 100% agreement were: "Understand multiple writing styles (AP, magazine writing, or an advertising campaign)," "Individual is a lifelong learner that seeks to remain on the cutting edge of the profession," "Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)," "Trustworthy," "Reliable (committed to what they say they will do)," "Always be respectful," and "Create and maintain relationships."

Competencies receiving 95% agreement from faculty members were: "Analyze an audience," "General knowledge of the Microsoft office programs," "Demonstrate use of the Microsoft Office programs," "Demonstrate use of the Microsoft Word," "Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)," "Be self-motivated," "Be consistently prepared (prioritizing tasks, then acting on them)," "Understand the consequences of your actions," and "Think critically on a project."

Competencies receiving 90% agreement from faculty member were: "Write to various audiences (internal, media, general public, etc.)," "Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)," "Effective written communication for feature writing," "Show a high level of interviewing skills for a story," "Ability to distill a lot of information into a simple, easily understood communications message," "Choose the most effective method of communication," "Identify risks that could become a crisis," "Understand the issues

impacting food, fiber, fuel and flower production in the United States," "Employ effective social media skills," "Demonstrate effective use of technology," "Working knowledge of the Adobe Creative Suite," "Awareness and ability to respond to changes in channels used to deliver information to diverse audiences," "Possess a positive attitude," "Good time management," "Maintain strong work ethic," "Be empathetic (relate to others)," "Evaluate real-life experiences," "Relationship development with clients," "Maintain professionalism under pressure," "Strong desire to succeed in the workplace," and "Ability to tell a story through images (photos, video, etc.)."

Competencies receiving 85% agreement from faculty member were: "Clearly articulate writing (sentence structure, word choice)," "Effective written communication for formal communications (emails, letters)," "Create a compelling written narrative," "Individual understands and exhibits professionalism," "Evaluate writing (proofreading, editing)," "Employ effective verbal communication," "Utilize effective research skills," "Communicate and interact with co-workers," "Plan and manage for a crisis," "Evaluate and communicate the essential message," "Understand the specific needs of the client and their industry," "Fundamental and basic understanding of agriculture," "Understand that the public may not understand agriculture," "Economic impact of agriculture in local, state, regional, national and international spheres," "Identify various social media technologies," "Operate Adobe InDesign," "Operate Adobe Photoshop," "Demonstrate common sense in decision-making," "Show strategic thinking ability," "Relationship development with peers," "Ability to ask others more qualified for help," "Serve as a

vehicle to tell stories of others; not of self," "Analyze numbers, charts, graphs, demographics or statistics," and "Ability to work on a multi-dimensional team."

Competencies receiving 80% agreement from faculty member were: "Effective written communication for report writing," "Effective written communication for informational websites," "Demonstrate consistency in writing a communication campaign," "Show good presentation skills," "Execute a communication plan," "Adapt speech to various audiences," "Identify final objectives of a project," "Ability to create persuasive messages," "Operate Adobe Illustrator," "Operate Adobe Acrobat," "Demonstrate use of the Microsoft Power Point," "Ability to watch for and respond to changes in audiences behaviors," "Demonstrate a high level of organization," "Apply creativity (think outside of the box)," "Strong intrapersonal skills (occurring within the individual mind or self)," "Ability to create page layouts," and "Recognize basic business principals."

Gap Between Industry and University

To better understand where the gaps lie between industry and university opinions, the following tables break down competencies by topic areas. They show industry means and agreements, university means and agreements, and the difference between agreement levels. Table 4.9 shows the writing topic and the gaps for each competency.

Table 4.9

Gaps between industry and university agreements within the topic of writing

Competency	Industry Mean	University Mean	Gap
Effective written social media skills	3.47	1.4	2.07
Distinguish between narrative voice and academic grammar. Know when to use each voice	3.14	2.0	1.14
Individual understands and exhibits professional standards of organization	3.50	2.6	0.90
Demonstrate that perspective and context are essential to good reporting	3.47	3.0	0.47
Effective written communication for formal communications (emails, letters)	3.80	3.4	0.40
Clearly articulate writing (sentence structure, word choice)	3.80	3.4	0.40
Write using flawless grammar	3.33	3.0	0.33
Individual understands and exhibits professionalism	3.71	3.4	0.31
Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)	3.87	3.6	0.27
Evaluate writing (proofreading, editing)	3.60	3.4	0.20
Effective written communication for informational websites	3.40	3.2	0.20
Write to various audiences (internal, media, general public, etc.)	3.73	3.6	0.13
Create a compelling written narrative	3.47	3.4	0.07
Effective written communication for report writing	3.20	3.2	0
Effective written communication for feature writing	3.47	3.6	-0.13
Understand multiple writing styles (AP, magazine writing, or an advertising campaign)	3.53	4.0	-0.47

Table 4.10

Gaps between industry and university agreements within the topic of communications

Competency	Industry Mean	University Mean	Gap
Form collaborative communication partnerships	3.67	3.0	0.67
Maintain communication partnerships	3.67	3.0	0.67
Create a strategic vision	3.27	2.6	0.67
Respect and identify the influence leaders or primary audience (spouse's impact)	3.27	2.6	0.67
Utilize internal knowledge of non-communication individuals	3.20	2.6	0.6
Identify the gatekeeper (the person who controls access to the primary target)	3.33	2.8	0.53
Demonstrate consistency in planning a communication campaign	3.47	3.0	0.47
Strong public communication skills	3.47	3.0	0.47
Develop and test messages	3.13	2.8	0.33
Employ effective verbal communication	3.73	3.4	0.33
Evaluate how to improve success	3.33	3.0	0.33
Identify the relevance of a project	3.33	3.0	0.33
Ability to create persuasive messages	3.50	3.2	0.30
Ability to distill a lot of information into a simple, easily understood communications message	3.87	3.6	0.27
Evaluate and communicate the essential message	3.67	3.4	0.27
Understand the specific needs of the client and their industry	3.67	3.4	0.27
Adapt speech to various audiences	3.47	3.2	0.27
Demonstrate consistency in writing a communication campaign	3.47	3.2	0.27
Show good presentation skills	3.47	3.2	0.27
Ability to inform public in an unbiased manner	3.21	3.0	0.21
Communicate and interact with co-workers	3.60	3.4	0.20
Identify final objectives of a project	3.40	3.2	0.20
Execute a communication plan	3.33	3.2	0.13
Choose the most effective method of communication	3.67	3.6	0.07

Table 4.10. Continued

Competency	Industry Mean	University Mean	Gap
Evaluate the value of media (media analysis)	2.87	3.0	-0.13
Utilize effective research skills	3.27	3.4	-0.13
Show a high level of interviewing skills for a story	3.40	3.6	-0.20
Plan and manage for a crisis	3.13	3.4	-0.27
Analyze an audience	3.53	3.8	-0.27
Identify risks that could become a crisis	2.93	3.6	-0.67

Table 4.11

Gaps between industry and university agreements within the topic of agriculture

Competency	Industry Mean	University Mean	Gap
Recognize the impact of policy and regulation on agricultural business costs	3.27	2.6	0.67
Ability to simplifying commodity specific language to general audiences	3.47	3.0	0.47
Understand the influence of agriculture at every socio-economic level	3.20	2.8	0.40
Understand that the professional quality of the people in agriculture may vary	2.87	2.6	0.27
Realize the impact of international relations on agricultural business costs	3.00	2.8	0.20
Fundamental and basic understanding of agriculture	3.53	3.4	0.13
Understand that the public may not understand agriculture	3.47	3.4	0.07
Possess an insatiable curiosity about all things having to do with agriculture	3.07	3.0	0.07
Economic impact of agriculture in local, state, regional, national and international spheres	3.33	3.4	-0.07
Understand that there are a limited number of people who are farming and ranching	2.87	3.0	-0.13
Understand the issues impacting food, fiber, fuel and flower production in the United States.	3.27	3.6	-0.33

Table 4.12

Gaps between industry and university agreements within the topic of technology

Competency	Industry Mean	University Mean	Gap
Understand a Customer Relationship Management (CRM) Database	3.07	1.8	1.27
Demonstrate use of the Microsoft Publisher	2.40	1.2	1.20
Knowledge of data mining	2.79	2.0	0.79
Knowledge of database marketing	2.79	2.0	0.79
Operate Adobe Flash	2.27	1.8	0.47
Operate Adobe Illustrator	2.20	1.8	0.40
Ability to watch for and respond to changes in audiences behaviors	3.50	3.2	0.30
Use technology to work virtually	3.07	2.8	0.27
Understand web application	2.62	2.4	0.22
Use technology to stay connected virtually	3.14	3.0	0.14
Demonstrate effective use of technology	3.73	3.6	0.13
Demonstrate use of the Microsoft OneNote	2.07	2.0	0.07
Demonstrate use of the Microsoft Access	2.27	2.2	0.07
Understand HTML	2.43	2.4	0.03
Employ effective social media skills	3.60	3.6	0
Identify various social media technologies	3.40	3.4	0
Demonstrate use of the Microsoft Outlook	2.93	3.0	-0.07
Demonstrate use of the Microsoft Excel	2.73	2.8	-0.07
Awareness and ability to respond to changes in channels used to deliver information to diverse audiences	3.50	3.6	-0.10
Operate Adobe Dreamweaver	2.27	2.4	-0.13
General knowledge of the Microsoft office programs	3.40	3.8	-0.40
Demonstrate use of the Microsoft Power Point	2.80	3.2	-0.40
Individual is a lifelong learner that seeks to remain on the cutting edge of the profession	3.43	4.0	-0.57
Demonstrate use of the Microsoft Word	3.20	3.8	-0.60
Operate Adobe Fireworks	2.13	2.8	-0.67

Table 4.12. Continued

Competency	Industry Mean	University Mean	Gap
Operate Adobe InDesign	2.53	3.2	-0.67
Demonstrate use of the Microsoft Office programs	3.07	3.8	-0.73
Operate Adobe Acrobat	2.60	3.4	-0.80
Working knowledge of the Adobe Creative Suite	2.80	3.8	-1.00
Operate Adobe Photoshop	2.40	3.4	-1.00
Operate Adobe Bridge	2.13	3.2	-1.07

Table 4.13

Gaps between industry and university agreements within the topic of personal

Competency	Industry Mean	University Mean	Gap
Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)	3.40	2.6	0.80
Speak more than one language	2.53	1.8	0.73
The ability to be comfortable talking to many types of people in different situations	3.53	3.0	0.53
Apply creativity (think outside of the box)	3.67	3.2	0.47
Demonstrate a high level of organization	3.60	3.2	0.40
Demonstrate common sense in decision making	3.67	3.4	0.27
Be assertive without being insulting	3.20	3.0	0.20
Maintain strong work ethic	3.73	3.6	0.13
Strong intrapersonal skills (occurring within the individual mind or self)	3.29	3.2	0.09
Good time management	3.67	3.6	0.07
Possess a positive attitude	3.67	3.6	0.07
Show strategic thinking ability	3.47	3.4	0.07
Serve as a vehicle to tell stories of others; not of self	3.43	3.4	0.03
Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)	3.80	3.8	0
Strong desire to succeed in the workplace	3.60	3.6	0
Trustworthy	3.93	4.0	-0.07
Ability to ask others more qualified for help	3.33	3.4	-0.07
Maintain professionalism under pressure	3.47	3.6	-0.13
Possess a working knowledge over a multitude of subjects (e.g. history, economics, business, science, and engineering)	2.80	3.0	-0.20
Reliable (committed to what they say they will do)	3.8	4.0	-0.20
Be self-motivated	3.60	3.8	-0.20
Understand the consequences of your actions	3.60	3.8	-0.20
Be empathetic (relate to others)	3.33	3.6	-0.27

Table 4.13. Continued

Competency	Industry Mean	University Mean	Gap
Relationship development with peers	3.13	3.4	-0.27
Be consistently prepared (prioritizing tasks, then acting on them)	3.53	3.8	-0.27
Think critically on a project	3.47	3.8	-0.33
Relationship development with clients	3.20	3.6	-0.40
Evaluate real-life experiences	3.13	3.6	-0.47
Always be respectful	3.53	4.0	-0.47
Create and maintain relationships	3.47	4.0	-0.53
Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)	3.40	4.0	-0.60

Table 4.14

Gaps between industry and university agreements within the topic of specific skills

Competency	Industry Mean	University Mean	Gap
Ability to tell a story through images (photos, video, etc.)	3.36	3.6	-0.24
Demonstrate a high level of photography skills	2.60	3.0	-0.40
Illustrate knowledge of web design	2.13	2.6	-0.47
Operate video editing software	2.20	2.8	-0.60
Illustrate knowledge of graphic design	2.27	3.0	-0.73
Ability to create page layouts	2.33	3.2	-0.87

Table 4.15

Gaps between industry and university agreements within the topic of business

Competency	Industry Mean	University Mean	Gap
Read and understand a variety of business reports to contribute to internal discussion	3.00	2.6	0.40
Effectively disseminate a variety of business reports to an external audience	3.14	2.8	0.34
Recognize basic business principals	3.47	3.2	0.27
Outline project scheduling	2.87	2.6	0.27
Political sensitivity to stakeholder issues	3.20	3.0	0.20
Outline project planning	2.80	2.6	0.20
Understand human capital (competencies, knowledge, social and personality attributes as it relates to an economic value for the company)	3.07	3.0	0.07
Ability to work on a multi-dimensional team	3.27	3.4	-0.13
Employ organization tools (like Gantt charts)	2.47	2.6	-0.13
Understand the basics associated with building contractual relationships	2.73	3.0	-0.27
Analyze numbers, charts, graphs, demographics or statistics	2.93	3.4	-0.47

CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

The purpose of this study was to gain a better understanding of what skills, knowledge, and competencies the future agricultural communications student must possess to be successful in the workplace. The study sought to understand what those in the agricultural communications industry deemed as most important. The following objectives were investigated throughout the course of the study:

1. Determine the skills that the agricultural communications industry deem as important for their employees.
2. Describe the knowledge, skills, and competencies required for agricultural communications students to be successful in the workplace.
3. Prioritize the employability skills needed by agricultural communications students, as determined by employers.
4. Understand the gaps in knowledge, skills, and competencies within the agricultural communications undergraduate curriculum.
5. Determine if there is an expectation gap between industry needs and agricultural communications academic programs.

Procedure

Two phases were used in this study: a three-round Delphi and a one-round survey. Two separate populations were used in each phase. Phase I used members of the National Agri-Marketing Association. Industry professionals from California, Texas, and Iowa were contacted for voluntary participation in the study. These three states were

selected because they have the highest total agricultural cash receipts (United States Department of Agricultural Economic Research Service, 2013). Of the 52 NAMA members in these three states who were invited, 15 agreed to serve as the study' panel of experts and completed the Delphi process. Of those who completed all three rounds of the Delphi: 26.6% from California (n = 4), 33.3% from Iowa (n = 5), and 40% from Texas (n = 6).

Phase II was sent to the five of the largest agricultural communication programs in the U.S based on their student enrollment. The universities were not named to maintain confidentiality. The faculty member responsible for undergraduate assessment within the respective programs completed the survey.

In the Delphi process, Round One was comprised of a single question: What skills, competencies, and knowledge must agricultural communications graduates possess to be successful in the workplace? The instrument was sent via email using Qualtrics for the survey. From the panel of experts' responses, a list of items/competencies was generated with similar responses collapsed and/or reworded towards the goal of achieving a list of unique items/competencies. From the initial results of Phase I, 116 statements resulted.

In Round Two, the panel of experts were emailed a questionnaire that contained the 116 statements and were asked to indicate their agreement of the importance of each statement using a Likert-type scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, or 4 = Strongly Agree. The researcher established *a priori* that the competencies that reached 80% agreement or higher would be deemed an important knowledge, skill, or competency for agricultural communications graduates to possess and would continue to

the third round of the Delphi. In addition to this, panel members were encouraged in Round Two to add items they did felt were not addressed within the 116 statements. This resulted in 20 new statements being generated that were subsequently added into Round Three.

In Round Three, panel members were asked to rank the top 25 statements that emerged from Round Two based on their level of agreement they had received. Panel members were also asked to indicate their level of agreement of the 20 new statements that emerged from Round Two using the same Likert-type scale they had used previously (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, or 4 = Strongly Agree). Once this task was completed, the panel members were asked to think about the 20 new statements they just evaluated and determine where they would fall in the top 25 ranking of the first question using a four-point Likert-type scale of 1 = "would be ranked in the top 25 priority statements," 2 = "would be ranked 6 - 10 in the list," 3 = "would be ranked 11 - 25 in the list," or 4 = "would not be ranked in the top 25."

To further examine the statements that emerged from Round Two, panel members received the list of statements that reached the 80 percent agreement level, but were not in the top 25. The members were asked to select up to five of these statements that they felt should have been included in the top 25. As a final task in Round Three, panel members were given the competencies that did not reach the 80 percent agreement level and were asked to select if those competencies were still expected in new employees, no longer needed, or uncertain as to need.

In Phase II, university faculty members were sent all competencies created from Rounds One and Two of the Delphi process and were asked to determine how important

each competency was in their agricultural communications program using a four-point Likert-type scale (1 = Little to No Importance, 2 = Somewhat Important, 3 = Important, or 4 = Very Important). Additionally, they were asked to determine what percentage of their courses teaches that particular competency.

Conclusions and Discussion

The conclusions for the study are based on interpretations of results presented in this study and are restricted to the populations surveyed. The limitations outlined in Chapter 1 hold true for the conclusion of the survey.

Research Question One

Research question one sought to determine the skills that the agricultural communications industry deem as important for their employees. There were seven main themes that emerged: (1) Writing and Grammar; (2) Communication Skills; (3) Agriculture; (4) Technology; (5) Personal Skills; (6) Specific Skills; and (7) Business. There was a high number of competencies that the panel believed were essential for agricultural communications graduates to possess to be successful in the workplace. Of the 136 competencies generated through the three rounds of the Delphi, 87 reached the 80 percent agreement level.

Within the theme of writing and grammar, agricultural communications has always focused on the importance of AP style, editing, and correct grammar usage. This result was also consistent with the findings of Irlbeck and Akers (2009), Morgan (2012), Sitton et al. (2005), and Terry et al. (1994), whose studies showed that editing, correct use of grammar and spelling, strong writing skills, and correct writing style are essential

skills for agricultural communications graduates. As such, it is concluded that writing will continue to be a critical competency for agricultural communications professionals.

In the theme of communication skills, many competencies related to very broad topics such as choosing the most effective method for communicating to stakeholders/audiences. Choosing the most effective method of communication has become more popular in recent studies (Akers, 2000; Morgan, 2012; and Sitton et al., 2005), largely because there are so many more methods of communication to consider. Audience analysis and dissemination also came into play of some of the most important topics, which is in agreement with Akers (2000), Morgan (2012), and Sitton et al. (2005). The implications of this theme go back to teaching in the classroom. Several classrooms teach one method of information dissemination, like news writing or web design. While those principals are taught in the classroom, students rarely have to use critical thinking to determine the best method to use in a particular situation. This shows how the profession continues to evolve from its roots in print journalism to one that utilizes multiple channels to achieve its outcomes.

The third theme, agriculture, focused on understanding general agriculture, understanding those involved in agriculture, and being able to see agriculture from a broader perspective including how policies and economic changes can impact agriculture. Today, it is simply not enough to know basic agriculture and have a working knowledge of the industry; a student must understand its impact on the world. Agriculture has been an important component in agricultural communications program throughout its history (Akers, 2000; Doerfert & Miller, 2006; Sitton et al., 2005; Sprecker & Rudd, 1997; Terry

et al., 1994) and the results of this study support that continued inclusion in higher education programs.

Within the theme of technology, the use of the Microsoft Office Suite and the Adobe Creative Suite software packages dominated most of the competencies. This result indicates that there has been a shift over the past 20 years. Terry et al. (1994) and Sitton et al (2005) found it important for students to be proficient in word processing. The results of this study indicate that it is important for students to know the entire Microsoft Office Suite. The implications of just teaching Adobe Creative Suite limit agricultural communications graduates, whereas most professionals will use Microsoft Office on a daily basis for most of their career. It is important for agricultural communications students to have an applied knowledge of both programs because the employer will expect those skills. Additionally, students are expected to know the Adobe Creative Suite after graduation from an agricultural communications program, (Irlbeck & Akers, 2009; Sitton et al., 2005; Terry et al., 1994) or video, radio, and web design (Akers, 2000; Irani & Scherler, 2002; Irlbeck & Akers, 2009).

In the theme of personal skills, several skills often referred to as “soft” or “people” skills that are often not taught in the classroom were brought up. Being trustworthy was the most the topic deemed most important the Delphi panel of experts for agricultural communications graduates to possess. This finding is consistent with more recent studies (Irlbeck & Akers, 2009; Morgan, 2012; Sitton et al., 2005). While these are challenging skills to teach in a classroom, they may often be overlooked in agricultural communications programs that focus on the development of technology and

communication skills and competencies. All the traits/competencies included in the personal theme of the Delphi phase of this study could be taught in the classroom.

While several specific skills emerged in Phase I of this study, these are commonly viewed in higher education as being a harder skill/competence to achieve in all graduates because they pertain strongly to the interest of the student. While skills like photography skills or graphic design are important for a basic agricultural communications curriculum, they may be essential for just a few students in their careers. Terry et al. (1994) found word processing, graphic design, and layout to be important; the results of this study indicate that they are no longer differentiating factors between prospective employees but rather have become the norm being expected in agricultural communications graduates.

Business was a theme that focused on knowing business principles, the elements associated with project planning, and working on teams and with others. This is one category that is not commonly included agricultural communications curriculum despite having been shown to be an important in previous studies (Akers, 2000; Irani & Scherler, 2002; Sitton et al., 2005). However, in current times, when economic situations may not allow for individual departments or people to cover specific areas in a business, it becomes more important for employees to have an understanding of the business-related functions of their employing organization and their individual role in sustaining the organization.

Research Question Two

Research question two sought to describe the knowledge, skills, and competencies required for agricultural communications students to be successful in the workplace. While the themes discussed under Research Question One above illustrate both

foundational and differentiating skills, competencies, and behaviors desired in new employees, this study also revealed that previously identified skills/competencies have now become the norm for all employees. These include: "relationship development with peers," "demonstrate use of the Microsoft Office programs," "plan and manage for a crisis," "analyze numbers, charts, graphs, demographics or statistics," and "evaluate the value of media (media analysis)."

Students generally dread group projects, but considering that relationship development is one of the most expected competencies for agricultural communications students, the competency cannot be excluded from agricultural communications programs. Assigning group work is also not the fix-all solution. Understanding how to effectively and efficient work with others and how to develop those positive relationships in the workplace should be emphasized in the classroom.

While it may appear to faculty that most students are able to use Microsoft Word as evidence by their assignment submissions, there are so many features in Word that go unknown to students. Few classes use Excel, so it becomes much harder to determine how much knowledge and use students have of Excel.

Plan and manage for a crisis was also an expected competency for just over 85% agreement from the Delphi panel members. Crisis management, however, is seen as an upper level or graduate course topic by faculty members though it had emerged in the previous study by Sitton et al. (2005).

The ability to analyze numbers, charts, graphs, demographics or statistics also received just over 85% of Delphi panel agreement as an expected competency. The competency relates back to business, but plays a vital role in understanding agriculture.

Crop predictions, future markets, and audience analysis all involve analyzing numbers, graphics, or statistics. It has been shown as important in just a few studies (Akers, 2000; Sitton et al., 2005). Currently, undergraduate students commonly gain these skills through business or economic courses.

Evaluating the value of media or being able to conduct a media analysis rounded out the top five expected competencies. As an agricultural communicator, understanding the potential impact of running a television commercial or social media campaign as part of a communication strategy is important from both a communications and business perspective. Seldom do students have to put a value on the media they select for a communication-related project to the extent of comparing the amount and type of revenue it produces for the company or organization. This is also a difficult topic to teach as the recent and rapid emergence and adoption of social media technologies have few (if any) communication and business comparisons nor has it been a relevant topic in previous research studies. However, it is clear from this study that extensive media analysis has become more important to organizations looking to decrease spending and increase profitability.

Research Question Three

Research question three sought to prioritize the employability skills needed by agricultural communications students, as determined by employers. In Round Three, panel members were asked to rank the top 25 statements. Trustworthy had the highest ranking followed by the ability to compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives) and the ability to distill a lot of information into a simple, easily understood communications message.

Trustworthiness is seen more on the academic forefront with plagiarism issues in the classroom. Universities are taking the extra step to hold students to a higher ethical standard as things like technology has made more information available to students. Students should continue to be held to a higher ethical standard, but professors should also make sure it is taught in classrooms.

Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives), relates to more than just writing courses. While courses like newswriting or magazine writing will ensure that students have the fundamentals to write well thought-out pieces, classes across all boards can require a higher writing standard. This is another competency that will prove to be useful to students no matter what career path they end up taking. It is also a competency that has not shown up in previous agricultural communications studies, which shows that it is not enough for students to simply understand proper grammar rules, they must write very well. From composing emails to writing feature articles in magazines, agricultural communicators need to be able to compose well thought-out written pieces. As agricultural communications faculty members, elements like audience, purpose, and objective should remain in the forefront of student writing.

Research Question Four

Research question four sought to understand the gaps in knowledge, skills, and competencies within the agricultural communications undergraduate curriculum. Twenty-seven statements of the 136 generated through the Delphi process reached 90% agreement by panel members. Of those 27 statements, university faculty members had 80% agreement level on all but two statements: “Form collaborative communication

partnership," (75% by faculty members) and "Maintain communication partnership" (75% by faculty members).

Competencies that had 100% agreement by faculty members were: "Understand multiple writing styles (AP, magazine writing, or an advertising campaign)," "Individual is a lifelong learner that seeks to remain on the cutting edge of the profession," "Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)," "Trustworthy," "Reliable (committed to what they say they will do)," "Always be respectful," and "Create and maintain relationships." The top themes from faculty members and the industry panel members are very similar and overlap, so it would appear that there is not a gap between industry standards and what faculty members believe is important. However, there is no evidence from this study if these competencies are actually being taught in the classroom or if they just believe it is an important topic.

To best display some of the changes needed in the agricultural communications curriculum as revealed through this study, Figure 1 from Chapter II has been modified to illustrate the findings from this study that expands the literature base. As illustrated, graphic design, layout, and photography emerged in 2005 and have been consistently seen as important in subsequent studies. Conversely, policies and laws have not emerged as an important topic since 2000. Public relations has been seen as important over the past 30 years for agricultural communications graduates to possess, along with good writing and grammar, and audience analysis skills (though the depth of this skill may be expanding).

One of the newest trends emerging in 2005 is that of soft or people skills. Since 2005, several other studies have found them as crucial for success in the workplace. They are deemed more important than the technical skills we are teaching in the classroom. Problem solving and critical thinking have emerged consistently over the past 20 years. The new items found in this study are added to Figure 3.

	Terry et al (1994)	Sprecker & Rudd (1997	Akers (2000)	Weckman et all (2000)	Irani & Scherler (2002)	Tel & Irani (2005)	Sitton et al (2005)	Doerfert & Miller (2006)	Morgan (2008)	Irlbeck & Akers (2009)	Morgan (2012)	Clem (2013)
Respondents: F = College Faculty, I = Industry Professionals, A =Alumni, HS = High School Teacher	**I**	**F, I, A**	**F, I, HS**	**F**	**A**	**F**	**I**	**I**	**I**	**I**	**A**	**I, F**
Video, Web Design, Radio	—	—	X	—	X	—	—	—	—	X	—	—
Graphic Design, Layout, Photography	—	—	—	—	—	X	X	—	—	X	—	—
Policies and Laws	X	X	X	—	—	—	—	—	—	—	—	—
Business Analysis and Statistics	—	—	X	—	—	—	X	—	—	—	—	—
Management	—	—	—	—	X	—	X	—	—	—	—	—
Public Relations	X	—	X	—	—	—	X	—	—	X	—	X
Writing and Grammar	X	—	—	—	—	—	X	—	—	X	X	X
Audience Analysis	—	—	X	—	—	—	X	—	—	—	X	X
General Agricultural	X	X	X	—	—	—	X	X	—	—	—	—
Trustworthy, Credible, Reliable, Strong Work Ethic	—	—	—	—	—	—	X	—	X	X	—	X
Networking	—	X	X	—	—	—	X	—	—	—	—	—
Ethical	X	—	—	—	—	—	X	—	X	—	—	—
Problem solving and Critical Thinking	X	—	—	X	—	X	X	—	—	—	—	X

Figure 3: Curriculum Priorities Identified by Through Research During the Past 30 Years with the addition of Clem 2013.

While several topics like grammar, editing, trustworthiness, and proficient computer skills continue to be relevant in agricultural communications; emerging topics need to be considered in the curriculum. Planning and managing for a crisis has been shown to be important in graduate level agricultural communications curriculum (Smith, 2012) but is seldom included in undergraduate curriculum. That is significant finding in that this study found planning and managing a crisis to be an expected competency.

There was also a strong emphasis on business analytic skills found to be expected from agricultural communications graduates. Statistics is recommended to many agricultural communications students, but it is not usually required. Media analysis is a new topic to show up in this study. As an expansion of audience analysis, it becomes important for students to not just analyze their audience but to sincerely consider their media preferences. While several other studies have shown the importance of audience analysis, this study shows that media analysis is an expected competency. It is also an issue that becomes harder to teach as new media types are being added faster than courses can change and adapt. Incorporating elements of media analysis may help students gain that knowledge while not adding more classes to the curriculum.

Lastly, compose well thought out written pieces is an expected competency. Past studies have shown an emphasis in news writing, magazine writing, writing for the web, and choosing the correct writing style. It is not enough to know correct grammar; students must demonstrate how well they can use several elements to create good written pieces. They must consider they type of media, who the audience is, and what various media platforms are will be read on.

More emphasis is placed on creating critical thinking, hardworking students who have strong communication skills. Students focus so much on web design or specific writing classes, but few of these skills were shown in the top 25 competencies in this study. So many courses focus on teaching specific software to students, but this is now a baseline.

Problem solving and critical thinking have been important over the past 20 years in research studies. Its continued importance makes it a critical component to be included in the classroom. Constructing a creative environment starts in kindergarten, but phases out as standardized testing has become so important. College is another opportunity to bring creativity back into the classroom to inspire problem solving within students.

There has been a shift over the past 20 years; what once set students apart are expected competencies today. Students are expected to know more, and have a more in-depth knowledge of several subject areas. This becomes harder since the curriculum in states such as Texas has gone from 132 hours to 120 semester hours while not reducing the liberal arts core requirements dictated by the State's Higher Education Coordinating Board.

Research Question Five

Research question five sought to determine if there was an expectation gap between industry needs and agricultural communications academic programs. Overall, industry professionals and university faculty have very similar agreement levels on the importance of knowledge, skills, and competencies. The question still remains if there is an actual gap in what industry wants and what agricultural communications graduates possess after graduation. This would be a priority for future research.

To better understand where the biggest gaps lie, the industry mean and university mean were compared in Chapter 4. Below are the competencies with the biggest gaps:

Table 5.1

Largest gaps between industry and university

Competency	Industry Mean	University Mean	Gap
Effective written social media skills	3.47	1.4	2.07
Understand a Customer Relationship Management (CRM) Database	3.07	1.8	1.27
Demonstrate use of the Microsoft Publisher	2.40	1.2	1.20
Distinguish between narrative voice and academic grammar. Know when to use each voice	3.14	2.0	1.14
Operate Adobe Photoshop	2.40	3.4	-1.00
Working knowledge of the Adobe Creative Suite	2.80	3.8	-1.00
Operate Adobe Bridge	2.13	3.2	-1.07

Industry values knowing when to use narrative voice over academic grammar, whereas the university does not see that as important. Interestingly, Microsoft Publisher and the Adobe Creative Suite both had different values between industry and the university. Industry favored Microsoft publisher whereas university did not see it as very important at all. Those opinions switched when it came to knowledge of the Adobe Creative Suite and some of the programs within the suite.

Microsoft Publisher is rarely included in the agricultural communications industry, but a brief overview of the program may help students to meet industry needs. Industry also stood out for wanting students to understand a Customer Relationship Management (CRM) database. The difference in mean was 1.27, so somewhat significant.

Lastly, the biggest gap came from effective written social media skills. The industry viewed this as very important with an agreement of 86.7%, where university saw this as unimportant with an agreement of 35%.

Discussion

While several competency areas were agreed upon by both industry and university, there is not always an agreement between the two. Within agricultural communication programs, there is strong emphasis on using the Adobe Creative Suite. This study showed that industry thought it was much more important to understand the Microsoft Office Suite and Microsoft publisher. This could prove to be especially challenging to those at the university. However, it may be as simple as knowing that almost every new Windows computer comes with Microsoft Publisher. The Adobe Creative Suite must be purchased, and the price is rather hefty for those outside of the university.

While other gaps existed, that was a big controversy for those in academia. To tell instructors to teach Microsoft publisher would not just be insulting, it would be costly since so many universities already have made the Adobe Creative Suite purchase. Additionally, those who have used both programs would probably prefer the advanced sophistication of Adobe InDesign versus Microsoft Publisher.

Recommendations

Recommendations for Practice

Based off of the gap analysis, social media writing should be included in the curriculum, especially since university viewed it as unimportant. So many classes use social media already, it is an easy addition to the current course. Additionally, a brief overview of Microsoft Publisher may be important to incorporate into academia. There may be the need for a class that covers the Microsoft Suite, much like so many programs cover the Adobe Creative Suite.

Departments should evaluate their degree program to see if there are ways to adjust the curriculum to meet the needs of industry. That may include making statistics mandatory over a lower-level math course, or making adjustments within the curriculum hour limits. This study shows that those skills are expected from graduates, so students should have more required business and statistics courses to satisfy employers. Agricultural communications departments may want to require a more in-depth business class or work with colleges of business to help their students have a much better understanding of the business world.

Within current courses, several competencies can be included and emphasized without changing the course content. Classes that teach media campaigns should look at how to evaluate and put a dollar figure on the advertisements they are running, and what the return on investment is for the company. Every agricultural communications course gives students an opportunity to build their ethical standards.

Universities should take a look at their curriculum and consider including a basic understanding of crisis management to undergraduate curriculum. While it is seen in

master's level courses, that curriculum should be offered to undergraduate students as well.

Since the following topic areas were deemed the 27 most important competencies for agricultural communications graduates to enter the workplace with, they should be included in all agricultural communications programs. A curriculum analysis to ensure that these competencies are being taught, even multiple times throughout a degree program, are important for student success after graduation. No competencies from agriculture, specific skills, or business reached 90% agreement.

Writing

- Students should compose well thought-out written pieces, taking into consideration the audience, purpose, and objectives
- Students should practice effective written communication for formal communications, including emails and letters
- Students must clearly articulate writing showing strong sentence structure and good word choice
- Write to various audiences including internal, media, general public and others
- Individual understands and exhibits professionalism
- Students must evaluate writing by proofreading and editing

Communication

- The ability to distill a lot of information into a simple, easily understood communications message
- Employ effective verbal communication
- Ability to choose the most effective method of communication

- Form collaborative communication partnerships
- Students should maintain communication partnerships
- Evaluate and communicate the essential message
- Understand the specific needs of the client and their industry
- Communicate and interact with co-workers

Personal

- Students should be trustworthy
- Demonstrate strong interpersonal skills, not only how students communicate with others, but also their confidence and our ability to listen and understand
- Show reliability and be committed to what they say they will do
- Maintain strong work ethic
- Possess a positive attitude
- Show good time management
- Students should supply creativity and think outside of the box
- Demonstrate common sense in decision making
- Demonstrate a high level of organization
- Should be self-motivated
- Strong desire to succeed in the workplace or classroom
- Students must understand the consequences of their actions

Technology

- Students must demonstrate effective use of technology
- Students should employ effective social media skills

Recommendations for Research

Research from this study also provides opportunities for future research. More information is needed to know if agricultural communications courses are actually teaching these competencies. The research did ask the university faculty what percentage of their courses taught these skills, but the data was incomplete. Content analysis of syllabi or course materials is needed to see if agricultural communications departments are teaching the competencies they know are important.

Several of the knowledge, skills, or competencies were personal characteristics, like trustworthiness. Further research should be done to see how those personal characteristics could be taught or incorporated into a classroom. Several of these competencies relate to the entire program, department, or university impact. More research should be done to see how being involved in clubs or activities foster these competencies.

The panel members deemed competences expected, no longer needed, or were unsure of their need. Several of those items that are no longer needed are still being taught in the classroom. It would also be of great benefit to see what competences are expected and how we can ensure our agricultural communications student are entering the workforce with those competences. Similarly, of the items that are expected, more research is needed to determine if agricultural communications graduates actually possess those competencies upon graduation.

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APPENDICES

Appendix A

IRB Approval Letter

TEXAS TECH UNIVERSITY
Vice President *for* Research

April 4, 2013

Dr. David Doerfert
Ag Ed & Communications
Mail Stop: 2131

Regarding: 503870 Exploring the Competencies, Skills, and Abilitites Needed by Agricultrual Communications Students: A Delphi Study

Dr. David Doerfert:

The Texas Tech University Protection of Human Subjects Committee approved your claim for an exemption for the protocol referenced above on April 4, 2013.

Exempt research is not subject to continuing review. However, any modifications that (a) change the research in a substantial way, (b) might change the basis for exemption, or (c) might introduce any additional risk to subjects must be reported to the Human Research Protection Program (HRPP) before they are implemented.

To report such changes, you must send a new claim for exemption or a proposal for expedited or full board review to the HRPP. Extension of exempt status for exempt protocols that have not changed is automatic.

The HRPP staff will send annual reminders that ask you to update the status of your research protocol. Once you have completed your research, you must inform the HRPP office by responding to the annual reminder so that the protocol file can be closed.

Sincerely,

Rosemary Cogan

Rosemary Cogan, Ph.D., ABPP
Protection of Human Subjects Committee

Box 41075 | Lubbock, Texas 79409-1075 | T 806.742.3905 | F 806.742.3947 | www.vpr.ttu.edu
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Appendix B

Invitation Letter to Participants

Sir/Madam, April 5, 2013

Many professors, students, and leaders in the agricultural communications field understand that there is a great need to educate students according to both new advances in the field as well as teaching the foundations for joining the profession. Due to your position and experience in agricultural communications, Dr. David Doerfert and Dr. Cindy Akers has nominated you as a Delphi panel member representing a broad frame of experts in agricultural communications to identify the essential skills and competencies needed for future graduates of our program. I hope you will accept this invitation to join the expert panel. The Delphi panel expects to include industry professionals from across the country.

You are one of only 30 individuals who are being asked to participate in this study. Should you accept my invitation, you will be asked to participate in three rounds of surveys over a three-week period of time, each requiring about an hour of critical thinking and written response. If you agree to serve, you may begin by completing the first round electronic instrument, which will be sent to you seven days after the receipt of your confirmation to serve on the panel. You will have a seven-day window to reply to the first round instrument. All responses identifying you as a participant will be kept confidential and I will use only your unique responder code to manage the data. If you choose to participate, please reply to this email letter of invitation within three days.

Round One will begin in mid-April. It is critical however, that you participate in all three rounds. Thank you in advance for your participation and professional contribution to Texas Tech University and this research study. I believe that your contribution to this study is a positive and proficient step in further developing the understanding agricultural communications.

Please take a few minutes to consider your participation in the study. Please respond to this email and let us know if you will or will not be participating.

Thank you for assisting in this important activity.

Sincerely,

Corey Ann Duysen
Doctoral Student, Texas Tech University
corey.duysen@ttu.edu
(559) 310-2839

David Doerfert
david.doerfert@ttu.edu
(806) 742-2816

Cindy Akers
cindy.akers@ttu.edu
(806) 742-2816

• TTU also has a Board that protects the rights of people who participate in research. You can ask them questions at 806-742-2064. You can also mail your questions to the Human Research Protection Program, Office of the Vice President for Research, Texas Tech University, Lubbock, Texas 79409. See: www.hrpp.ttu.edu

Appendix C

Round One Cover Letter

April 10, 2013

Responder code no.

Thank you for accepting the role as a Delphi panel member in this research study. The first round contains one question, and should take no more than 30 minutes. However, you may skip any of the questions in the additional rounds. Participation is voluntary, and you may choose not to participate. Your information and answers will be kept confidential, and no names or identifying information will be used in the final report.

Please follow the link provided in this email to answer the first round question. Also, please enter in the responder code that is listed at the top of this email on the initial screen of the questionnaire. I will be using this code for future correspondences and it will allow me to correctly interact with each participant.

https://aecttu.qualtrics.com/SE/?SID=SV_9ZA0JfU1KckASrj

May I please have your responses to these questions before the end of the day on *Friday, April 19?* Your contribution to the panel is critical. Thank you in advance for sharing your expertise.

Survey Link:

Sincerely,

Corey Ann Duysen
Doctoral Student, Texas Tech University
corey.duysen@ttu.edu
(559) 310-2839

David Doerfert
david.doerfert@ttu.edu
(806) 742-2816

Cindy Akers
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Appendix D

Round One Survey

Agricultural Communications Graduate Competencies

April 10, 2013

Thank you for agreeing to participate in this research study. The purpose of this study is to gain a better understanding of what the agricultural communications industry needs graduates to enter the workforce with. Participation is completely voluntary, and you may skip a question and quit at any time. All personal information and answers will be kept confidential. If you have any questions, please contact me by email corey.duysen@ttu.edu or by phone (559) 310-2839.

*This study has been approved by the Texas Tech University IRB. You can ask them questions at 806-742-2064.

Below, please answer the following question. List all that are appropriate.

What skills, competencies, and knowledge must agricultural communications graduates possess to be successful in the workplace?

Appendix E

Round Two IRB Approval

TEXAS TECH UNIVERSITY
Vice President *for* Research

April 26, 2013

Dr. David Doerfert
Ag Ed & Communications
Mail Stop: 2131

Regarding: 503870 Exploring the Competencies, Skills, and Abilitites Needed by Agricultrual Communications Students: A Delphi Study

Dr. David Doerfert:

The Texas Tech University Protection of Human Subjects Committee received the changes you reported in the memo of April 16, 2013 for this protocol. These changes are approved. The protocol is still classified as exempt.

Exempt research is not subject to continuing review. However, any modifications that (a) change the research in a substantial way, (b) might change the basis for exemption, or (c) might introduce any additional risk to subjects must be reported to the Human Research Protection Program (HRPP) before they are implemented.

To report such changes, you must send a new claim for exemption or a proposal for expedited or full board review to the HRPP. Extension of exempt status for exempt protocols that have not changed is automatic.

The HRPP staff will send annual reminders that ask you to update the status of your research protocol. Once you have completed your research, you must inform the HRPP office by responding to the annual reminder so that the protocol file can be closed.

Sincerely,

Rosemary Cogan

Rosemary Cogan, Ph.D., ABPP
Protection of Human Subjects Committee

_____The above project is complete.

_____ _____
Signature of Principal Investigator Date

Box 41075 | Lubbock, Texas 79409-1075 | T 806.742.3905 | F 806.742.3947 | www.vpr.ttu.edu
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Appendix F

Round Two Invitation Letter

April 30, 2013

Responder code no.

Thank you for responding to the first survey. Based upon your responses and those of your colleagues, Round Two is ready for your response. This questionnaire asks you to give your opinion with each item provided in Round One using a five-point, Likert-type scale. As you did in Round One, please enter in the responder code that is listed at the top of this email on the initial screen of the questionnaire. The survey will take no longer than 30 minutes of your time.

https://aecttu.qualtrics.com/SE/?SID=SV_1BsJ43SVzl4DqoR

As you examine each item listed in Round Two, you may not see the exact competency you listed. If you feel I merged a competency that changed the original meaning of the one you provided, please include your preferred wording in the comment box below. I will make sure it is included in Round Three.

The purpose of this research study is to gain a better understanding of what the agricultural communications industry needs graduates to enter the workforce with. Participation is completely voluntary, and you may skip a question and quit at any time. All personal information and answers will be kept confidential.

Thank you in advance for the time you have taken from your busy schedule and the significant input you have given to this study. Your response will remain strictly confidential. Please complete this survey by May 10th.

*This study has been approved by the Texas Tech University IRB. You can ask them questions at 806-742-2064.

Sincerely,

Corey Ann Duysen
Doctoral Student, Texas Tech University
corey.duysen@ttu.edu
(559) 310-2839

David Doerfert
david.doerfert@ttu.edu
(806) 742-2816

Cindy Akers
cindy.akers@ttu.edu
(806) 742-2816

Appendix G

Round Two Instrument

Default Question Block

Thank you for agreeing to participate in this research study. The purpose of this study is to gain a better understanding of what the agricultural communications industry needs graduates to enter the workforce with. The last survey will be sent out in 7 to 10 days. Participation is completely voluntary, and you may skip a question and quit at any time. All personal information and answers will be kept confidential. If you have any questions, please contact me by email corey.duysen@ttu.edu or by phone (559) 310-2839.

*This study has been approved by the Texas Tech University IRB. You can ask them questions at 806-742-2064.

Please enter your ID number:

intro

Thank you for completing the initial survey. Below, the responses from round one were summarized. Duplicates were condensed. For each competency listed, indicate your level of agreement as to whether the competency is essential to success in the workplace.

Grammar and Writing

	Strongly Disagree	Disagree	Agree	Strongly Agree
Understand multiple writing styles (AP, magazine writing, or an advertising campaign)	○	○	○	○
Effective written social media skills	○	○	○	○
Effective written communication for formal communications (emails, letters)	○	○	○	○
Effective written communication for informational websites	○	○	○	○
Effective written communication for report writing	○	○	○	○
Effective written communication for feature writing	○	○	○	○
Write to various audiences (internal, media, general public, etc.)	○	○	○	○
Clearly articulate writing (sentence structure, word choice)	○	○	○	○
Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)	○	○	○	○
Create a compelling written narrative	○	○	○	○
Write using flawless grammar	○	○	○	○
Evaluate writing (proofreading, editing)	○	○	○	○
Demonstrate that perspective and context are essential to good reporting	○	○	○	○

Any other competencies related to grammar and writing?

Communication Skills

	Strongly Disagree	Disagree	Agree	Strongly Agree
Employ effective verbal communication	○	○	○	○
Demonstrate consistency in writing a communication campaign	○	○	○	○
Demonstrate consistency in planning a communication campaign	○	○	○	○
Show a high level of interviewing skills for a story	○	○	○	○
Utilize effective research skills	○	○	○	○
Show good presentation skills	○	○	○	○
Analyze an audience	○	○	○	○
Execute a communication plan	○	○	○	○
Ability to distill a lot of information into a simple, easily understood communications message	○	○	○	○
Respect and identify the influence leaders or primary audience (spouse's impact)	○	○	○	○
Identify the gatekeeper (the person who controls access to the primary target)	○	○	○	○
Communicate and interact with co-workers	○	○	○	○
Choose the most effective method of communication	○	○	○	○
Strong public communication skills	○	○	○	○
Create a strategic vision	○	○	○	○
Develop and test messages	○	○	○	○
Identify risks that oculd become a crisis	○	○	○	○
Plan and manage for a crisis	○	○	○	○
Evaluate the value of media (media analysis)	○	○	○	○
Form collaborative communication partnerships	○	○	○	○
Maintain communication partnerships	○	○	○	○
Adapt speech to various audiences	○	○	○	○
Evaluate and communicate the essential message	○	○	○	○
Understand the specific needs of the client and their industry	○	○	○	○
Identify final objectives of a project	○	○	○	○

Are there any additional communication competencies?

Basic Agriculture

	Strongly Disagree	Disagree	Agree	Strongly Agree
Fundamental and basic understanding of agriculture	○	○	○	○
Understand the issues impacting food, fiber, fuel and flower production in the United States.	○	○	○	○
Possess an insatiable curiosity about all things having to do with agriculture	○	○	○	○
Recognize the impact ofpolicy and regulation on agricultural business costs	○	○	○	○
Understand that there are a limited number of people who are farming and ranching	○	○	○	○
Understand that the professional quality of the people in agriculture may vary	○	○	○	○
Understand that the public may not understand agriculture	○	○	○	○
Economic impact of agriculture in local, state, regional, national and international spheres	○	○	○	○
Understand the influence of agriculture at every socio-economic level	○	○	○	○
Realize the impact of international relations on agricultural business costs	○	○	○	○
Ability to simplifying commodity specific language to general audiences	○	○	○	○

Are there any additional basic agriculture competencies?

Technology

	Strongly Disagree	Disagree	Agree	Strongly Agree
Identify various social media technologies	○	○	○	○
Employ effective social media skills	○	○	○	○
Demonstrate effective use of technology	○	○	○	○
Working knowledge of the Adobe Creative Suite	○	○	○	○
Operate Adobe InDesign	○	○	○	○
Operate Adobe Dreamweaver	○	○	○	○
Operate Adobe Photoshop	○	○	○	○
Operate Adobe Illustrator	○	○	○	○
Operate Adobe Flash	○	○	○	○
Operate Adobe Bridge	○	○	○	○
Operate Adobe Fireworks	○	○	○	○
Opperate Adobe Acrobat	○	○	○	○
General knowledge of the Microsoft office programs	○	○	○	○
Demonstrate use of the Microsoft Office programs	○	○	○	○
Demonstrate use of the Microsoft Word	○	○	○	○
Demonstrate use of the Microsoft Outlook	○	○	○	○
Demonstrate use of the Microsoft Access	○	○	○	○
Demonstrate use of the Microsoft Excel	○	○	○	○
Demonstrate use of the Microsoft OneNote	○	○	○	○
Demonstrate use of the Microsoft Publisher	○	○	○	○
Demonstrate use of the Microsoft Power Point	○	○	○	○

Are there any additional technology competencies?

Personal

	Strongly Disagree	Disagree	Agree	Strongly Agree
Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)	○	○	○	○
Possess a positive attitude	○	○	○	○
Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)	○	○	○	○
Speak more than one language	○	○	○	○
Good time management	○	○	○	○
Demonstrate a high level of organization	○	○	○	○
Apply creativity (think outside of the box)	○	○	○	○
Maintain strong work ethic	○	○	○	○
Be self-motivated	○	○	○	○
Demonstrate common sense in decision making	○	○	○	○
Committed to a project (showing persistance from inception to completion, meeting deadlines and benchmarks along the way)	○	○	○	○
Trustworthy	○	○	○	○
Reliable (committed to what they say they will do)	○	○	○	○
Be consistently prepared (prioritizing tasks, then acting on them)	○	○	○	○
Show strategic thinking ability	○	○	○	○
Always be respectful	○	○	○	○
Be empathetic (relate to others)	○	○	○	○
Evaluate real-life experiences	○	○	○	○
The ability to be comfortable talking to many types of people in different situations	○	○	○	○
Relationship development with peers	○	○	○	○
Relationship development with clients	○	○	○	○
Maintain professionalism under pressure	○	○	○	○
Possess a working knowledge over a multitude of subjects (e.g. history, economics, business, science, and engineering)	○	○	○	○

Are there any additional personal attributes?

Specific Skills

	Strongly Disagree	Disagree	Agree	Strongly Agree
Demonstrate a high level of photography skills	○	○	○	○
Illustrate knowledge of graphic design	○	○	○	○
Ability to create page layouts	○	○	○	○
Operate video editing software	○	○	○	○
Illustrate knowledge of web design	○	○	○	○

Are there any additional skills?

Business Skills

	Strongly Disagree	Disagree	Agree	Strongly Agree
Analyze numbers, charts, graphs, demographics or statistics	○	○	○	○
Recognize basic business principals	○	○	○	○
Ability to work on a multi-dimensional team	○	○	○	○
Political sensitivity to stakeholder issues	○	○	○	○
Understand human capital (competencies, knowledge, social and personality attributes as it relates to an economic value for the company)	○	○	○	○
Understand the basics associated with building contractual relationships	○	○	○	○
Outline project planning	○	○	○	○
Outline project scheduling	○	○	○	○
Employ organization tools (like Gantt charts)	○	○	○	○

Are there any additional business competencies?

Appendix H

Round Three IRB Approval Letter

TEXAS TECH UNIVERSITY
Vice President *for* Research

May 23, 2013

Dr. David Doerfert
Ag Ed & Communications
Mail Stop: 2131

Regarding: 503870 Exploring the Competencies, Skills, and Abilitites Needed by Agricultrual Communications Students: A Delphi Study

Dr. David Doerfert:

The Texas Tech University Protection of Human Subjects Committee received the changes you reported in the memo of May 23, 2013 for this protocol. These changes are approved. The protocol is still classified as exempt.

Exempt research is not subject to continuing review. However, any modifications that (a) change the research in a substantial way, (b) might change the basis for exemption, or (c) might introduce any additional risk to subjects must be reported to the Human Research Protection Program (HRPP) before they are implemented.

To report such changes, you must send a new claim for exemption or a proposal for expedited or full board review to the HRPP. Extension of exempt status for exempt protocols that have not changed is automatic.

The HRPP staff will send annual reminders that ask you to update the status of your research protocol. Once you have completed your research, you must inform the HRPP office by responding to the annual reminder so that the protocol file can be closed.

Sincerely,

Rosemary Cogan

Rosemary Cogan, Ph.D., ABPP
Protection of Human Subjects Committee

_____The above project is complete.

_____ _____
Signature of Principal Investigator Date

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Appendix I

Round Three Cover Letter

May 24, 2013

Responder code no.

Thank you for responding to the second round questionnaire in our study. Based upon your responses and those of your colleagues, I am pleased to report that we found consensus on the following items. This means there is no need for you to review these items again.

However, some panel members included additional items in the *Other* category which need to be evaluated by the entire panel. As you did in Round Two, please indicate your agreement with each item using the five-point, Likert-type scale provided.

Please complete the survey
https://aecttu.qualtrics.com/SE/?SID=SV_2cw6qbTr4bHP9nD

As you did in the two previous rounds, please enter in the responder code that is listed at the top of this email on the initial screen of the questionnaire. You will notice that Round Three is much shorter than Round Two. It should not take longer than 20 minutes to complete the third and final round.

Thank you in advance for the time you have taken from your busy schedule and the significant input you have given to this study. Your response will remain strictly confidential. Please complete the questionnaire by May 28, 2013.

Thank you again for your assistance.

Sincerely,

Corey Ann Duysen
Doctoral Student, Texas Tech University
corey.duysen@ttu.edu
(559) 310-2839

David Doerfert
david.doerfert@ttu.edu
(806) 742-2816

Cindy Akers
cindy.akers@ttu.edu
(806) 742-2816

Appendix J

Round Three Survey

Default Question Block

Thank you for agreeing to participate in this research study. This is the last survey! I really appreciate your participation in the first two rounds and am excited for the results of the third and final round. Thanks to the help from you and your colleagues, several categories of competencies were identified. The addition competencies that were identified are also included in this survey.

The purpose of this study is to gain a better understanding of what the agricultural communications industry needs graduates to enter the workforce with. Participation is completely voluntary, and you may skip a question and quit at any time. All personal information and answers will be kept confidential. If you have any questions, please contact me by email corey.duysen@ttu.edu or by phone (559) 310-2839.

*This study has been approved by the Texas Tech University IRB. You can ask them questions at 806-742-2064.

Please enter your ID number:

Below are the top 25 items that agricultural communications programs should develop/instill in their graduates based on your response and that of others during phase 2 evaluation. To determine the highest priorities from among this list, we ask that you help us rank order this list. While the list seems long, being able to communicate the highest priorities will be key to effecting change in our undergraduate programs. Please use each number once and only use whole numbers when indicating your ranking (e.g. 1 = the highest priority)

- [ ] Trustworthy
- [ ] Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)
- [ ] Ability to distill a lot of information into a simple, easily understood communications message
- [ ] Effective written communication for formal communications (emails, letters)
- [ ] Clearly articulate writing (sentence structure, word choice)
- [ ] Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)
- [ ] Reliable (committed to what they say they will do)
- [ ] Write to various audiences (internal, media, general public, etc.)
- [ ] Employ effective verbal communication
- [ ] Demonstrate effective use of technology

- [ ] Maintain strong work ethic
- [ ] Choose the most effective method of communication
- [ ] Form collaborative communication partnerships
- [ ] Maintain communication partnerships
- [ ] Evaluate and communicate the essential message
- [ ] Understand the specific needs of the client and their industry
- [ ] Possess a positive attitude
- [ ] Good time management
- [ ] Apply creativity (think outside of the box)
- [ ] Demonstrate common sense in decision making
- [ ] Evaluate writing (proofreading, editing)
- [ ] Communicate and interact with co-workers
- [ ] Employ effective social media skills
- [ ] Demonstrate a high level of organization
- [ ] Be self-motivated

Below are the new statements created from phase 2. Please indicate your agreement with each item from strongly disagree to strongly agree.

	Strongly Disagree	Disagree	Agree	Strongly Agree
Distinguish between narrative voice and academic grammar. Know when to use each voice	O	O	O	O
Individual understands and exhibits professionalism	O	O	O	O
Individual understands and exhibits professional standards of organization	O	O	O	O
Ability to inform public in an unbiased manner	O	O	O	O
Ability to create persuasive messages	O	O	O	O
Ability to watch for and respond to changes in audiences behaviors	O	O	O	O
Awareness and ability to respond to changes in channels used to deliver information to diverse audiences	O	O	O	O
Individual is a lifelong learner that seeks to remain on the cutting edge of the profession	O	O	O	O
Understand a Customer Relationship Management (CRM) Database	O	O	O	O
Knowledge of data mining	O	O	O	O
Knowledge of database marketing	O	O	O	O
Use technology to work virtually	O	O	O	O
Use technology to stay connected virtually	O	O	O	O
Understand HTML	O	O	O	O
Understand web application	O	O	O	O
Serve as a vehicle to tell stories of others; not of self	O	O	O	O
Strong intrapersonal skills (occurring within the individual mind or self)	O	O	O	O
Ability to tell as story through images (photos, video, etc.)	O	O	O	O
Read and understand a variety of business reports to contribute to internal discussion	O	O	O	O
Effectively disseminate a variety of business reports to an external audience	O	O	O	O

Below are the new statements created from phase 2 that you just evaluated. Thinking back to your previous rankings, where would these new statements fall if you had to include them in that ranking? *(Select the appropriate ranking grouping for each statement)*

	Would be ranked in the top 5 priority statements	Would be ranked 6-10 in the list	Would be ranked 11-25 in the list	Would not be ranked in the top 25
Distinguish between narrative voice and academic grammar. Know when to use each voice	O	O	O	O
Individual understands and exhibits professionalism	O	O	O	O
Individual understands and exhibits professional standards of organization	O	O	O	O
Ability to inform public in an unbiased manner	O	O	O	O
Ability to create persuasive messages	O	O	O	O
Ability to watch for and respond to changes in audiences behaviors	O	O	O	O
Awareness and ability to respond to changes in channels used to deliver information to diverse audiences	O	O	O	O
Individual is a lifelong learner that seeks to remain on the cutting edge of the profession	O	O	O	O
Understand a Customer Relationship Management (CRM) Database	O	O	O	O
Knowledge of data mining	O	O	O	O
Knowledge of database marketing	O	O	O	O
Use technology to work virtually	O	O	O	O
Use technology to stay connected virtually	O	O	O	O
Understand HTML	O	O	O	O
Understand web application	O	O	O	O
Serve as a vehicle to tell stories of others; not of self	O	O	O	O
Strong intrapersonal skills (occurring within the individual mind or self)	O	O	O	O
Ability to tell as story through images (photos, video, etc.)	O	O	O	O
Read and understand a variety of business reports to contribute to internal discussion	O	O	O	O
Effectively disseminate a variety of business reports to an external audience	O	O	O	O

Below are the statements that reached 80% agreement, but were not in the top 25. Please select 5 you believe should have been in the top 25, but were not selected.

- [ ] Strong desire to succeed in the workplace
- [ ] Understand the consequences of your actions
- [ ] Analyze an audience
- [ ] Fundamental and basic understanding of agriculture
- [ ] Be consistently prepared (prioritizing tasks, then acting on them)
- [ ] Always be respectful
- [ ] The ability to be comfortable talking to many types of people in different situations
- [ ] Understand multiple writing styles (AP, magazine writing, or an advertising campaign)
- [ ] Effective written social media skills
- [ ] Effective written communication for feature writing
- [ ] Create a compelling written narrative
- [ ] Demonstrate that perspective and context are essential to good reporting
- [ ] Demonstrate consistency in writing a communication campaign
- [ ] Demonstrate consistency in planning a communication campaign
- [ ] Show good presentation skills
- [ ] Strong public communication skills
- [ ] Adapt speech to various audiences
- [ ] Understand that the public may not understand agriculture
- [ ] Ability to simplifying commodity specific language to general audiences
- [ ] Show strategic thinking ability
- [ ] Maintain professionalism under pressure
- [ ] Create and maintain relationships
- [ ] Think critically on a project
- [ ] Recognize basic business principals
- [ ] Effective written communication for informational websites
- [ ] Show a high level of interviewing skills for a story
- [ ] Identify final objectives of a project
- [ ] Identify various social media technologies
- [ ] General knowledge of the Microsoft office programs
- [ ] Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)
- [ ] Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)
- [ ] Write using flawless grammar
- [ ] Execute a communication plan
- [ ] Identify the gatekeeper (the person who controls access to the primary target)

Below are the statements that were eliminated in phase 2 by not reaching 80% agreement. To better understand this level of agreement, we would like understand if these items are considered to be a minimum expectation for all graduates or are they no longer needed by the agricultural communications profession. Please indicate your thoughts by indicating your thought for each item. You may also indicate your uncertainty as to why it was lower rated.

	Expected Competence	No Longer Needed	Uncertain as to Need
Develop and test messages	○	○	○
Plan and manage for a crisis	○	○	○
Evaluate real-life experiences	○	○	○
Relationship development with peers	○	○	○
Possess an insatiable curiosity about all things having to do with agriculture	○	○	○
Demonstrate use of the Microsoft Office programs	○	○	○
Understand human capital (competencies, knowledge, social and personality attributes as it relates to an economic value for the company)	○	○	○
Realize the impact of international relations on agricultural business costs	○	○	○
Identify risks that could become a crisis	○	○	○
Demonstrate use of the Microsoft Outlook	○	○	○
Analyze numbers, charts, graphs, demographics or statistics	○	○	○
Evaluate the value of media (media analysis)	○	○	○
Understand that there are a limited number of people who are farming and ranching	○	○	○
Understand that the professional quality of the people in agriculture may vary	○	○	○
Outline project scheduling	○	○	○
Working knowledge of the Adobe Creative Suite	○	○	○
Demonstrate use of the Microsoft Power Point	○	○	○
Possess a working knowledge over a multitude of subjects (e.g. history, economics, business, science, and engineering)	○	○	○
Outline project planning	○	○	○
Demonstrate use of the Microsoft Excel	○	○	○
Understand the basics			

Thank you for participating in the study! We look forward to bettering the agricultural communications graduates in the future.

Appendix K

Phase II IRB Approval

TEXAS TECH UNIVERSITY
Vice President for Research

June 12, 2013

Dr. David Doerfert
Ag Ed & Communications
Mail Stop: 2131

Regarding: 503870 Exploring the Competencies, Skills, and Abilitites Needed by Agricultural Communications Students: A Delphi Study

Dr. David Doerfert:

The Texas Tech University Protection of Human Subjects Committee received the changes you reported in the memo of June 11, 2013 for this protocol. These changes are approved. The protocol is still classified as exempt.

Exempt research is not subject to continuing review. However, any modifications that (a) change the research in a substantial way, (b) might change the basis for exemption, or (c) might introduce any additional risk to subjects must be reported to the Human Research Protection Program (HRPP) before they are implemented.

To report such changes, you must send a new claim for exemption or a proposal for expedited or full board review to the HRPP. Extension of exempt status for exempt protocols that have not changed is automatic.

The HRPP staff will send annual reminders that ask you to update the status of your research protocol. Once you have completed your research, you must inform the HRPP office by responding to the annual reminder so that the protocol file can be closed.

Sincerely,

Rosemary Cogan, Ph.D., ABPP
Protection of Human Subjects Committee

_____The above project is complete.

_____ _____
Signature of Principal Investigator Date

Box 41075 | Lubbock, Texas 79409-1075 | T 806.742.3905 | F 806.742.3947 | www.vpr.ttu.edu
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Appendix L

Invitation Letter to Faculty Members

Dear [*Faculty Member*] June 12, 2013

I recently completed a Delphi study with agricultural communications professionals who indicated the skills, competencies, and knowledge they believe are needed to be proficient in the industry. The purpose of this research study is to gain a better understanding of what the agricultural communications industry needs graduates to enter the workforce with. In this second phase of my study, I am asking five agricultural communications faculty members like you to help identify the potential gaps that exist between industry expectations and what is being delivered in the top agricultural communications program in this country. Because of your role at one of these five top programs, I am asking for your assistance in my study.

Using the Phase I industry responses, I have listed skills, competencies, and knowledge that were agreed upon by these professionals as being the most important for undergraduates to be prepared with before entering the workforce. I am asking that you examine each industry-provided item and (1) indicate how important this is within your program and (2) the extent that your program focuses on this item as indicated by the number of courses that teach/reinforce this item during the degree program.

While I understand that what I am requesting will require a portion of your valuable yet limited time, I hope you share with me that the outcome of this study will be of value to agricultural communications programs across the nation regardless of their size. Participation is completely voluntary, and you may skip a question and quit at any time. All personal information and answers will be kept confidential.

If you choose to participate, please reply to this email letter of invitation within three days. If you feel that a different faculty member in your program will be better able to respond to what is needed in this study, I would be happy to contact them as directed by you.

We are trying to obtain all responses within the next 30 days, or by **July 15th,** so that the research deadline will stay on track. If you believe that you will have a problem completing this survey in the next 30 days, please let me know and we will find an alternate. The survey should take approximately 30 minutes to complete. You can start the survey and if necessary, return later to complete it.

If you are able to participate, please click to start the survey:
https://aecttu.qualtrics.com/SE/?SID=SV_a5AxqoO42EJ9ROt

Thank you so much for your consideration of participating in this study.

*This study has been approved by the Texas Tech University Institutional Review Board. You can ask them questions at 806-742-2064.

Sincerely,

Corey Ann Duysen
Ph. D. Candidate
corey.duysen@ttu.edu
(559) 310-2839

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Appendix M

Phase II Survey

Default Question Block

Thank you for agreeing to participate in this survey. The purpose of this research study is to gain a better understanding of what the agricultural communications industry needs graduates to enter the workforce with. Participation is completely voluntary, and you may skip a question and quit at any time. All personal information and answers will be kept confidential. If you have any questions, please contact me by email corey.duysen@ttu.edu or by phone (559) 310-2839.

*This study has been approved by the Texas Tech University Institutional Review Board. You can ask them questions at 806-742-2064.

Below, you will see the competencies listed that were identified by agricultural communications professionals in a three round Delphi study. Please indicate if your department is teaching that competency or not.

Please enter your ID number

Block 1

Writing and Grammar

	How important is this topic?				What percentages of your courses teach this?
	Very important	Important	Somewhat Important	Little to no importance	Please enter a percentage
Understand multiple writing styles (AP, magazine writing, or an advertising campaign)					
Effective written social media skills					
Effective written communication for formal communications (emails, letters)					
Effective written communication for informational websites					
Effective written communication for report writing					
Effective written communication for feature writing					
Write to various audiences (internal, media, general public, etc.)					
Clearly articulate writing (sentence structure, word choice)					
Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)					
Create a compelling written narrative					
Write using flawless grammar					
Evaluate writing (proofreading, editing)					
Demonstrate that perspective and context are essential to good reporting					
Distinguish between narrative voice and academic grammar. Know when to use each voice					
Individual understands and exhibits professionalism					
Individual understands and exhibits professional standards of organization					

questions round 4

Communication Skills

	How important is this topic?				What percentages of your courses teach this?
	Very Important	Important	Somewhat Important	Little to No Importance	Please enter a percentage
Employ effective verbal communication					
Demonstrate consistency in writing a communication campaign					
Demonstrate consistency in planning a communication campaign					
Show a high level of interviewing skills for a story					
Utilize effective research skills					
Show good presentation skills					
Analyze an audience					
Execute a communication plan					
Ability to distill a lot of information into a simple, easily understood communications message					
Respect and identify the influence leaders or primary audience (spouse's impact)					
Identify the gatekeeper (the person who controls access to the primary target)					
Communicate and interact with co-workers					
Choose the most effective method of communication					
Strong public communication skills					
Create a strategic vision					
Develop and test messages					
Identify risks that could become a crisis					
Plan and manage for a crisis					
Evaluate the value of media (media analysis)					
Form collaborative communication partnerships					
Maintain communication partnerships					
Adapt speech to various audiences					
Evaluate and communicate the essential message					
Understand the specific needs of the client and their industry					
Identify final objectives of a project					
Identify the relevance of a project					
Evaluate how to improve success					
Utilize internal knowledge of non-communication individuals					
Ability to inform public in an unbiased manner					
Ability to create persuasive messages					

4

Agriculture

	How important is this topic?				What percentages of your courses teach this?
	Very important	Important	Somewhat important	Little to no importance	Please enter a percentage
Fundamental and basic understanding of agriculture					
Understand the issues impacting food, fiber, fuel and flower production in the United States.					
Possess an insatiable curiosity about all things having to do with agriculture					
Recognize the impact of policy and regulation on agricultural business costs					
Understand that there are a limited number of people who are farming and ranching					
Understand that the professional quality of the people in agriculture may vary					
Understand that the public may not understand agriculture					
Economic impact of agriculture in local, state, regional, national and international spheres					
Understand the influence of agriculture at every socio-economic level					
Realize the impact of international relations on agricultural business costs					
Ability to simplifying commodity specific language to general audiences					

5

Technology

	How important is this topic?				What percentages of your courses teach this?
	Very important	Important	Somewhat important	Little to no importance	Please enter a percentage
Identify various social media technologies					
Employ effective social media skills					
Demonstrate effective use of technology					
Working knowledge of the Adobe Creative Suite					
Operate Adobe InDesign					
Operate Adobe Dreamweaver					
Operate Adobe Photoshop					
Operate Adobe Illustrator					
Operate Adobe Flash					
Operate Adobe Bridge					
Operate Adobe Fireworks					
Operate Adobe Acrobat					
General knowledge of the Microsoft office programs					
Demonstrate use of the Microsoft Office programs					
Demonstrate use of the Microsoft Word					
Demonstrate use of the Microsoft Outlook					
Demonstrate use of the Microsoft Access					
Demonstrate use of the Microsoft Excel					
Demonstrate use of the Microsoft OneNote					

	How important is this topic?				What percentages of your courses teach this?
	Very important	Important	Somewhat important	Little to no importance	Please enter a percentage
Demonstrate use of the Microsoft Publisher					
Demonstrate use of the Microsoft Power Point					
Ability to watch for and respond to changes in audiences behaviors					
Awareness and ability to respond to changes in channels used to deliver information to diverse audiences					
Individual is a lifelong learner that seeks to remain on the cutting edge of the profession					
Understand a Customer Relationship Management (CRM) Database					
Knowledge of data mining					
Knowledge of database marketing					
Use technology to work virtually					
Use technology to stay connected virtually					
Understand HTML					
Understand web application					

6

Personal Characteristics

	How important is this topic?				What percentages of your courses teach this?
	Very important	Important	Somewhat important	Little to no importance	Please enter a percentage
Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)					
Possess a positive attitude					
Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)					
Speak more than one language					
Good time management					
Demonstrate a high level of organization					
Apply creativity (think outside of the box)					
Maintain strong work ethic					
Be self-motivated					
Demonstrate common sense in decision making					
Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)					
Trustworthy					
Reliable (committed to what they say they will do)					
Be consistently prepared (prioritizing tasks, then acting on them)					
Show strategic thinking ability					
Always be respectful					
Be empathetic (relate to others)					

	How important is this topic?				What percentages of your courses teach this?
	Very important	Important	Somewhat important	Little to no importance	Please enter a percentage
Evaluate real-life experiences					
The ability to be comfortable talking to many types of people in different situations					
Relationship development with peers					
Relationship development with clients					
Maintain professionalism under pressure					
Possess a working knowledge over a multitude of subjects (e.g. history, economics, business, science, and engineering)					
Be assertive without being insulting					
Create and maintain relationships					
Ability to ask others more qualified for help					
Strong desire to succeed in the workplace					
Understand the consequences of your actions					
Think critically on a project					
Serve as a vehicle to tell stories of others; not of self					
Strong intrapersonal skills (occurring within the individual mind or self)					

7

Specific Skills

	How important is this topic?				What percentages of your courses teach this?
	Very important	Important	Somewhat important	Little to no importance	Please enter a percentage
Demonstrate a high level of photography skills					
Illustrate knowledge of graphic design					
Ability to create page layouts					
Operate video editing software					
Illustrate knowledge of web design					
Ability to tell as story through images (photos, video, etc.)					

8

Business Skills

	How important is this topic?				What percentages of your courses teach this?
	Very important	Important	Somewhat important	Little to no importance	Please enter a percentage
Analyze numbers, charts, graphs, demographics or statistics					
Recognize basic business principals					
Ability to work on a multi-dimensional team					
Political sensitivity to stakeholder issues					

	How important is this topic?				What percentages of your courses teach this?
	Very important	Important	Somewhat important	Little to no importance	Please enter a percentage
Understand human capital (competencies, knowledge, social and personality attributes as it relates to an economic value for the company)	○	○	○	○	
Understand the basics associated with building contractual relationships	○	○	○	○	
Outline project planning	○	○	○	○	
Outline project scheduling	○	○	○	○	
Employ organization tools (like Gantt charts)	○	○	○	○	
Read and understand a variety of business reports to contribute to internal discussion	○	○	○	○	
Effectively disseminate a variety of business reports to an external audience	○	○	○	○	

Appendix N

Reminder Email Template

Dear [*Panel Member*],

This is just a reminder regarding the survey you received concerning agricultural **communications knowledge, skills, and competencies**. It is extremely important to the success of this study that you complete and return the survey by May 30, 2013. Your response will be a valuable asset to future agricultural communications students.

Here is the link to the survey:

https://aecttu.qualtrics.com/SE/?SID=SV_2cw6qbTr4bHP9nD

Thank you for your valuable time.

Sincerely,

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Appendix O

Percentage of courses that teach each competency

Individual university percentage of classes that teach each competency

		Percentage of classes that teach the competency			
Competency	Average Percentage	University 1	University 2	University 3	University 4
Understand multiple writing styles (AP, magazine writing, or an advertising campaign)	83.3%	100	60		90
Write to various audiences (internal, media, general public, etc.)	76.7%	100	50		80
Write using flawless grammar	73.3%	100	20		100
Create a compelling written narrative	71.7%	100	15		100
Evaluate the value of media (media analysis)	70.0%	100	20		20
General knowledge of the Microsoft office programs	70.0%	100		60	50
Demonstrate use of the Microsoft Office programs	70.0%	100		60	50
Demonstrate use of the Microsoft Word	70.0%	100		60	50
Possess a working knowledge over a multitude of subjects (e.g. history, economics, business, science, and engineering)	67.5%	35			100
Compose well thought-out written pieces (taking into consideration the audience, purpose, and objectives)	63.3%	100	70		20
Individual understands and exhibits professionalism	63.3%	100	20		70
Evaluate writing (proofreading, editing)	60.0%	100	30		50
Choose the most effective method of communication	60.0%	60	40		20
Relationship development with peers	60.0%	100	50		30
Demonstrate a high level of organization	56.7%	80	70		20
Committed to a project (showing persistence from inception to completion, meeting deadlines and benchmarks along the way)	56.7%	100	60		10

		Percentage of classes that teach the competency			
Competency	Average Percentage	University 1	University 2	University 3	University 4
Effective written communication for formal communications (emails, letters)	55.0%	100	15		50
Ability to distill a lot of information into a simple, easily understood communications message	55.0%	20	60		30
Be consistently prepared (prioritizing tasks, then acting on them)	53.3%	100	50		10
Working knowledge of the Adobe Creative Suite	51.7%	70		15	70
Think critically on a project	51.7%	100	25		30
Utilize effective research skills	51.5%	66	50	40	50
Analyze an audience	50.0%	100	15	45	40
Understand that the public may not understand agriculture	50.0%	40	20		40
Ability to inform public in an unbiased manner	47.5%	20	45		30
Fundamental and basic understanding of agriculture	47.5%	30	15		50
Possess an insatiable curiosity about all things having to do with agriculture	47.5%	60	5		30
Reliable (committed to what they say they will do)	47.5%	75			20
Apply creativity (think outside of the box)	46.7%	70	40		30
Show a high level of interviewing skills for a story	46.5%	66	30	60	30
Clearly articulate writing (sentence structure, word choice)	45.0%	100	15		20
Strong public communication skills	45.0%	20	20		50
Individual understands and exhibits professional standards of organization	43.3%	100	0		30
Communicate and interact with co-workers	42.5%	10	45		30

		Percentage of classes that teach the competency			
Competency	Average Percentage	University 1	University 2	University 3	University 4
Understand the consequences of your actions	41.7%	100	15		10
Effective written communication for feature writing	38.7%	66	20		30
Individual is a lifelong learner that seeks to remain on the cutting edge of the profession	38.3%	40		45	30
Demonstrate that perspective and context are essential to good reporting	35.3%	66	10		30
Identify the gatekeeper (the person who controls access to the primary target)	35.0%	10	30		30
Demonstrate effective use of technology	35.0%	70		25	10
Good time management	35.0%	15	60		30
Maintain strong work ethic	35.0%	60			10
Always be respectful	35.0%	60			10
Show good presentation skills	34.5%	33	15	20	70
Show strategic thinking ability	33.3%	30	60		10
Understand the specific needs of the client and their industry	32.5%	30	25		10
Ability to create persuasive messages	32.5%	20	15		30
Ability to simplifying commodity specific language to general audiences	32.5%	10	45		10
Be self-motivated	30.0%	60			0
Demonstrate common sense in decision making	30.0%	50			10
Trustworthy	30.0%	60			0
Evaluate real-life experiences	30.0%	30	40		20
Employ effective verbal communication	29.5%	33	15	20	50
Ability to tell as story through images (photos, video, etc.)	28.3%	50	15		20

		Percentage of classes that teach the competency			
Competency	Average Percentage	University 1	University 2	University 3	University 4
Understand the issues impacting food, fiber, fuel and flower production in the United States.	27.5%	20	25		10
Strong interpersonal skills (not only how we communicate with others, but also our confidence and our ability to listen and understand)	26.7%	30	40		10
Respect and identify the influence leaders or primary audience (spouse's impact)	25.0%	0	30		20
Evaluate and communicate the essential message	25.0%	10	30		10
Identify final objectives of a project	25.0%	10	30		10
Economic impact of agriculture in local, state, regional, national and international spheres	25.0%	30	10		10
Operate Adobe Photoshop	25.0%	25		20	30
Operate Adobe Acrobat	23.3%	10		20	40
Relationship development with clients	23.3%	10	40		20
Identify various social media technologies	21.7%	15		30	20
Operate Adobe InDesign	21.7%	15		20	30
Demonstrate a high level of photography skills	21.7%	15	20		30
Ability to create page layouts	21.7%	15	20		30
Ability to work on a multi-dimensional team	21.7%	10	20		35
Evaluate how to improve success	20.0%	10	10		20
Demonstrate use of the Microsoft Power Point	20.0%	20		10	30
Use technology to stay connected virtually	20.0%	20		35	5
Possess a positive attitude	20.0%	10	50		0
Illustrate knowledge of graphic design	20.0%	15	15		30

		Percentage of classes that teach the competency			
Competency	Average Percentage	University 1	University 2	University 3	University 4
Operate Adobe Illustrator	18.3%	15		10	30
Operate Adobe Bridge	18.3%	10		15	30
Adapt speech to various audiences	17.5%	10	5		20
Identify the relevance of a project	17.5%	10	15		10
Awareness and ability to respond to changes in channels used to deliver information to diverse audiences	16.7%	20		20	10
The ability to be comfortable talking to many types of people in different situations	16.7%	40			10
Effective written communication for report writing	15.0%	0	15		30
Develop and test messages	15.0%	0	20		10
Employ effective social media skills	15.0%	10		15	20
Operate Adobe Dreamweaver	15.0%	15		10	20
Understand HTML	15.0%	15		10	20
Be empathetic (relate to others)	15.0%	20			10
Ability to ask others more qualified for help	15.0%	20			10
Serve as a vehicle to tell stories of others; not of self	15.0%	15	10		20
Effective written social media skills	14.7%	0	24		20
Ability to watch for and respond to changes in audiences behaviors	13.3%	10		20	10
Illustrate knowledge of web design	13.3%	15	5		20
Identify risks that could become a crisis	12.5%	5	10		10
Utilize internal knowledge of non-communication individuals	12.5%	0	15		10
Recognize the impact of policy and regulation on agricultural business costs	12.5%	5	10		10
Create and maintain relationships	12.5%	25			0
Be assertive without being insulting	12.5%	15			10

Competency	Average Percentage	Percentage of classes that teach the competency: University 1	University 2	University 3	University 4
Understand the influence of agriculture at every socio-economic level	12.5%	10	15		0
Strong desire to succeed in the workplace	12.5%	15			10
Operate video editing software	11.7%	10	5		20
Demonstrate consistency in writing a communication campaign	11.3%	0	10	15	20
Demonstrate consistency in planning a communication campaign	10.0%	0	10	10	20
Create a strategic vision	10.0%	0	10		10
Understand that the professional quality of the people in agriculture may vary	10.0%	0	10		10
Use technology to work virtually	10.0%	20		5	5
Understand web application	10.0%	10		0	20
Strong intrapersonal skills (occurring within the individual mind or self)	10.0%	20			0
Analyze numbers, charts, graphs, demographics or statistics	10.0%	10	10		10
Demonstrate use of the Microsoft Excel	8.3%	10		5	10
Outline project scheduling	8.3%	10	5		10
Employ organization tools (like Gantt charts)	8.3%	10	5		10
Form collaborative communication partnerships	7.5%	0	5		10
Realize the impact of international relations on agricultural business costs	7.5%	5	10		0
Distinguish between narrative voice and academic grammar. Know when to use each voice	6.7%	0	10		10
Demonstrate systems thinking (a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves)	6.7%	10	10		0
Recognize basic business principals	6.7%	10	5		5

		Percentage of classes that teach the competency			
Competency	Average Percentage	University 1	University 2	University 3	University 4
Read and understand a variety of business reports to contribute to internal discussion	6.7%	10	10		0
Effective written communication for informational websites	6.7%	0	10		10
Effectively disseminate a variety of business reports to an external audience	6.7%	10	10		0
Analyze numbers, charts, graphs, demographics or statistics	6.7%	10	10		0
Execute a communication plan	5.0%	0	10	0	10
Political sensitivity to stakeholder issues	5.0%	0	5		10
Understand the basics associated with building contractual relationships	5.0%	0	10		5
Operate Adobe Flash	3.3%	0		0	10
Operate Adobe Fireworks	3.3%	0		0	10
Demonstrate use of the Microsoft Outlook	3.3%	0		0	10
Demonstrate use of the Microsoft Access	3.3%	0		0	10
Demonstrate use of the Microsoft OneNote	3.3%	0		0	10
Knowledge of data mining	3.3%	0		5	5
Knowledge of database marketing	3.3%	0		0	10
Plan and manage for a crisis	2.5%	0	5		0
Understand human capital (competencies, knowledge, social and personality attributes as it relates to an economic value for the company)	1.7%	0	5		0
Maintain communication partnerships	0.0%	0	0		0
Understand that there are a limited number of people who are farming and ranching	0.0%				
Speak more than one language	0.0%	0	0		0

		Percentage of classes that teach the competency			
Competency	Average Percentage	University 1	University 2	University 3	University 4
Demonstrate use of the Microsoft Publisher	0.0%	0		0	0
Understand a Customer Relationship Management (CRM) Database	0.0%	0		0	0
Maintain professionalism under pressure	0.0%				

*University 5 did not answer