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Abstract

Communication competencies and skills needed by agricultural communication graduates are constantly changing because of the dynamic nature of the technology used by communication professionals. Although several studies have been conducted in recent years that engaged alumni and industry professionals to determine agricultural communication program graduate competencies, no studies were found which sought out these competencies from the perspective of faculty. Determining the communication competencies faculty deem important will help identify gaps between industry needs and academic perceptions. This Delphi study was conducted to determine the competencies agricultural communication faculty believe are needed for agricultural communication program graduates. Nineteen participants from 14 universities came to consensus on 79 statements. The ten statements receiving the highest level of agreement were “Ability to communicate in writing,” “Ability to write clearly, concisely, tersely, and to get to the point,” “Highly developed writing skills,” “Good writing skills,” “Professional competence - able to practice effective communication - write / speak correctly, clearly in a style and form that is expected of the audience, profession they will serve,” “Critical thinking,” “Grammar,” “Ability to communicate, both orally and in writing, ability to understand conceptual thinking and how it relates to communication,” “Ability to find and use information sources both on and off the internet,” and “Ethics.” This study provides additonal information to help address Agricultural Communications National Research Priority Area 4: “What are the skills, competencies, and resources necessary to prepare professional agricultural communicators for success in various aspects of agricultural knowledge management?”

Keywords

Curriculum, Delphi, undergraduate, faculty, communication

Research

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Introduction

Agricultural communication professionals are defined as "individuals who spend the majority of their professional time engaged in communication-related activities related to food or agriculture" (Mullett, 2006, p. 21). This profession has a long and rich history, and over the years it has witnessed communication mediums change and diversify. Print was the standard communication medium at the beginning of the last century. However, the introduction of the radio allowed nearly instant broadcast of verbal information, closely followed by television, which added moving images to audio. As electronic technology advanced, digital forms of information storage became available: magnetic tapes, floppy disks, and CD-ROMs, which were subsequently used to convey knowledge and data. The advent of personal computers helped to launch the present era, in which near instantaneous transfer of information across the world is possible via the Internet through portals such as instant messaging, blogs, Twitter, Facebook, Wikis, and an ever increasing variety of new and varied technologies (Doerfert et al., 2004; Doerfert & Miller, 2006; Kaplan & Haenlein, 2010, Smith, Salaway,

& Caruso, 2009).

As communication technology has changed over time, so have the communication needs and preferences of agricultural industry professionals (DiStaso, Stacks, & Botan, 2009; Doerfert & Miller, 2006). Because of the rapidly changing nature of the technology used in this profession, frequent evaluation of the curriculum is necessary to properly prepare students for careers (Doerfert & Miller, 2006; Ettredge & Bellah, 2008).

Industry professionals have cited the need for curriculum focused on the development of communication skills. Specifically, the University of Georgia's Center for Agribusiness and Economic Development (2008) conducted a study with employers in the state of Georgia. This study revealed that graduates had obtained the technical knowledge needed in the workplace, but were lacking in soft skill development, specifically communication. More recently, Crawford, Lang, Fink, and Dalton (2011) conducted a nationwide study with 282 employers and 900 faculty members. Communication skills were ranked as the number one desired skill in college graduates by both industry professionals and faculty members. Furthermore, the study found a growing need for curriculum focused on reinforcing the students' ability to listen effectively, communicate concisely and accurately, and practice both effective oral and written communication skills.

The need for curriculum evaluation is not a new concept. The agricultural industry recommends a review of agricultural curriculum every two to five years to evaluate the effectiveness of preparing students to enter the work force (Terry et al., 1994). In 1994, Terry et al. conducted an extensive study to obtain input from representatives of seven selected agricultural communication organizations who rated 100-plus concepts graduates should possess. The concepts receiving 100% agreement from the participants included communicating agriculture to the public, agricultural policy, geography, word processing, creative strategies, campaign planning, graphic design, news writing, reporting, editing, ethics, design/layout, problem solving, speech writing, oral communications, script writing, and applying concepts during an internship.

Sprecker and Rudd (1997) conducted interviews with agricultural communication instructors, practitioners, and alumni to determine undergraduate curriculum requirements. Four themes emerged: students need a broad understanding of agriculture, communication skills are more important than agricultural knowledge, students need to be proficient in a variety of communication tasks, and networking is a vital component of an agricultural communicator. The researchers concluded being a communicator extended far beyond writing to include verbal and video communication, and opportunities for students to network with industry professionals should be built into the curriculum.

Furthermore, a study by Sitton, Cartmell and Sargent (2005) investigated the curriculum needs for undergraduate agricultural public relations curriculum. Using the instrument developed by Terry et al. (1994), agricultural public relations professionals were surveyed and indicated general communication and public relations skills were more important than agricultural proficiencies. Skills used most frequently by public relations professionals included computer skills, human relation skills, time management, writing, and editing. An understanding of government and legislative policy topped the list of agriculture proficiencies, followed by interpreting data to make good business decisions, defining conservation, and identifying government regulatory agencies. General communication proficiencies included using appropriate style, describing the principles of journalism, applying writing and reporting skills, interviewing, and editing. The most popular public relations proficiencies were effective writing, identifying problems and solutions, business knowledge, designing a marketing plan, and publicizing events.

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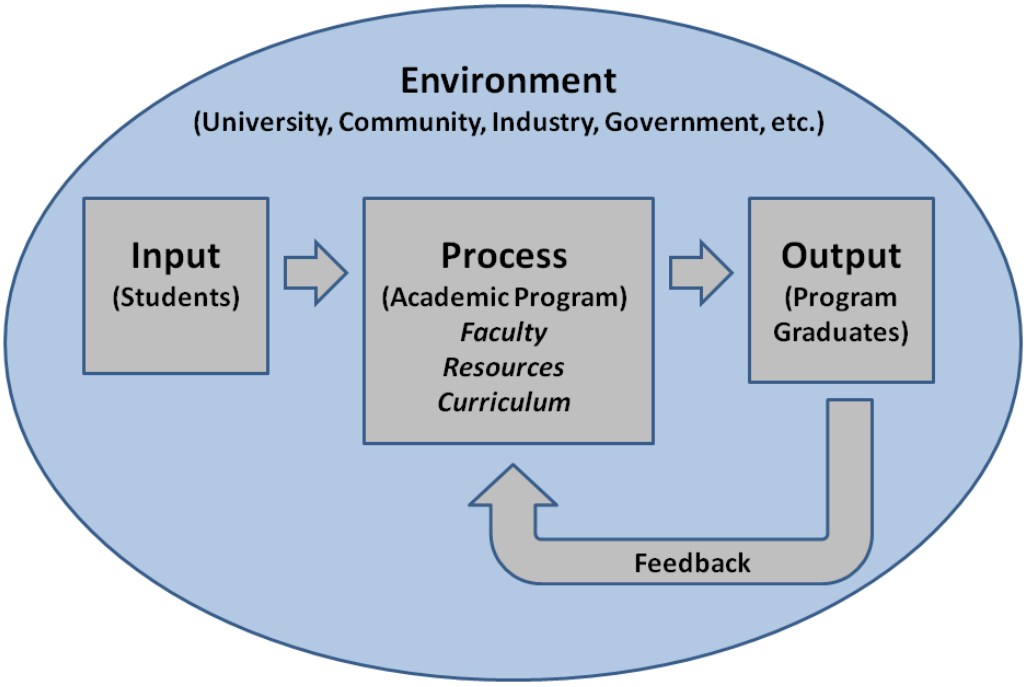
A Delphi study by Morgan (2009) asked industry professionals to determine the competencies needed by graduates of agricultural communication undergraduate programs. The study found the majority of the competencies receiving the greatest level of consensus could be considered as general workplace skills desired of any graduate: meeting deadlines, ethics, dependability, work ethic, oral communication skills, enthusiasm about agriculture, reliability, ability to multi-task, proper use of grammar, and business etiquette. Using the categories established by Terry, Lockaby, and Bailey-Evans (1995), the communication competencies receiving the highest levels of agreement included verbal communication, understanding the "media mix," identifying barriers to communication, editing, and effective interviewing and reporting skills. Within the general education competencies, desired skills included grammar usage, writing, spelling, networking, and punctuation.

The previous literature illustrates the review of agricultural communication curricula, but the question remains: are agricultural communication programs properly preparing students for employer expectations? Irlbeck and Akers (2009) sought to answer this question by asking employers to "determine which workplace habits and communication skills are satisfactory and which need improvements" (p. 1). In this study, employers rated recent graduates' "workplace habits" as good to excellent in the skills of trustworthiness, easy to work with, and reliability; while the skills of organization, common sense, and creativity were rated as fair to good. Graduates' "communication skills" receiving the highest ratings were TV production, photo editing, page layout, and public relations, while the skills of news editing, web design, and sales were ranked lowest as fair to good. Moreover, the essential skills of writing and web writing were ranked just below the level of good.

Previous studies have stressed the importance of many communication and workplace skills; indeed, in many studies writing was the highest ranked skill by employers, along with an emphasis on public relations (Ettredge & Bellah, 2008). Yet the research completed by Irlbeck and Akers (2009) indicated students were not arriving at the workplace with highly ranked writing skills. This is a bit confounding, in that the literature is replete with studies that identify communication skills employers desire and yet, in some cases, students seem to be lacking an appropriate level of these critical skills upon graduation. This disparity could be caused by variations among individual students. Additionally, it could also be influenced by the importance educators place on some competencies, while placing less importance on others. Having a greater understanding of the skills faculty believe are important for graduates to possess would provide beneficial knowledge to help determine if the "gap" between employer expectations and graduate competencies is related to the agricultural communication curriculum.

The curriculum model posited by Finch and Crunkilton (1999) provides an adequate framework to address this question (Figure 1). This model illustrates a "system" in which students enter an academic program (input), enroll in courses established by program curriculum (process), and graduate (output), at which time they begin their careers. The academic program, which consists of faculty, resources, and curriculum, is affected by environmental forces: the university or college, community, industry, government, and possibly the economy. The model includes a feedback loop where opinions are sought from graduates, which allows for program modifications to be made to meet graduate needs.

Figure 1. Program System Model. From Finch and Crunkilton, 1999, Curriculum development in vocational education and technical education: Planning, content, and implementation (p. 27), Boston: Allyn and Bacon.



Within this model, faculty are at the core of the academic program (Finch & Crunkilton, 1999). First, they are integral to the development of the curriculum by determining the knowledge and skills students are required to learn to earn a degree. Second, and perhaps more importantly, they control the delivery of the curriculum, determining how the agreed upon knowledge and skills are cultivated within students in classrooms and through activities. A study that determines the communication and professional competencies faculty members believe are important for graduates to possess would help curriculum researchers better understand how faculty influence the curriculum model and may provide insight about the disparity that exists between graduate competencies and employer expectations.

Purpose and Objectives

The purpose of this study was to determine the competencies needed by agricultural communication graduates as perceived by agricultural communication faculty. This helps address the 2007-2010 American Association of Agricultural Education National Research Agenda Agricultural Communications Research Priority Area 4, to determine "What are the skills, competencies, and resources necessary to prepare professional agricultural communicators for success in various aspects of agricultural knowledge management?" (Osborne, 2007, p. 11). Additionally, this study also address the 2011-2015 American Association of Agricultural Education National Research Agenda Priority Area 3, to aid in the "creation of programs that develop the skills and competencies necessary to improve the communications and knowledge sharing effectiveness of all in the agriculture-related workforces of societies" (Doerfert, 2011, p. 9). Therefore, this study had two objectives:

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1. To identify the agricultural communication competencies with the greatest level of consensus, as determined by agricultural communication faculty; and
2. To determine if a "gap" between employer expectations and graduate competencies is related to the agricultural communication program.

The results of this research may provide baseline data of faculty perceptions beneficial to future curriculum studies.

Methods

A consensus of opinion among agricultural communication faculty was needed to accomplish the study objective. The Delphi method is an efficient method to gather the opinion of experts and facilitate consensus among the experts (Dalkey, 1969; Stitt-Gohdes & Crews, 2004) and has been used in previous curriculum studies (Frick, 1993; Simon, Haygood, Akers, Doerfert, & Davis, 2005). This method uses purposive sampling, seeking experts to provide knowledgeable, informed opinions. To determine the participant list, a national search was conducted to ascertain which universities offered agricultural communication or agricultural journalism undergraduate majors, housed in the college of agriculture (or the college in which other agricultural departments were located), with a faculty member assigned to the major. A preliminary search was conducted using the American Association for Agricultural Education (AAAE) online directory (2008), sorting the members by the research area of "agricultural communications." This search yielded 18 graduate students and faculty, 15 of which were faculty representing 13 unique agricultural communication programs.

To attempt to have an inclusive pool of experts, the search engine Google was then utilized to search for "agricultural communication" and the first 100 results were evaluated. Six websites were found which listed universities offering college degree programs (CampusExplorer.com, 2009; CollegeBoard.com, 2009; CollegeToolkit.com, 2009; Ed-reference.us, 2009; MatchCollege.com, 2009; The Princeton Review, 2009). Searches for agricultural communication and agricultural journalism programs were conducted within each of these websites, which yielded an additional 10 unique programs. Further evaluation of the first 100 Google search results revealed three more unique programs. From this list of 26 programs, each was evaluated based on the previously stated criteria, which resulted in 17 unique agricultural communication programs consisting of 15 Land-Grant and two state non-Land-Grant universities. Some of these programs contained multiple faculty members, which had the potential to induce bias. To limit the number of participants from multi-faculty programs, two faculty members were randomly selected from each of these programs. This yielded a total of 25 invited participants.

Using the Tailored Design Method (Dillman, 2000) the chosen faculty (n = 25) were invited, via email, to participate as the expert panel for this study. Five days later an email containing the open-ended question "What competencies are needed for agricultural communication bachelor of science graduates?" was sent to the participants. No further explanation of the question was included, so each participant interpreted the question from a personal perspective and provided as many competencies as they desired. In addition, the following demographic questions were presented: gender, age, number of years employed in communications field, number of years in academia, and number of years in current position. Two additional emails were sent at seven day intervals reminding participants to respond to the question. Of the 25 contacted, 19 (76%) responded to the first round of the study, in which participants answered the question, and provided demographic information.

The participant statements from the open-ended question in Round 1 were analyzed using the constant comparative method (Glaser & Strauss, 1967), yielding 144 statements. For Round 2, an email was sent to the 19 participants who responded in Round 1 and contained a link to a website where the 144 statements were presented. Once at the website the participants were then asked to provide their level of agreement to each statement using five point Likert-type items (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). Two reminder emails were sent to participants at seven day intervals. All 19 participants replied, yielding a response rate of 100%. An 80% level of agreement for each competency statement was established a priori as the level of agreement needed for statements to move from Round 2 to Round 3, and for Round 3 statements to attain consensus (Moreno-Casbas, Martin-Arribas, Orts-Cortes, & Coment-Cortes, 2001; Morgan, Rudd, & Kaufmann, 2004; Simon et al., 2005; Stitt-Gohdes & Crews, 2004).

Means of Round 2 responses were calculated and statements receiving an 80% or higher level of agreement ($M \geq 4.00$) moved to Round 3 ($n = 98$). Statements were sorted by level of agreement, from high to low, and an email containing a link to a website presenting the statements, was sent to the 19 participants from Round 2, who were asked to provide their level of agreement to each one using four point Likert-type items (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) to force a positive or negative response to each statement. Two reminder emails were sent to participants at seven day intervals. Seventeen participants replied (89.5%), which provided a reliability of .80 (Dalkey, 1969). Seventy-nine statements received an 80% or greater level of agreement ($M \geq 3.20$) and were categorized using the criteria established by Terry et al. (1995).

Findings

The participants consisted of nine females and 10 males, with ages ranging from 28 to 83 years and a mean of 46.3 years. Further analysis revealed most respondents were between 30-59 years of age ($n = 11$), with one being less than 30 years of age and one greater than 80. The mean number of years in the communication field was 15.8, with a range of 2 to 53, and over half ($n = 10$) less than 10 years. Similarly, the average time in academia was 15.6 years, with a range of 2 to 36, and over 40% ($n = 8$) with less than 10 years. The number of years in their current position ranged from 1 to 25 years, with a mean of 9.3. This panel represented 12 land-grant and two non-landgrant universities.

The statements on which participants came to consensus ($n = 79$) were categorized using the criteria established by Terry et al. (1995), which consisted of three Core Areas of study: Agriculture, Communication, and General Education. Within these Core Areas are Disciplines and within Disciplines are Competencies; statements that could not be properly categorized using this system were labeled Miscellaneous. Numbers in parentheses after the statements indicate the level of agreement for the statement.

Of the 79 statements, 28 were categorized as being within the Core Area of Agriculture (see Table 1). The first statement "Professional competence—able to practice effective communication—write / speak correctly, clearly in a style and form that is expected of the audience, profession they will serve" (95.3%) illustrates the need for students to be graduated having utilized the skills they have learned in a career environment. Similarly, statements such as "Critical thinking" (95.3%), "Ability to communicate, both orally and in writing, ability to understand conceptual thinking and how it relates to communication" (93.8%), "Ethics" (93.3%), "Organized thinking skills" (89.1%), "Problem solving skills" (89.%), "Analytical skills" (85.9%), "Critical analysis" (85.9%), Ability to work in teams" (85.9%), "Interpersonal communication skills" (84.4%), "Project planning and management"

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(81.3%), "Grasp of how to develop and manage a project timeline" (81.3%), and "Civility" (81.3%) illustrate the need for skills needed in a professional environment.

Other Agriculture Core statements relate directly to agricultural science and knowledge, such as "Ability to understand the agricultural industry" (89.1%), "Basic understanding of the food system" (82.8%), "Basic understanding of agricultural production" (81.3%), "An overview and general background in agricultural topics and issues" (79.%), "Basic economics (ag finance, government relations, media management)" (79.%), and "Practical knowledge or coursework in an area of agriculture" (79.%). Other skills that may be considered as general workplace or communication abilities were "Interpersonal communication skills" (85.9%), "How to work in journalism settings, or in the areas of public relations or advertising (contingent on the area of focus for the individual student)" (82.8%), and "Marketing skills" (79.7%).

Computer skills specifically related to agricultural communication were categorized in the Agriculture Core, while general computer skills were placed in the General Education Core. These include software competencies, such as "Communication specific software skills (image manipulation, illustration creation, document design/layout, web creation; e.g. CS4)" (89.1%) and "Working knowledge of Adobe InDesign" (79.7%).

The second Core Area was Communication, containing 23 statements on which the participants came to consensus (see Table 2). This includes the Competencies related to journalism, such as "Editing" (89.1%), "Audience analysis" (89.1%), "Journalism ethic" (85.9%), "AP Style" (84.4%), and "Layout and Design skills" (84.4%). The statement with the highest level of agreement was "Ability to organize a set of facts or a collection of pieces of information into a coherent message" (92.2%).

Statements such as "Questioning skills" (85.9%), "Interviewing" (84.4%), and "They need to be able to ask questions that go beyond the narrow focus of a source who may try to restrict the conversation" (84.4%) indicate the importance of graduates possessing reporting skills so they can effectively procure and analyze facts. In addition to reporting, the specific forms of writing, "Persuasive communications (writing and verbal)" (89.1%), "News writing" (85.9%), and "Feature writing" (79.7%), were found important as well.

In addition to journalist communication, more traditional skills, such as oral communication and creativity were favored also. "Confidence in presenting in front of others" (89.1%) and "Oral communication" (89.1%) were found possessing consensus, as well as "Intellectual prowess - sound ability to think creatively and independently" (90.6%) and "Creativity" (89.1%).

Beyond basic writing and speaking, being able to utilize current media to effectively communicate a message to an audience garnered a high level of agreement. Participants agreed that "Basic skills in multimedia. Knowing how to put words and pictures together in a Soundslides [sic] show, creating a podcast, Web site, video ... these skills would certainly make a graduate more marketable" (84.4%) and "Knowing how to write stories for a Web-based publication (understanding how to "chunk" information into bite-sized pieces, for instance, and knowing how Web users scan a page) is important" (79.7%).

General Education, the final Core Area, contained 28 statements that represented a wide spectrum of skills, including basic communication skills, which relate directly to communication professionals (see Table 3). The statement receiving the greatest level of agreement in the study was "Ability to communicate in writing" (100%), and was closely followed by "Ability to write clearly, concisely, tersely and to get to the point" (98.4%), "Highly developed writing skills" (96.9%), "Good writing skills" (96.9%), "Professional (business) writing" (85.9%), "They need to appreciate language

Table 1

Statement	Discipline	Competency	Level of Agreement
Professional competence - able to practice effective communication - write / speak correctly, clearly in a style and form that is expected of the audience, profession they will serve	Internships	Development of Personal Skills	95.3
Critical thinking	Internships	Problem Solving	95.3
Ability to communicate, both orally and in writing, ability to understand conceptual thinking and how it relates to communication	Internships	Development of Personal Skills	93.8
Ethics	Agricultural Leadership	Ethics	93.3
Listening skills	Internships	Development of Personal Skills	92.2
Ability to understand the agricultural industry	Agricultural Communications	Communicating Ag to the public	89.1
Organized thinking skills	Internships	Problem Solving	89.1
Problem solving skills	Internships	Problem Solving	89.1
Communication specific software skills (image manipulation, illustration creation, document design/layout, web creation; e.g. CS4)	Agricultural Communications	Agricultural Publications	89.1
Interpersonal communication skills	Internships	Interpersonal Relations	85.9
Analytical skills	Internships	Problem Solving	85.9
Critical analysis	Internships	Problem Solving	85.9
Internship or other experiential learning opportunity	Internships	Miscellaneous	85.9
Ability to work in teams	Internships	Interpersonal Relation	85.9
Interpersonal communication skills	Internships	Interpersonal Relations	84.4
How to work in journalism settings, or in the areas of public relations or advertising (contingent on the area of focus for the individual student)	Internships	Application of AGCM Concepts	82.8

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Table 2

Communication Core Area Disciplines and Competencies

Statement	Discipline	Competency	Level of Agreement
Ability to organize a set of facts or a collection of pieces of information into a coherent message	Journalism	Reporting	92.2
Intellectual prowess - sound ability to think creatively and independently	Advertising	Creative strategies	90.6
Editing	Journalism	Editing	89.1
Confidence in presenting in front of others	Public speaking	Oral communication	89.1
Oral communication	Public speaking	Oral communication	89.1
Persuasive communication (writing and verbal)	Advertising	Campaign Planning	89.1
Creativity	Advertising	Creative strategies	89.1
Audience analysis	Miscellaneous	Miscellaneous	89.1
Journalism ethic	Journalism	Ethics in Journalism	85.9
Questioning skills	Journalism	Reporting	85.9
News writing	Journalism	News Writing	85.9
AP Style	Journalism	Miscellaneous	84.4
Interviewing	Journalism	Reporting	84.4
Familiarity with mainstream media	Miscellaneous	Miscellaneous	84.4
Communication campaign planning	Public Relations	Campaign Planning	84.4
Basic skills in multimedia. Knowing how to put words and pictures together in a Soundslides [sic] show, creating a podcast, Web site, video ... these skills would certainly make a graduate more marketable	Journalism	Dissemination Systems	84.4
Layout and Design skills	Journalism	Design and Layout	84.4
They need to be able to ask questions that go beyond the narrow focus of a source who may try to restrict the conversation	Journalism	Reporting	84.4
Digital photography	Photography	Camera Functions	81.7
Public relation foundations	Public	Campaign	81.3

Table 3

Statement	Discipline	Competency	Level of Agreement
Ability to communicate in writing	English	Miscellaneous	100.0
Ability to write clearly, concisely, tersely and to get to the point	English	Miscellaneous	98.4
Highly developed writing skills	English	Miscellaneous	96.9
Good writing skills	English	Miscellaneous	96.9
Grammar	English	Grammar	93.8
Ability to find and use information sources both on and off the internet	English	Technical Writing	93.8
Punctuation	English	Grammar	92.2
Openness to the unfamiliar	Miscellaneous	Miscellaneous	89.1
Reading	English	Miscellaneous	87.5
Professional (business) writing	English	Technical Writing	85.9
Technical - ability to literally use technology	Computer Applications	Electronic Communications /Networking	85.9
They need to appreciate language and precision with words	English	Miscellaneous	85.9
Tolerance of others' attitudes, values and beliefs	Miscellaneous	Miscellaneous	85.9
New & emerging media -- its impact and use (e.g. creation of Web 2.0 and the resulting emergence of social networking like Facebook, Twitter, and other social media)	Computer Applications	Electronic Communications /Networking	85.9
Strategic thinking	Miscellaneous	Miscellaneous	85.9
Research skills	English	Technical Writing	85.9
Ability to integrate information from a broad array of sources to provide a well rounded analysis and plan of action	English	Technical Writing	84.4
General office word processing skills	Computer Applications	Word Processing	84.4
Working knowledge of Microsoft Word	Computer Applications	Word Processing	84.4
Be adaptive to contemporary technologies and able to expand a currently solid expertise in technology	Miscellaneous	Miscellaneous	84.4
Lifelong learning	Miscellaneous	Miscellaneous	82.8
Working knowledge of Microsoft	Computer	Presentation	82.8

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and precision with words" (85.9%), "Grammar" (93.8%), and "Punctuation" (92.2).

Similar to findings in the Communication Area, the ability to seek out and synthesize information was discovered in this area also. "Ability to find and use information sources both on and off the internet" (93.8%), "Reading" (87.5%), "Research skills" (85.9%), and "Ability to integrate information from a broad array of sources to provide a well rounded analysis and plan of action" (84.4%).

The ability to efficiently utilize current technology was made clear. Consensus was found in the statements "Technical - ability to literally use technology" (85.9%), "New and emerging media -- its impact and use (e.g. creation of Web 2.0 and the resulting emergence of social networking like Facebook, Twitter, and other social media) " (85.9%), "General office word processing skills" (84.4%), "Working knowledge of Microsoft Word" (84.4%), "Be adaptive to contemporary technologies and able to expand a currently solid expertise in technology" (84.4%), "Working knowledge of Microsoft PowerPoint" (82.8%), "General office presentation software skills" (79.7%), and "Web design" (79.7%).

Conclusions

This study sought to identify the undergraduate agricultural communication competencies with the greatest level of consensus among faculty, and determine if a gap between employer expectations and graduate competencies is related to the agricultural communication program. The study noted the faculty participants in agricultural communication had been in academia for an average of 15.6 years, spending an average of 9.3 years in their current position. This indicates the participants had a substantial amount of experience in agricultural communication.

Through the course of this study several competencies achieved a high level of consensus among agricultural communication faculty. The highest rated competencies included basic communication skills with a specific focus on written communication. One might conclude that the competencies focused on writing should be categorized within the Core Area of Communication; however, this set of competencies was placed in General Education. This categorization is based on the findings established by Terry et al. (1995) which stated the fact that excellent writing skills are an expectation for all university graduates, not just those who major in communication. Moreover, it is interesting to note that the highest faculty rated competencies were related to written communication. This finding is in opposition of the study conducted by Crawford et al. (2011) which found that faculty and professionals placed more emphasis on the importance of oral communication skills.

In this study, faculty also cited the need to integrate curriculum which would encourage students to assimilate and apply the technical skills learned in the classroom. These competencies included professional competence, critical thinking, ethics, problem solving skills, analytical skills, critical analysis, ability to work in teams, interpersonal communication skills, project planning and management, grasp of how to develop and manage a project timeline, and civility. These competencies are worthy of attention because they are not competencies specific to only agricultural communication majors, but rather competencies that would be expected of all university graduates. This finding is consistent with the study by Sitton et al. (2005) that found agricultural public relations professions also place emphasis on similar competencies such as time management and human relations skills (working in teams), which are competencies specific to a variety of careers.

Additionally, faculty cited the importance of competencies focusing on the need for a broad understanding of agriculture and current agricultural topics such as the ability to understand the agricultural industry, a basic understanding of the food system, and the basic understanding of agricul-

tural production. In contrast, other studies cited the importance of technical knowledge and placed a higher emphasis on the importance of communication and soft skills. For example, Sprecker and Rudd (1997) stated that communication skills were more important than agricultural knowledge. Moreover, the study conducted by Crawford et al. (2011) found that students were entering the work force with enough technical knowledge in their specified discipline (such as agriculture), but were lacking soft skills such as communication.

Beyond determining the faculty perspectives of competencies needed by agricultural communication graduates, a question posited at the outset of this study was to determine if a "gap" between employer expectations and graduate competencies is related to the agricultural communication program. When comparing competencies identified by faculty in this study to those identified by industry professionals (Morgan, 2010), faculty placed the highest levels of agreement on statements relating to writing, critical thinking, communication, and "intellectual prowess," while industry placed the highest levels of agreement on workplace skills such as ethics, responsibility, professionalism, and organizational skills. When compared to those identified by industry professionals, only two communication related skills received a 90% or higher level of agreement: oral communication and the correct use of grammar; the competency of writing garnered only 88.6%.

Further comparisons yielded similar results: faculty showed higher levels of agreement to statements related to specific communication skills (e.g., "Ability to organize a set of facts or a collection of pieces of information into a coherent message") and students' ability to think (e.g., "sound ability to think creatively and independently"). Whereas, industry tended to be more global, perhaps pragmatic, by focusing on an individual's ability to accomplish a task (e.g., "Ability to meet deadlines", Morgan, 2010, p. 24).

When looking at the specific Core Areas, within the area of agricultural competencies faculty provided higher levels of agreement on specific thinking skills: analysis, problem solving, and critical thinking, along with specific software and communication skills. By comparison, industry professionals provided higher levels of agreement on general workplace skills they perceived as competencies: attitude, work ethic, and ability to "think on their feet." It seems while faculty desire to develop a student's mind, professionals place more value on having graduates who are ready to effectively enter a career environment. Perhaps faculty believed students inherently possessed these general workplace skills and, therefore, did not state them. Regardless for the reason of discrepancy, this appears to be a gap between faculty and industry perceptions of graduate competencies. Therefore, to bridge the gap, faculty should focus on developing these competencies in their coursework. While some of these general workplace skills can be taught in the classroom, it seems a more appropriate environment to develop these skills is outside of the classroom through experiential learning opportunities such as structured internships, career shadowing, or volunteer work related to agricultural communication. This supports the findings of Crawford et al. (2011) who found that guided, active learning environments such as internships, co-curricular activities, and experiential learning activities were highly valued by industry professionals, faculty, and students. Moreover, incorporating internships and career shadowing would support the findings of Sprecker and Rudd (1997), who advocated for providing students with the opportunity to meet with industry professionals.

In regard to the Communication Core Area competencies, the skill sets identified by both groups were very similar, with faculty tending to be specific and academic, whereas competencies identified by industry were more general and applied or career oriented. Oral communication, editing, creativity, and writing were in the "top ten" of each group's lists and, although the level of agreement dif-

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fered, all statements received agreement within an 85%-92% range, revealing no apparent gap existed between faculty and industry communication expectations.

When comparing the General Education Core, competencies identified were similar for both faculty and industry, with a focus on writing, effective use of technology, the ability to learn beyond the formal classroom, and solid research skills. Interestingly, industry also included many business related competencies faculty did not identify, such as budgeting, accounting, and understanding business models. With this gap discovered, it is recommended programs include business based courses in their curriculum that address these competencies.

Based on the overall results of this study, faculty and industry have similar views about the competencies needed for agricultural communication program graduates. Faculty tended to focus on the mental capabilities of the students, by stating a desire for them to possess analytical and critical thinking abilities, as compared to industry who articulated similar skills, but used language that was more pragmatic in nature. The biggest gap found between the two studies was what was described as "general workplace skills," which industry identified as competencies and placed in high regard. Perhaps there are ways in which academicians can incorporate these competencies into their courses, but an internship seems a much more likely environment for these skills to be developed. Based on these findings, faculty should include assignments encouraging the application of knowledge and concepts learned, and include an internship or other practicum in agricultural communication programs.

Using the curriculum model as outlined by Finch and Crunkilton (1999), faculty members are placed in the role of controlling the quality of academic programs through the development of curriculum. Therefore, it is critical that a collaborative relationship is formed between faculty and industry professionals. In accordance with the curriculum model, industry professionals, who may be program graduates, should be given the opportunity to provide valuable feedback to faculty members. This could be accomplished through industry focus groups, a curriculum advisory panel containing industry professionals, and continuation of studies such as the study conducted by Morgan (2010) to determine competencies desired by industry professionals. The development of a strong relationship between faculty members and industry professionals will ensure that graduates are adequately prepared to enter the workforce.

Even as this study has exposed gaps and affirmed some previous research, it has revealed additional subjects that may be the topics for future inquiry. Future research should explore the level at which students are achieving these competencies cited in this study. Although students earn a passing grade in a course, a new research study could determine if the competency level achieved is appropriate to enable them to successfully enter the workforce. Similarly, it would be valuable to determine how students rate these competencies and determine how student perspectives relate to the perspectives of faculty and potentially industry professionals. Finally, a study should be conducted to reevaluate the competencies established by Terry et al. (1995). A new study would have the potential to update the current agricultural competencies to more closely represent the current state of agricultural communication.

References

CampusExplorer.com. (2009). Agricultural Communication/Journalism Schools. Retrieved from http://www.campusexplorer.com/colleges/major/8F74DAA2/Related-Agricultural-Services/83B34C8F/Agricultural-Communication-Journalism/

Carpenter, S. (2009). An application of the theory of expertise: Teaching broad and skill knowledge areas to prepare journalists for change. Journalism & Mass Communication Educator, 64(3), 287-304.

CollegeBoard.com. (2009). College MatchMaker: Results. Retrieved from http://collegesearch.collegeboard.com/search/servlet/advsearchservlet?buttonPressed=viewResults&navigateTo=9&viewpage=1&odbparam=major:46&AffiliateID=MCP_Major&BannerID=AgriculturalCommunications

CollegeToolkit.com. (2009). Colleges Offering a Major in Agricultural Communication/Journalism. Retrieved from http://colleges.collegetoolkit.com/colleges/browse/majors/byid/agricultural_communication-journalism/01.0802.aspx

Cooper, B. E., & Bowen, B. E. (1989). Agricultural communications curriculum: Perceptions of Ohio State graduates. ACE Quarterly, 73(2), 11-16.

Dalkey, N. C. (1969). The Delphi method: An experimental study of group opinion. Santa Monica, CA: The Rand Corporation.

Dillman, D. (2000). Mail and Internet surveys: The Tailored Design Method (2nd ed.). New York: John Wiley & Sons, Inc.

DiStaso, M. W., Stacks, D. W., & Botan, C. H. (2009). State of public relations education in the United States: 2006 report on a national survey of executives and academics. Public Relations Review, 35(3), 254-269.

Doerfert, D. L. (Ed.) (2011). National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Doerfert, D. L., & Miller, R. P. (2006). What are agricultural industry professionals trying to tell us? Implications for university-level agricultural communications curricula. Journal of Applied Communications, 90(3), 17-31. Retrieved from http://www.aceweb.org/JAC/pdf/JAC_pdfs/JAC9003/JAC9003_RS01.pdf

Doerfert, D. L, Irani, T., Akers, C., Rutherford, T., Davis, C. S., & Compton, K. (2004, June). A national needs assessment for the preparation and development of agricultural communications professionals. Paper presented at the National Agricultural Communication Summit, Lake Tahoe, NV.

Ed-reference.us. (2009). Agricultural Communication, Journalism Schools - Education Reference. Retrieved from http://www.ed-reference.us/00110/agricultural/agricultural-communication,-journalism/colleges

Ettredge, T. M., & Bellah, K. A. (2008). A curriculum for university agricultural communication programs: A synthesis of research. Paper presented at the Southern Association of Agricultural Scientists, Dallas, TX.

Finch, C. R., & Crunkilton, J. R. (1999). Curriculum development in vocational and technical education: Planning, content, and implementation. Boston: Allyn and Bacon.

Flatt, C. E. (1991). Agricultural communication graduates' perceptions of curriculum, preparation, and degree title. Unpublished masters thesis, Washington State University, Pullman.

Frick, M. J. (1993). Developing a National Framework for a Middle School Agricultural Education Curriculum. Journal of Agricultural Education, 32(2), 77-84.

https://newprairiepress.org/jac/vol97/iss1/6
DOI: 10.4148/1051-0834.1103

Geimann, S. (2001). Task Force on the Professions in the New Millennium (A. f. E. i. J. a. M. Communication, Trans.). In L. L. Kopenhaver (Ed.), Journalism and Mass Communication Education: 2001 and Beyond (pp. 5-15). Columbia, SC: Association for Education in Journalism and Mass Communication.

Glaser, B. G., & Strauss, A. L. (1967). The discovery of grounded theory. Chicago: Aldine.

Irlbeck, E. G., & Akers, C. (2009). Employers' perceptions of recent agricultural communications graduates' workplace habits and communication skills. Journal of Agricultural Education, 50(4), 63-71.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunites of social media. Business Horizons 53(1), 59-68.

Lawson-Borders, G. (2010). More Than a Mouse Trap: Effective Business Models in a Digital World. International Journal on Media Management, 12(1), 41-45. doi: 10.1080/14241270903558400

MatchCollege.com. (2009). Agricultural Communication Degree, Colleges that Offer an Agricultural Communication Program. Retrieved from http://www.matchcollege.com/schools-degree/01.0802/Agricultural-Communication

Moreno-Casbas, T., Martin-Arribas, C., Orts-Cortes, I., & Coment-Cortes, P. (2001). Identification of priorities for nursing research in Spain: a Delphi study. Journal of Advanced Nursing, 35(6), 857-863.

Morgan, A. C. (2009). Competencies needed by agricultural communication undergraduates: An industry perspective. Paper presented at the Southern Association of Agricultural Scientists, Atlanta, GA.

Morgan, A. C. (2010). Competencies Needed by Agricultural Communication Undergraduates: An Alumni Focus Group Perspective. Journal of Applied Communication 94(1&2), 19-32.

Morgan, A. C., Rudd, R. D., & Kaufmann, E. K. (2004). Elements of an undergraduate agricultural leadership program: A Delphi study. Paper presented at the Association of Leadership Educators, Memphis, TN.

Mullett, A. A. (2006). Strengthening agricultural communication curriculum: Perceptions and recommendations of industry practitioners. Unpublished masters thesis, Ohio State University, Columbus.

Osborne, E. W. (Ed.). (2007). National research agenda: agricultural education and communication: 2007-2010: American Association for Agricultural Education.

Reisner, A. (1990). Course work offered in agricultural communication programs. Journal of Applied Communications, 74(1), 18-25.

Simon, L., Haygood, J., Akers, C., Doerfert, D., & Davis, C. (2005). Master's level agricultural communications curriculum: A national Delphi study. Journal of Agricultural Education, 46(3), 56-69.

Sitton, S., Cartmell, D. D., & Sargent, S. (2005). Developing public relations curricula in agricultural communications. Journal of Applied Communications, 89(3), 23-37.

Smith, S. D., Salaway, G., & Caruso, J. B. (2009). Educause Center for Applied Research: The ECAR study of undergraduate students and information technology. Retrieved from http://www.educause.edu/ecar

Sprecker, K. J., & Rudd, R. D. (1997). Opinions of instructors, practitioners, and alumni concerning curricular requirements of agricultural communication students at the University of Florida. Journal of Agricultural Education, 38(1), 6-13.

Stitt-Gohdes, W. L., & Crews, T. B. (2004). The Delphi technique: A research strategy for career and technical education. Journal of Career and Technical Education, 20(2), 55-67.

Terry, R., Jr., Lockaby, J., & Bailey-Evans, F. J. (1995). A model for undergraduate academic programs in agricultural communications. Paper presented at the Southern Agricultural Education Research Conference, Wilmington, NC.

Terry, R., Jr., Vaughn, P. R., Vernon, J. S., Lockaby, J., Bailey-Evans, F., & Rehrman, M. (1994). Enhancing the agricultural communications curriculum: A vision for the future. Center for Agricultural Technology Transfer (CATT). Texas Tech University, Lubbock, TX.

The Princeton Review. (2009). Agricultural Journalism. Retrieved from http://www.princetonreview.com/Majors.aspx?cip=010802&page=1

https://newprairiepress.org/jac/vol97/iss1/6
DOI: 10.4148/1051-0834.1103