8-2018

# Introducing the Academic Discipline of Agricultural Communications to the United Kingdom: A Needs Analysis

Sara Kathryn Maples
*University of Arkansas, Fayetteville*

Introducing the Academic Discipline of Agricultural Communications to the United Kingdom: A Needs Analysis

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Agricultural Extension and Education

by

Sara Kathryn Maples
Mississippi State University
Bachelor of Science in Agricultural Information Sciences, 2016

August 2018
University of Arkansas

This thesis is approved for recommendation to the Graduate Council.

_____
Dr. Jefferson Miller
Thesis Director

_____
Dr. Jill Rucker
Committee Member

_____
Dr. Emily Buck
Committee Member

_____
Dr. Andrew McKenzie
Committee Member

**Abstract**

There is a current need to identify and describe opinions of prospective employers and current agricultural students about the prospects of developing an agricultural communications academic discipline in the U.K. An understanding of the competencies employers would expect of agricultural communications graduates, as well as an understanding of what students would expect to learn, would form the conceptualization and development of the discipline in the U.K. A total of 22 agricultural communications professionals and 67 agricultural students from across the United Kingdom completed the survey. Collected data showed agricultural students and agricultural communications professionals answers overall were not statistically different. Both groups found many of the competencies such as writing skills and general communication skills to be important for an agricultural communications graduate in the United Kingdom. Future studies should investigate the need for an agricultural communications academic discipline in the communications profession in the United Kingdom.

**Dedication**

This thesis is dedicated to Evan. Thanks for still agreeing to marry me after all the times I threated to quit grad school.

This thesis is also dedicated to the following:

Me, because I wrote it and I deserve some appreciation from myself.

Mama for letting me complain then telling me to suck it up.

Dad for texting me jokes and loving me when I text mama when you won't let me talk to her on the phone.

Grandpa for also calling me sugar booger every Sunday and for being so proud of me even when I don't deserve it.

Mom and Bill for always talking to me when I just need to hear someone from home.

Will for always answering my phone call about stats questions.

Ben and Heather for letting me Facetime your kids.

McKenzie for making my favorite cookies.

Joe and Lissa for getting me a job.

Finally, this thesis is not dedicated to Josh because he never would read it.

**Acknowledgements**

Thank you to all my wonderful committee members. Dr. Miller, thank you for giving me a chance and for letting me go on this journey through the U.K. with you. Dr. McKenzie, for all your help with my results and for being so nice all the time. Dr. Rucker, for being a bright light during my time at Arkansas. Dr. Buck, for your expert guidance on the United Kingdoms agriculture system.

Thank you to my fellow graduate students with a special shout out to Lesley Smith and Katie Dobbins. Thank you, Lesley, for being so encouraging and sweet to me. I truly appreciate all the laughs and conversations and potato gifts we've had together. Thank you to my sweet little Katie for being a killer best friend at Arkansas. You're a genius but you're also very genuine and not annoying. I can't wait for our friendships to grow as we get old.

**Table of Contents**

**List of Tables**

**List of Figures**

# CHAPTER I: INTRODUCTION

## *Need for the Study*

In the United Kingdom, agricultural studies are the fastest growing discipline at university level (Truss, 2016). In 2016, 19,000 students were pursuing an education in agriculture and related subjects (Truss, 2016). Thirty-four U.K. institutions offer 265 courses in agriculture, forestry and food, according to the Guardian University Guide (The Guardian, 2018). However, there is no specified academic discipline for aspiring agricultural journalists, public relations specialists, and advertising professionals. The agricultural communications academic discipline, which has its roots in the United States' land grant university system, is intended to prepare graduates for a wide range of job opportunities in communications in the food and agriculture industries (Evans & Bolick, 1982). In the U.S., numerous agricultural institutions provide courses prepare students for careers in agricultural extension, academia, and government agencies, as well as for careers in public relations and advertising in agribusiness (Preist, 2010). Anecdotally, there appears to be a gap between courses offered at the college and university level in the U.K. and the needs of the agricultural communications sector in the U.K. According to Ben Briggs, editor of the Preston, England-based *Farmers Guardian*, agricultural publications typically hire candidates who are either skilled in agriculture or skilled in journalism and communications. They typically do not have the opportunity to choose a candidate who is institutionally trained in both (B. Briggs, personal communications, May 30, 2017).

In the U.S., university students can seek agricultural communications degrees to fit their intended job paths and strengthens their career choices. According to a recent study conducted by Miller, Large, Rucker, Shoulders and Buck (2015), 48 higher education programs devoted to the agricultural communications discipline exist in the U.S. This academic discipline is one of

several fast-growing agriculture-related disciplines that prepare graduates to supply a growing demand for professionals in the industry (Miller et al. 2015). According to a United States Department of Agriculture report (USDA, 2015), an average of 35,000 college graduates are reported to fill 61% of the almost 60,000 high-skilled job openings in the overall sector. This report projects 12% of job offerings will be in education, communication and governmental services; 15% in food and biometrics products; 27% in science, technology, engineering and mathematics (STEM) areas; and 46% in management and business (USDA, 2015).

According to Doerfert and Miller (2006), "it is the responsibility of higher education and agricultural communication 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" (p.21). As the agriculture industry in the U.K. continues to grow, a need exists to determine (beyond anecdotal evidence) whether an agricultural communications academic disciple would benefit United Kingdom higher education institutions. Logic dictates that those best suited to inform on this issue are the prospective employers of graduates with agricultural communications skills, the prospective students themselves, and the higher education faculty who might be involved in developing and offering the programs.

***Problem Statement***

There is a current need to identify and describe opinions of prospective employers and current agricultural students about the prospects of developing an agricultural communications academic discipline in the U.K. An understanding of the competencies employers would expect of agricultural communications graduates, as well as an understanding of what students would expect to learn, would form the conceptualization and development of the discipline in the U.K.

***Purpose Statement***

This descriptive study provides faculty and administrators with empirical data that may be utilized to establish and characterize the need for agricultural communications curricula. The study can help to develop the discipline in a way that builds on the strengths of the current discipline in the U.S. but that takes into consideration the context of industry and academia in the U.K. The purpose of this study was to characterize the opinions and perceptions of agricultural communications professionals and agricultural students across the U.K. to identify desired competencies possible U.K. agricultural communications graduates should aspire to achieve.

***Objectives***

Therefore, the objectives guiding this study are the following:

1. Determine demographics of agricultural communications professionals and agricultural students in the United Kingdom;
2. Determine professional competencies U.K. agricultural communications professionals and U.K. agricultural students would expect U.K. agricultural communications graduates to have;
3. Determine U.K. agricultural communications professionals' and U.K. agriculture students' opinions about topics and classes that should comprise the agricultural communications curriculum in the U.K.;
4. Describe relationships among the demographic characteristics of the survey respondents and opinions on desired competencies, topics, and classes in the curriculum.

***Definition of Key Terms***

Academic Discipline: Organization of learning and systemic production of new knowledge (Krishnan, 2009)

Agricultural Communications: Use of multiple communication outlets in the agricultural industry (Kurtzo, Hansen, Rucker & Edgar, 2016)

Agricultural Communications Curriculum: Curriculum included lesson plans, PowerPoint presentations, support material, and resources for instruction for secondary agricultural science teachers. Units of instruction included: careers in agricultural communications, writing, design, and multimedia (Edgar, Cox, & Edgar, 2010).

Agricultural Journalism: A program that prepares individuals to apply journalistic, communication, and broadcasting principles to the development, production, and transmittal of agricultural information. Includes instruction in basic journalism, broadcasting, film/video, and communication techniques; the production of technically specialized information products for agricultural audiences; and the principles of agricultural sciences and business operations needed to develop and communicate agricultural subject matter in effective ways. (U.S. Department of Education, 2010).

Competencies: Skills and traits a person gains through education and experience to prepare them for professional careers (Bowden & Masters, 1993)

Skill – Characteristics that have been acquired overtime from education and environmental influences (Northouse, 2013)

***Assumptions***

*Agricultural Communications Professionals' and Agricultural Students' Opinions and Desired Competencies*

1. It is assumed all subjects answered the survey truthfully and to the best of their ability.
2. It is assumed all study content is related to the United Kingdom.

### *Limitations*

*Agricultural Communications Professionals' and Agricultural Students' Opinions and Desired Competencies*

One limitation is the cultural and semantic differences between the United Kingdom and United States. It is possible the survey questions or the overarching concepts guiding the survey will be misunderstood because of cultural and language differences as well as differences between the U.K. and U.S. higher education structures and cultures. Another limitation is the likelihood of a low response rate from agricultural communications professionals and agriculture students. Since the primary researcher is in the United States, responses could be lower.

## CHAPTER II: LITERATURE REVIEW

Agriculture is the primary use for land in the United Kingdom (Department for Environment Food and Rural Affairs [Defra], 2016). In June 2016, the Utilised Agricultural Area [UAA] in the U.K. covered 71% of the total land area in the United Kingdom (Defra, 2016). UAA consists of arable and horticultural crops, uncrossed arable land, common rough grazing, and temporary and permanent grassland.

Issues related to agricultural production, food security and the environment permeate the political and corporate news in the U.K. Therefore, it stands to reason, professionals trained to communicate about these issues will continue to be needed in the workforce. To understand the factors involved in the creation of a new academic discipline in U.K. agricultural communications, it is important to understand the characteristics of the discipline in the U.S., the higher education structure in the U.K., the state of the agricultural communications industry in the U.K. and the theoretical foundations behind the development of academic disciplines (Truss, 2016).

### *Overview of U.S. Agriculture Communications Discipline Programs*

The first agricultural communications courses in the U.S. were taught in 1905 at Iowa State University, when colleges of agriculture determined a need to disseminate information discovered from land grant university experiment stations (Duley, Jensen & O'Brien, 1984; Doerfert & Miller, 2006). In the following 100 years, agricultural communications evolved into a true academic discipline with degree programs offered nationwide. These programs have been particularly popular among female students with interests in both the social sciences and agricultural sciences. The number of women pursing degrees and careers in agricultural have increased the past 100 years (National Research Council, 2009). As of 2015, 48 agricultural

communications academic programs were identified and verified in the United States (Miller, et al., 2015). Many of these programs (88.5%) offer a Bachelor of Science degree (four-year undergraduate) (Miller, et al., 2015). Students can also receive associate's (two-year undergraduate), master's, and doctoral degrees, as well as various minors and certificates in U.S. agricultural communications. University students from across the U.S. can seek agricultural communications degrees to fit their desired career track (Miller, et al., 2015).

According to Terry, Vaughn, Vernon, Lockaby, Bailey-Evans and Rehrman (1994), "agricultural communications programs are designed to fulfill two primary needs of graduates: (1) provide a strong basis of both technical agriculture and sources for agriculture information, and, (2) introduce methods of journalistic writing and other communication skills" (p. 94). Agricultural communications graduates must be able to disseminate agricultural information to those in and out of the agricultural industry (Evans & Bolick, 1982). This realization requires agricultural communication programs to supply graduates with the courses they need to qualify for a wide range of communications-related job opportunities in the broad agriculture and food sector (Evans & Bolick, 1982).

According to Sprecker and Rudd (1998), agricultural communicators are not agriculturalists primarily, but communicators with special knowledge of agriculture and food topics, issues, and technologies. At many universities in the U.S., students must complete 29 credit hours of mass communication classes (about 10 semester-long classes) in addition to their agricultural education classes (Ahrens & Gibson, 2014). Students in the U.S. can participate in communications related classes such as the following (Large, 2014):

- Agricultural Communications Law
- Communications Campaigns

- Communications Theory
- Electronic Communication in Agriculture
- Ethics in Communications
- General Agricultural Communications
- Technical/Scientific Writing
- Writing for Agricultural Media

Students in the U.S are also required to take a variety of classes that teach the fundamentals of agricultural sciences and technologies in a multi-disciplinary or cross-disciplinary approach. The following classes are examples of classes taught in main agriculture programs (Large, 2014):

- Agricultural Economics
- Agricultural Education
- Agronomy
- Animal Science
- Horticulture
- Food Science
- Environmental Science
- Pest Management

***History of Agricultural Communications in the U.K.***

The higher education system in the United Kingdom differs from its counterpart in the United States in several ways. As of 2017, there were 110 universities and university colleges in the U.K. (Higher Education Funding Council for England, 2017). Universities in England, Wales, Northern Ireland and Scotland offer the following types of degrees (Leišytė, 2007):

- Certificates of higher education
- Foundation degrees
- Higher national diplomas
- Ordinary bachelor's or first degrees
- Bachelor's degrees with honors
- Master's degrees
- Doctorates

As noted by Truss (2016), in the U.K. agricultural studies are the fastest growing subject at university level. As of 2016, there were over 19,000 students pursuing degrees in agriculture (para. 5). At the Royal Agricultural University (RAU) in Cirencester, Gloucestershire, U.K., there has been a 44% increase in female students (para. 6). With this increase in students, male and female employment opportunities in the U.K. agricultural and food industry are likely to continue to grow. As new technologies emerge, and as European and global markets change, skilled communicators who can help disseminate new technologies for adoption and who can use their marketing communications skills to promote U.K. agricultural and food products are sure to be in high demand.

Specialized agricultural education began in the United Kingdom in 1845 with the founding of the Royal Agriculture University (RAU, 2017). The RAU motto is *Arvorum Cultus Pecorumque* meaning "Caring for the Fields and the Beasts" (Georgics, trans. 1916). Today, RAU has degree programs ranging from Agricultural Management to International Equine and Agricultural Business Management. Some of the academic degree programs require students to take classes such as Data Handling and Technical Writing, but most do not have a journalism or communication type class in their curricula (RAU, 2017).

Another example of an agricultural higher education institute is Scotland's Rural College (SRUC). Three of Scotland's agricultural institutions united to form the Scottish Agriculture College (SAC) in 1990 (Independent, 2013). In 2012 four partners; Barony, Elmwood, Oatridge Colleges and SAC, merged to create Scotland's Rural College (Scotland's Rural College [SRUC], 2017). The college now consists of six campuses across Scotland in Edinburgh, Aberdeen, Ayr, Barony, Elmwood and Oatridge (SRUC, 2017) as shown in Figure 1. The vision of SRUC is "leading innovation and sustainable development in agriculture, land and the rural sector" (SRUC, 2017). The SRUC offers several subject areas including agriculture, animal care, environmental organic farming and business (SRUC, 2017). SRUC and RAU offer some social science programs such as agricultural economics and rural policy, but agricultural communications is not included in either curricula.


*Figure 1:* Locations of the Royal Agriculture University, Writtle University and Scotland's Rural College campuses. (Google Maps, n.d.)

The British Guild of Agricultural Journalists [GAJ] partners with John Deere to offer a training course on agricultural and horticultural journalism. This program allows young professionals the opportunity to get started in agricultural journalism and public relations. They can interact with communications professionals and practice writing news stories for agriculture

publications (GAJ, 2017). According to Ben Briggs, editor at *Farmers Guardian* (personal communication, May 30, 2017), most employees in agricultural communications are trained in journalism and receive agricultural education through on-the-job experiences, or they are trained in agriculture and receive journalism education on the job. This John Deere program is attempting to bridge the gap between communications and agriculture. While it is by most accounts a successful effort, it serves relatively few young professionals.

***Women in Agriculture in the U.K.***

According to Pinchbeck, female agricultural producers historically have been at the forefront of British innovations in agricultural food productions (1930). British women were involved in dairy work and encouraged to join other areas of food production, such as, fruit growing or honey production. (Ambrose & Jensen, 2017. p. 17). Usually when their farming involvement came to light, it was referencing laboring women who worked in arable agriculture and dairy industries for cash. According to Ambrose and Jensen (2017), for women in the 18th century, the most important and productive branch of women's work in agriculture was dairying (dairy-farming) (p. 17). Results from a survey completed by Parliament in the early 1840s and 1860s, attacked women of labor and field labor as unsexing and morally corrupting. Charles Dickens, (1867) wrote field work "converts girls into demons" (p. 588). This backlash caused specific forms of paid agricultural labor to be restricted by the Agricultural Gangs Act of 1867 (30 and 31 Vict. C. 130). Agricultural gangs were groups of women, girls and boys organized by a gang-master, who performed agricultural type work for farmers in certain areas in England. The Agricultural Gang Act of 1867 required women to work in the gang with only females and no female could be employed under a male gang-master, unless a female gang-master was also present.

As society's views on women in agriculture changed, so did women's opportunities for professional employment in the sector. The Langham Place group, a British feminist organization, perceived women as capable of managing highly skilled and laborious production work in all sectors (Ambrose & Jensen, 2017). They represented women as capable and intelligent persons who could grasp agricultural technological advances and write and lecture on them. Many male opponents argued "women involved in agricultural pursuits ought to confine their efforts to the smaller-scale, more feminine sphere of the 'subsidiary' branches, such as the garden, apiary, poultry or dairy production, because they were physically and mentally unsuited to and incapable of managing large arable enterprises or livestock farms" (Ambrose & Jensen, 2017, p. 20).

Frances Greville, countess of Warwick, founded the first women-only collegiate center for agricultural education in 1898. The center was moved from Reading Berkshire to Studley Warwickshire in 1903. Lady Warwick's goal was to provide "sound practical and scientific training for women" (Verdon, 2012, p.153). Warwick focused on the "lighter branches of agriculture," which implies "all the work on the land which requires skill rather than mere physical strength" (Bradley & Mothe, 1903, p. 351). The women-only collegiate center was a starting point for women to develop communication skills in agriculture. They were taught skills such as market gardening, dairying, poultry-keeping, bee-keeping and marketing produce. The agricultural curriculum consisted of dairying, aviculture, apiculture and marketing, but these subjects were mainly a subsidiary to horticulture.

Women's Institute (WI) movement began in 1915 in Wales. "The WI was a Canadian institution that traced its origins back to the community of Stoney Creek Ontario, 1897. Local women formed the first branch in 1897 with the aim of bringing women from their community

together and providing them with training in home economics and encouraging their involvement in local initiatives, especially concerning public health." (Ambrose & Jensen, 2017, p. 121). The WI was developed with a focus in helping women generate income from their work in the community and country. Women's Institutes in Britain had WI markets in which WI members could sell their goods. The markets still operate today, now known as "country markets" (Ambrose & Jensen, 2017).

### *Theoretical Framework*

Many U.K. students understand the need to gain experiences outside of their required curriculum to increase their employability. In a study conducted at Cardiff University in Wales, students saw their degrees as necessary to boost their human capital and open a wider range of opportunities (Tomlinson, 2008). Human capital theory in education "emphasizes how education increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capability, which is a product of innate abilities and investment in human beings" (Olanuyan & Okemakinde, 2008, p. 479). In the scope of this study, the creation of an agricultural communications academic discipline will increase educational opportunities, quality, and employment demand for students with agricultural communications degrees. Some theorists have argued the spread of educational credentials is adding little or no value to individuals' human capital (Collins, 1979; Hirsch, 1977), yet newly emerging higher education programs continue to produce competitive graduates in the U.S. and the U.K.

To be competitive in the job market, students must add value and distinction to their main credentials with soft credentials. There is a need to develop skills to boost employability with experiences and achievements outside of formal studies (Tomlinson, 2008). Figure 2 displays an adaptation of the human capital theory model.

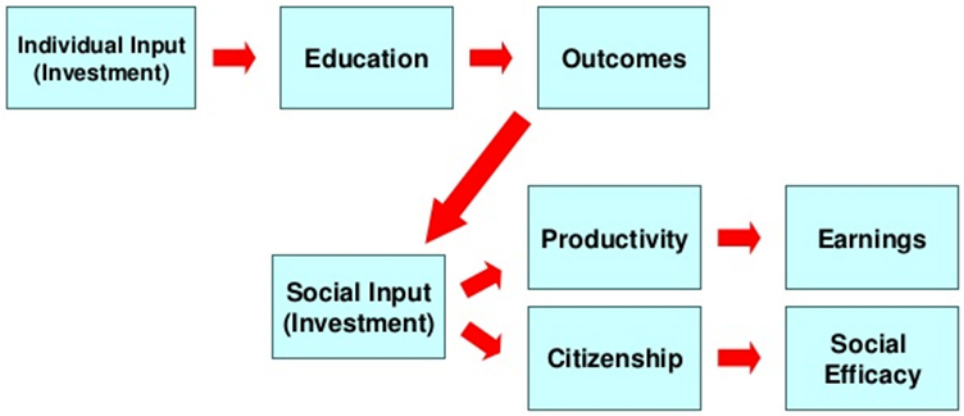


*Figure 2.* Human Capital Theory Model. Swanson, R.A., & Holton, E.F. III. (2001). *Foundations of human resource development.* San Francisco, California: Berrett-Koehler Publishers Inc.

Figure 2 illustrates how an agricultural communications curriculum in the United Kingdom could potentially increase the individual and social investments for students. Human capital theory supports the view of the development of human resources. The model shown in Figure 2 shows individual input is a form of capital for development. Human capital theory is an "investment in people through training and education which has a direct and indirect impact on all stake holders at large" (Ahmed, Arshad, Mahmood, & Akhtar, 2017, p. 132). Figure 2 describes how the investment and individual puts in has an impact on their education. The outcomes of education impact their social input. When individuals input social investments, it impacts their productivity and citizenship, which, in return impacts their earnings and social efficacy (Swason & Holden, 2001). The human capital theory provides the theoretical rationale for this study.

# CHAPTER III: METHODOLOGY

## *General Design Approach*

To achieve the objectives of this study, two quantitative, descriptive surveys were conducted online using Qualtrics. Groves et al. (2009) describes a survey as "a systematic method for gathering information from entities for the purpose of constructing quantitative descriptors of the attributes of the larger population of which the entities are member" (p. 2). This study utilized an online survey, which enabled researchers to reach a larger number of participants than a paper survey would have reached. According to Adams and Cox (2008),

> "Questionnaires are usually paper based or delivered online and consist of a set of questions which all participants are asked to complete. Once the (online) questionnaire has been created, it can be delivered to a large number of participants with little effort" (p.20).

## *Subject Selection for Agricultural Communications Professionals and Agricultural Students*

Initial respondents from the agricultural communications sector were members of the British Guild of Agriculture Journalists (GAJ). The GAJ has a membership of around ($n$ = 200). The agricultural communication professional respondent rate was ($n$ = 23). The respondents consisted of editors, journalists, broadcaster, photographers and PR/marketing specialists working in agriculture (GAJ, 2017). Respondents also consisted of members who are engaged in journalism, press and/or public relations in the rural section of the U.K. and overseas. The GAJ members were logical subjects for this study because of their expertise in agricultural communication related fields. The GAJ members are potential employers of students in an agricultural communications academic program. The researcher acquired the membership and

email list to recruit participants from the GAJ membership from a prior relationship within the organization.

Student respondents were agricultural students from Scotland's Rural College ($n$ = 1525) and Writtle University ($n$ = 50) in the United Kingdom. The student respondents ($n$=107) were enrolled in an agricultural academic degree program. To recruit participants, an introductory email was sent to administrators to be forwarded to students and instructors of agriculture in agricultural courses. The agricultural student respondents had experience in and around the agricultural academic programs and provided a student-oriented perspective that could inform the study.

### *Institutional Review Board*

In compliance with the University of Arkansas polices and federal regulations, research pertaining to human subjects is required to be submitted, reviewed and approved before research completion. Following this policy, this study was approved by the University of Arkansas Institutional Review Board (IRB) office and granted permission to proceed the gathering of data. The approval number provided for this research is IRB #1711083233. Approval from the University of Arkansas can be found in Appendix A.

### *Instrument Development for Agricultural Communications Professionals and Agricultural Students*

An expert panel consisting of three faculty members in colleges of agriculture from two universities, as well as two members of the GAJ with a background in agriculture journalism, reviewed the survey to achieve face validity. These faculty members were experienced in agricultural communications and survey research. Cognitive interviews were conducted with three graduate students at the University of Arkansas acting as test subjects who were enrolled in

an agricultural discipline. These interviews provided feedback on the usability of the survey and questions which needed improvement.

The instruments (Appendix B and Appendix C) used to complete the data collection were researcher-developed questionnaires. Instrument questions were developed to evoke responses regarding opinions on the development of an agricultural communications academic discipline in the U.K., and demographics of respondents. Additionally, a full section of the instrument was devoted to gathering opinions about the academic competencies professionals and students would expect graduates of an agricultural communications program to have. Several studies served to guide the development of questions related to expected competencies and constructs (Large, 2014; Morgan, 2012; Maiga, 2011; Deering, 2005; Sprecker & Rudd, 1997, Terry et al., 1994). Based on instruments used in previous studies in the U.S., the following six constructs were determined:

1. Agriculture
2. General Communication Skills
3. Writing Skills
4. Layout and Editing
5. Broadcasting
6. Communication Technology

The first part of the survey was composed of questions describing respondents' personal and professional characteristics. Agricultural industry professional respondents were prompted to indicate gender, level of education, professional title, years of experience and experiences in agriculture. Student respondents were prompted to indicate gender and agriculture experiences. The survey instrument then directed respondents to indicate the level of importance of desired

competencies an agricultural communications graduate should possess on a four-point Likert scale. A rated scale "provides theoretically equal intervals among responses" (Creswell, 2008, p. 176). The response scale used ranged from: 1 = "very important", 2 = "important", 3 = "slightly important", and 4 = "not at all important" (Dillman, 2007). For the next section, respondents indicated their personal opinions on the development of an agricultural communications academic discipline in the U.K. Respondents were shown classes offered in the U.S. agricultural communications academic discipline and prompted to indicate the level of importance of those classes. The following scales were used in assessing importance: 1= "very important", 2 = "important", 3 = "slightly important", and 4 = "not at all important" (Dillman, 2007).

***Data Collection***

An online, web-based survey was developed by the principal researcher to collect data for this study. Qualtrics, an online survey platform, was used to develop and collect data for the survey. To prevent respondents from taking the survey more than once, the attempts were limited to one per Internet Protocol (IP) address. The researcher acquired the GAJ membership and email list and sent out an introductory email describing informed consent and the scope of the study. Student respondents were acquired through prior relationships. The survey was emailed to the respondent groups on February 23, 2018, with follow up reminders on March 5 and March 13. Previous research on ways to improve response rate of surveys show multiple contacts are the most effective (Schaefer & Dillman, 1998; Dillman, 1991; Linsky, 1974; Scott, 1961). Data collection was concluded on March 19. Early and late respondents were defined by the flow of responses based on reminders. Post-hoc reliability was addressed using Cronbach's alpha (1951). Prior levels of reliability were set at above .700. According to Mujis (2004), above .700 is considered reasonable reliability for research purposes.

***Data Analysis***

As participants completed the survey, data were stored in a password protected database. After the collection period, the database was converted into a Microsoft Excel Spreadsheet for data analysis. Descriptive statistics were used to establish frequencies, means, and percentages for each objective. Comparative statistics were utilized to establish frequencies, means, and percentages for experiences in agricultural, competencies desired from an agricultural communications graduate and classes/modules desired from an agricultural communications graduate.

## CHAPTER IV: RESULTS

Chapter IV presents the findings from this study related to the research objectives which guided the study. The findings are reported in categories guided by the survey instrument.

A total of 23 agricultural industry professionals attempted the survey, while only 22 completed the full survey. Moreover, 107 agricultural students initially responded to the survey, while only 67 responded to all survey questions.

***RO1: Determine demographics of agricultural communications professionals and agricultural students in the United Kingdom.***

Research objective 1 aimed to understand the respondent demographics to help the researcher characterize and further understand the study respondents. Agricultural communications professional respondents were asked four different questions to determine demographic data. Table 1 displays gender, level of education, profession, and years of experience in the communications/journalism field for agricultural communications professionals.

Table 1
*Demographic Characteristics of Agricultural Communication Professionals (*n = 23*)*

| | *f* | *%* |
|---|---|---|
| **Gender** | | |
| Female | 15 | 65 |
| Male | 8 | 35 |
| **Level of Education (n=29)** | | |
| Bachelors | 20 | 68.97 |
| Masters (MA, MLitt, MSc, etc.) | 5 | 17.24 |
| Higher National Diploma (HND) | 3 | 10.34 |
| None | 1 | 3.45 |
| Higher National Certificate (HNC) | 0 | 0 |
| Diploma of Higher Education | 0 | 0 |

| | | |
|---|---|---|
| Foundation Degree | 0 | 0 |

Table 1 Cont.
*Demographic Characteristics of Agricultural Communication Professionals (*n = 23*)*

| | *f* | *%* |
|---|---|---|
| **Level of Education (n=29)** | | |
| Doctorate | 0 | 0 |
| Other | 0 | 0 |
| **Profession (n=43)** | | |
| PR/Marketing Specialist | 16 | 37.21 |
| Journalist | 13 | 30.23 |
| Editor | 8 | 18.6 |
| Broadcaster | 3 | 6.98 |
| Photographer | 2 | 4.65 |
| Other | 1 | 2.33 |
| **Years in Communication/Journalism Field (n=23)** | | |
| 11-15 | 6 | |
| 1-5 | 4 | |
| 36-40 | 4 | |
| 16-20 | 3 | |
| 21-25 | 2 | |
| 31-35 | 2 | |
| 26-30 | 1 | |
| 6-10 | 1 | |

*Note*. Respondents were able to choose more than one answer for level of education and profession.

Respondents were 35.00% *male* (*n* = 8) and 65.00% *female* (*n* = 15). Most respondents had at least obtained a *bachelors* degree (*n* = 20) while only 17% had a *masters (MA, MLitt, MSc, etc.)* degree. All respondents were involved in the communications/journalism field. Most professionals identified themselves as *PR/Marketing Specialists* and *Journalists*, although they could choose more than one profession. Professionals' years in the communication/journalism field varied from *1 to 40 years*.

Agricultural student respondents were asked one question to determine demographic characteristics. Table 2 describes the demographic characteristics of agricultural students' gender at Scotland's Rural University College and Writtle University.

Table 2
*Demographic Characteristics of Agricultural Students (*n = 107*)*

| | *f* | *%* |
|---|---|---|
| **Gender** | | |
| Male | 74 | 69.16 |
| Female | 33 | 30.84 |

*Note:* Respondents could only choose one answer.

Respondents included 69.16% *male* (*n* = 74) and 30.84% *female* (*n* = 33) from SRUC and Writtle University.

Agricultural communication professional respondents were asked to indicate their experiences in agriculture. The results are displayed in Table 3.

Table 3
*Agricultural Communication Professionals' Experiences in Agriculture (*n = 23*)*

| | *f* | *%* |
|---|---|---|
| Live(d) in a rural area | 20 | 86.96 |
| Work(ed) in a rural area | 16 | 69.57 |
| Work(ed) for an agricultural business | 16 | 69.57 |
| Work(ed) on a farm | 14 | 60.87 |
| Live(d) on a farm | 12 | 52.17 |
| Completed university agricultural class/module | 10 | 43.48 |
| Own(ed) an agricultural business | 5 | 21.74 |
| Own(ed) a farm | 3 | 13.04 |
| Other | 2 | 8.7 |
| Completed secondary school agricultural class/module | 1 | 4.35 |
| None | 1 | 4.35 |

*Note:* Respondents could choose more than one agricultural experience. Percentage was determined out of 23.

Table 3 shows most agricultural communications professionals had some experience in agriculture. There was shown to be a mixture of the various experiences in agriculture, with most of the professionals having *lived or currently live in a rural area* (*n* =20). A majority of professionals indicated they either *work(ed) in a rural area* (*n* = 16), *work(ed) for an agricultural business* (*n* = 16) or *work(ed) on a farm* (*n* = 14). Only 1 respondent indicated they had no agricultural experience (*n* = 1).

Agricultural students were asked to indicate their experiences in agriculture. The results are displayed in table 4.

Table 4
*Agricultural Students' Experiences in Agriculture (*n = 367*)*

| | *f* | *%* |
|---|---|---|
| Work(ed) on a farm | 68 | 18.53 |
| Live(d) in a rural area | 55 | 14.99 |
| Work(ed) in a rural area | 54 | 14.71 |
| Completed university agricultural class/module | 51 | 13.9 |
| Live(d) on a farm | 49 | 13.35 |
| Work(ed) for an agricultural business | 34 | 9.26 |
| Completed secondary school agricultural class/module | 18 | 4.9 |
| Own(ed) a farm | 11 | 3 |
| Own(ed) an agricultural business | 10 | 2.72 |
| None | 10 | 2.72 |
| Other | 7 | 1.91 |

*Note:* Respondents could choose more than one agricultural experience.

Table 4 shows most agricultural students have some experiences in agriculture. There was shown to be a mixture of the various experiences in agriculture, with most of the students having *worked or currently work on a farm* (*n* = 68) and/or *worked or currently work in a rural*

*area* (*n* = 55). Students respondents tend to *live(d) in a rural area* (*n* = 55) and/or *on a farm* (*n* = 49). A majority of the respondents *completed a university agricultural class/module* (*n* = 51).

***RO2: Determine professional competencies agricultural communications professionals and agriculture students would expect agricultural communications graduates to have.***

The second research objective aimed to describe the competencies expected from potential agricultural communications graduates. Respondents were asked to indicate the level of importance they felt a series of competencies were for an agricultural communications graduate to acquire on a four-point Likert scale.

Table 5 displays the perspective of agricultural industry professionals' opinions on the level of importance agricultural competencies are in an agricultural communications graduate.

Table 5
*Agricultural Communications Professionals' Levels of Importance of Agricultural Competencies (*n = 23*)*

| | *M* | *SD* |
|---|---|---|
| Understand the impact of government and political involvement on agriculture | 1.39 | 0.58 |
| Understand public perceptions of agricultural issues | 1.52 | 0.59 |
| Understand the agricultural community in the U.K. | 1.65 | 0.65 |
| Describe the international impact agriculture creates | 2.09 | 0.67 |
| Understand the cultural impact of agriculture in the U.K. | 2.04 | 0.71 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Agricultural communication professionals indicated *understanding the impact of government and political involvement on agriculture* (*M* = 1.39) was an important competency in agricultural communications graduates, however *understanding the cultural impact of agriculture in the U.K.* (*M* = 2.04) was not as important but still important.

Table 6 displays the level of importance agricultural industry professionals indicated general communication skills in an agricultural communications graduate.

Table 6
*Agricultural Communications Professionals' Levels of Importance of General Communication Skill Competencies (*n = 23*)*

| | *M* | *SD* |
|---|---|---|
| Identify appropriate and newsworthy story ideas | 1.09 | 0.29 |
| Use effective nonverbal communication | 1.39 | 0.50 |
| Use a variety of media to inform the public | 1.48 | 0.79 |
| Practice effective oral communication | 1.57 | 0.59 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Agricultural communication professionals indicated the ability to *identify appropriate and newsworthy story ideas* (*M* = 1.09) and the ability to *use effective nonverbal communication* (*M* = 1.39) were very important competencies in agricultural communications graduates.

Table 7 displays the level of importance agricultural communications professionals' think writing skill competencies are in an agricultural communications graduate.

Table 7
*Agricultural Communications Professionals' Level of Importance of Writing Skill Competencies*
*(*n = 23*)*

| | *M* | *SD* |
|---|---|---|
| Interview a source effectively | 1.30 | 0.47 |
| Understand and practice effective journalism | 1.39 | 0.50 |
| Write features on agricultural topics | 1.40 | 0.50 |
| Write using appropriate journalistic style | 1.43 | 0.51 |
| Write news stories | 1.52 | 0.59 |
| Appropriately attribute journalistic sources | 1.52 | 0.51 |
| Write using appropriate grammar and punctuation | 1.57 | 0.51 |
| Write for print media | 1.65 | 0.49 |
| Write for the internet | 1.78 | 0.60 |
| Write social media posts | 1.83 | 0.72 |
| Write opinion columns | 2.04 | 0.82 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

While all competencies were ranked as important, agricultural communications professionals noted several competencies they think are very important for an agricultural communications graduate. *Interview a source effectively* (*M* = 1.30) was an important competency, as was being able to *write using appropriate journalistic style* (M = 1.43), *understand and practice effective journalism* (*M* = 1.39) and *write features on agricultural topics* (*M* = 1.40). Professionals did not find it as important to be able to *write opinion columns* (*M* = 2.04) or *social media posts* (*M* = 1.83) but still important.

Table 8 displays the level of importance layout and editing competencies are in an agricultural communications graduate from the perspective of agricultural industry professionals.

Table 8
*Agricultural Communications Professionals' Level of Importance of Layout and Editing Competencies (*n = 23*)*

| | *M* | *SD* |
|---|---|---|
| **Layout and Editing (n=22)** | | |
| Identify appropriate audience | 1.45 | 0.51 |
| Effectively edit and proofread the works of others | 1.5 | 0.60 |
| Appropriately attribute journalistic sources | 1.86 | 0.77 |
| Use correct editing marks and symbols | 1.91 | 0.81 |
| Edit layout and designs of publications | 1.95 | 0.84 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Table 8 shows professionals find it important for agricultural communication graduates to *identify appropriate audience* (*M* = 1.45). Professionals do not find *editing layout and designs of publications* (*M* = 1.95) to be as important as other competencies.

Table 9 describes the broadcasting competencies agricultural communication professionals would expect from an agricultural communications graduate.

Table 9
*Agricultural Communications Professionals' Level of Importance of Broadcasting Competencies*
*(*n = 23*)*

| | *M* | *SD* |
|---|---|---|
| **Broadcasting (n=22)** | | |
| Interview a source effectively | 1.27 | 0.46 |
| Use appropriate tone and voice | 1.41 | 0.50 |
| Present effective video/radio broadcast | 1.77 | 0.75 |
| Present effective video/radio broadcast | 1.77 | 0.75 |
| Budget and supervise video/radio production | 2.09 | 0.61 |
| Understand technical aspects of broadcasting equipment and editing software | 2.09 | 0.81 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Table 9 shows agricultural communication professionals found the ability to *interview a source effectively* (*M* = 1.27) was an important competency, as was being able to *use appropriate tone and voice* (*M* = 1.41). Professionals did not think it was as important for an agricultural communications graduate to be able *to understand technical aspects of broadcasting equipment and editing software* (*M* = 2.09) or to *budget and supervise video/radio production* (*M* = 2.09), but still important.

Table 10 describes the technology competencies agricultural communications professionals would expect from an agricultural communications graduate.

Table 10
*Agricultural Communications Professionals' Level of Importance of Technology Competencies*
*(*n = 23*)*

| | *M* | *SD* |
|---|---|---|
| **Technology (n=22)** | | |
| Navigate the Internet and download important information | 1.45 | 0.60 |
| Effectively use social media | 1.68 | 0.78 |
| Effectively utilize media equipment (cameras, recorders, speakers, etc.) | 2.05 | 0.58 |
| Use spreadsheet software | 2.18 | 0.73 |
| Use photo editing software | 2.27 | 0.70 |
| Design websites and blogs | 2.59 | 0.73 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Agricultural communications professionals thought the ability to able to *navigate the Internet and download important information* (*M* = 1.45) was an important competency for agricultural communication graduates, as well as, being able to *effectively use social media* (*M* = 1.68). However, professionals did not think it was as important for an agricultural communications graduate to be able to *design websites and blogs* (*M* = 2.59) or *use photo editing and spreadsheet software* (*M* = 2.27).

Table 11 describes the agricultural competencies an agricultural student would expect from an agricultural communications graduate.

Table 11
*Agricultural Students' Level of Importance of Agricultural Competencies (*n = 92*)*

| | *M* | *SD* |
|---|---|---|
| Understand the impact of government and political involvement on agriculture | 1.26 | 0.53 |
| Understand the agricultural community in the U.K. | 1.38 | 0.59 |
| Understand the cultural impact of agriculture in the U.K. | 1.42 | 0.62 |
| Understand public perceptions of agricultural issues | 1.41 | 0.65 |
| Understand the cultural impact of agriculture in the U.K. | 1.42 | 0.62 |
| Describe the international impact agriculture creates | 1.46 | 0.62 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Agricultural students indicated *understanding the impact of government and political involvement on agriculture* (*M* = 1.26), as well as *understanding the agricultural community in the U.K.* (*M* = 1.38) were important competencies in agricultural communications graduates.

Table 12 describes the general communication competencies an agricultural student would expect from an agricultural communications graduate

Table 12
*Agricultural Students' Level of Importance of General Communication Skill Competencies (n = 89)*

| | *M* | *SD* |
|---|---|---|
| Practice effective oral communication | 1.43 | 0.58 |
| Use a variety of media to inform the public | 1.52 | 0.71 |
| Use effective nonverbal communication | 1.72 | 0.64 |
| Identify appropriate and newsworthy story ideas | 1.80 | 0.74 |
| Practice effective oral communication | 1.43 | 0.58 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Agricultural students thought the most important general communication competency needed from an agricultural communications graduate was the *ability to practice effective oral*

*communication* (*M* = 1.43). The ability to *identify appropriate and newsworthy story ideas* was deemed less important than the other competencies (*M* = 1.80).

Table 13 describes writing competencies an agricultural student would expect from an agricultural communications graduate.

Table 13
*Agricultural Students' Level of Importance of Writing Skill Competencies (n = 80)*

| | *M* | *SD* |
|---|---|---|
| Write features on agricultural topics | 1.48 | 0.62 |
| Write using appropriate grammar and punctuation | 1.55 | 0.76 |
| Interview a source effectively | 1.6 | 0.77 |
| Use appropriate tone and voice | 1.71 | 0.73 |
| Write using appropriate journalistic style | 1.83 | 0.74 |
| Appropriately attribute journalistic sources | 1.83 | 0.79 |
| Understand and practice effective journalism | 1.88 | 0.77 |
| Write social media posts | 1.9 | 0.79 |
| Write for the internet | 1.93 | 0.79 |
| Write for print media | 1.95 | 0.74 |
| Write news stories | 1.96 | 0.78 |
| Write opinion columns | 2.04 | 0.82 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

The above table shows agricultural students find several writing competencies as very important to an agricultural communications graduate. The ability to *write features on agricultural topics* (*M* = 1.27), *write using appropriate grammar and punctuation* (*M* = 1.27) and *interviewing a source effectively* (*M* = 1.27) were rated higher than the other competencies. Students did not find it as important to be able to *write opinion columns* (*M* = 2.04), *write for the internet* (*M* = 1.93) or *write news stories* (*M* = 1.96).

Table 14 describes layout and editing competencies an agricultural student would expect from an agricultural communications graduate.

Table 14
*Agricultural Students' Level of Importance of Layout and Editing Competencies (n = 72)*

| | *M* | *SD* |
|---|---|---|
| Identify appropriate audience | 1.47 | 0.60 |
| Effectively edit and proofread the works of others | 1.69 | 0.72 |
| Appropriately attribute journalistic sources | 1.81 | 0.78 |
| Use correct editing marks and symbols | 1.82 | 0.74 |
| Edit layout and designs of publications | 1.83 | 0.78 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Agricultural students thought the most important layout and editing competency needed from an agricultural communications graduate was the ability to *identify the appropriate audience* (*M* = 1.47). Students did not find it as important as the other competencies to be able to *use correct editing marks and symbols* (*M* = 1.82) or to *edit layout and designs of publications* (*M* = 1.83), ,but they were still deemed important.

Table 15 describes broadcasting competencies an agricultural student would expect from an agricultural communications graduate.

Table 15
*Agricultural Students' Level of Importance of Broadcasting Competencies (n = 71)*

| | *M* | *SD* |
|---|---|---|
| Interview a source effectively | 1.52 | 0.73 |
| Use appropriate tone and voice | 1.65 | 0.66 |
| Present effective video/radio broadcast | 1.68 | 0.73 |
| Budget and supervise video/radio production | 2 | 0.79 |
| Understand technical aspects of broadcasting equipment and editing software | 2.15 | 0.87 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Table 15 shows agricultural students found the ability to *interview a source effectively* (*M* = 1.52) was very important competency, as was being able to *use appropriate tone and voice* (*M* = 1.65). Students did not think it was as important for an agricultural communications

graduate to be able to *understand technical aspects of broadcasting equipment and editing software* (*M* = 2.15) or *budget and supervise video/radio production* (*M* = 2).

Table 16 describes technology competencies an agricultural student would expect from an agricultural communications graduate.

Table 16
*Agricultural Students' Level of Importance of Technology Competencies (n = 69)*

| | *M* | *SD* |
|---|---|---|
| Navigate the Internet and download important information | 1.55 | 0.70 |
| Effectively use social media | 1.65 | 0.76 |
| Use spreadsheet software | 1.87 | 0.77 |
| Effectively utilize media equipment (cameras, recorders, speakers, etc.) | 1.98 | 0.73 |
| Design websites and blogs | 2.06 | 0.86 |
| Use photo editing software | 2.23 | 0.71 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Table 16 indicates agricultural students thought the ability to able to *navigate the Internet and download important information* (*M* = 1.55) was an important competency for agricultural communication graduates, as well as, being able to *effectively use social media* (*M* = 1.65). However, students did not think it was as important for an agricultural communications graduate to be able to *design websites and blogs* (*M* = 2.06) or *use photo editing software* (*M* = 1.98).

***RO3: Determine agricultural communications professionals' and agriculture students' opinions about topics and classes that should comprise the agricultural communications curriculum.***

Objective 3 was directed to identify classes and topics in a desired curriculum. Agricultural communications professionals and agricultural students indicated the

classes/modules and topics an agricultural communications graduate would ideally take during their time in higher education.

Table 17 describes the agricultural communications classes/modules an agricultural communications professionals' find important for an agricultural communications graduate to take.

Table 17
*Agricultural Communications Professionals' Level of Importance of Communications Classes/Modules (*n = 22*)*

| | *M* | *SD* |
|---|---|---|
| News Reporting and Feature Writing | 1.27 | 0.46 |
| Technical Writing | 1.36 | 0.49 |
| Communicating Agriculture to the Public | 1.59 | 0.67 |
| Communication Law and Ethics | 1.64 | 0.79 |
| Apprenticeship/internship/placement/practicum in agricultural journalism | 1.68 | 0.65 |
| Public Relations Principles | 1.73 | 0.70 |
| Communications Campaigns | 1.73 | 0.78 |
| Electronic (Online) Communication in Agriculture | 1.73 | 0.63 |
| Risk and Crisis Communications in Agriculture and Natural Resources | 1.77 | 0.81 |
| Development of Agricultural Production | 1.77 | 0.61 |
| Video and Radio Broadcast Production in Agriculture | 1.77 | 0.69 |
| Photo Journalism | 2.18 | 0.59 |
| Agricultural and Environmental Photography | 2.23 | 0.53 |
| Advanced Public Speaking | 2.32 | 0.84 |
| Graphic Design | 2.73 | 0.63 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Table 17 indicates agricultural communications professionals think *News Reporting and Feature Writing* (*M* = 1.27), *Technical Writing* (*M* = 1.36) *and Communicating Agriculture to the Public* (*M* = 1.59) to be important classes/modules for an agricultural communications

graduate. They also find *apprenticeships, internships, placements, and/or practicums in agricultural journalism* (*M* = 1.27) to be important. *Agricultural and Environmental Photography* (*M* = 2.23), *Advanced Public Speaking* (*M* = 2.32) and *Graphic Design* (*M* = 2.73) were not deemed as important as the other classes/modules, yet still ranked high.

Table 17 describes the agricultural science classes/modules an agricultural communications professional would find important for an agricultural communications graduate to take.

Table 18
*Agricultural Communications Professionals' Level of Importance of Agricultural Science Classes/Modules (*n = 22*)*

| | *M* | *SD* |
|---|---|---|
| Agricultural Business | 1.86 | 0.64 |
| Animal Science | 2.05 | 0.65 |
| Agricultural Economics | 2.05 | 0.79 |
| Agronomy | 2.09 | 0.75 |
| Environmental Sciences | 2.14 | 0.71 |
| Horticulture | 2.18 | 0.73 |
| Food Science | 2.23 | 0.69 |
| Agricultural Education | 2.27 | 0.77 |
| Pest Management | 2.32 | 0.78 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Table 18 shows agricultural communication professionals found *Agricultural Business* (*M* = 1.86) to be the most important agricultural science class/modules for an agricultural communications graduate. Professionals did not think it was as important for an agricultural communications graduate to have classes/modules in *Pest Management* (*M* = 2.32), *Agricultural Education* (*M* = 2.27) or *Food Science* (*M* = 2.23), but still were identified as important.

Table 19 describes the agricultural communications classes/modules an agricultural student would find important for an agricultural communications graduate to take.

Table 19
*Agricultural Students' Level of Importance of Communications Classes/Modules (*n = 66)

| | *M* | *SD* |
|---|---|---|
| Communicating Agriculture to the Public | 1.32 | 0.59 |
| Risk and Crisis Communications in Agriculture and Natural Resources | 1.64 | 0.74 |
| Apprenticeship/internship/placement/practicum in agricultural journalism | 1.85 | 0.90 |
| Public Relations Principles | 1.85 | 0.79 |
| Development of Agricultural Publications | 1.88 | 0.81 |
| Communication Law and Ethics | 1.88 | 0.89 |
| Advanced Public Speaking | 1.91 | 0.76 |
| Technical Writing | 1.97 | 0.80 |
| Agricultural and Environmental Photography | 2 | 0.78 |
| Electronic (Online) Communication in Agriculture | 2.02 | 0.69 |
| Communications Campaigns | 2.06 | 0.82 |
| News Reporting and Feature Writing | 2.06 | 0.76 |
| Video and Radio Broadcast Production in Agriculture | 2.08 | 0.77 |
| Photo Journalism | 2.33 | 0.81 |
| Graphic Design | 2.60 | 0.84 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Table 19 indicates agricultural students think *Communicating Agriculture to the Public* (*M* = 1.32) and *Rick and Crisis Communications in Agriculture and Natural Resources* (*M* = 1.64) to every important classes/module for an agricultural communications graduate. They also find *apprenticeships, internships, placements, and/or practicums in agricultural journalism* (*M* = 1.85) to be very important. *Video and Radio Broadcast Production* (*M* = 2.08), *Photo Journalism* (*M* = 2.33) and *Graphic Design* (*M* = 2.60) were not deemed as important as the other classes/modules, but still important.

Table 20 describes the agricultural science classes/modules an agricultural student would find important for an agricultural communications graduate to take.

Table 20
*Agricultural Students' Level of Importance of Agricultural Science Classes/Modules (*n = 65)

| | *M* | *SD* |
|---|---|---|
| Agricultural Education | 1.43 | 0.66 |
| Animal Science | 1.43 | 0.68 |
| Agricultural Business | 1.45 | 0.64 |
| Agricultural Economics | 1.49 | 0.64 |
| Pest Management | 1.51 | 0.75 |
| Agronomy | 1.55 | 0.81 |
| Environmental Sciences | 1.57 | 0.77 |
| Food Science | 1.72 | 0.80 |
| Horticulture | 2.17 | 0.94 |

*Note:* Questions were rated on a 4-point scale with 1 being very important, 2 being important, 3 being somewhat important and 4 being not at all important.

Table 20 shows agricultural students found *Agricultural Education* (*M* = 1.43), *Animal Science* (*M* = 1.43) and *Agricultural Business* (*M* = 1.45) to be important classes/modules for an agricultural communications graduate. Students indicated *Horticulture* (*M* = 2.17) was a less important class/module for agricultural communication graduates than the other classes/modules.

***RO4: Describe relationships among the demographic characteristics of the survey respondents and opinions on desired competencies and classes/modules in the curriculum.***

The final objective aimed to determine if opinions were consistent across the two groups. Chi-Square statistic was used to determine if opinions of the two groups across the range of the survey questions differed statistically.

Table 21 describes the agricultural competencies relationships between agricultural communications professionals and agricultural students.

Table 21
*Agricultural Competencies Relationships Between Agricultural Communications Professionals' and Agricultural Students*

| | *Agricultural Communications Professionals* | *Agricultural Students* | | |
|---|---|---|---|---|
| | *M* | *M* | $X^2$ | *p* |
| Understand public perceptions of agricultural issues | 1.52 | 1.41 | 2.28 | 0.52 |
| Understand the impact of government and political involvement on agriculture | 1.39 | 1.26 | 1.98 | 0.37 |
| Understand the agricultural community in the U.K. | 1.65 | 1.38 | 4.51 | 0.10 |
| Describe the international impact agriculture creates | 2.04 | 1.46 | 16.23 | 0.0003 |
| Understand the cultural impact of agriculture in the U.K. | 2.09 | 1.42 | 15.52 | 0.0004 |

*Note:* 0.05 level of significance

Statistical tests show the following competencies are statistically different, *describe the international impact agriculture creates* ($p = 0.0003$) and *understand the cultural impact of agriculture in the U.K.* ($p = 0.0004$).

Table 22 describes writing skill competencies relationships between agricultural communications professionals and agricultural students.

Table 22
*Writing Skill Competencies Relationships Between Agricultural Communications Professionals' and Agricultural Students*

| | *Agricultural Communications Professionals* | *Agricultural Students* | | |
|---|---|---|---|---|
| | *M* | *M* | $X^2$ | *p* |
| Interview a source effectively | 1.30 | 1.6 | 3.25 | 0.35 |
| Understand and practice effective journalism | 1.39 | 1.88 | 7.89 | 0.05 |
| Write features on agricultural topics | 1.40 | 1.48 | 3.45 | 0.18 |
| Write using appropriate journalistic style | 1.43 | 1.55 | 3.95 | 0.27 |
| Write news stories | 1.52 | 1.96 | 6.71 | 0.08 |
| Appropriately attribute journalistic sources | 1.52 | 1.83 | 4.35 | 0.23 |
| Write using appropriate grammar and punctuation | 1.57 | 1.83 | 3.07 | 0.38 |
| Write for print media | 1.65 | 1.95 | 4.73 | 0.19 |
| Write for the internet | 1.78 | 1.93 | 2.08 | 0.56 |
| Write social media posts | 1.83 | 1.9 | 0.63 | 0.89 |
| Write opinion columns | 2.04 | 2.04 | 4.95 | 0.18 |

*Note:* 0.05 level of significance

Statistical test show none of the writing skill competencies were statically different.

Table 23 describes layout and editing competencies relationships between agricultural communications professionals and agricultural students.

Table 23
*Layout and Editing Competencies Relationships Between Agricultural Communications Professionals' and Agricultural Students*

| | *Agricultural Communications Professionals* | *Agricultural Students* | | |
|---|---|---|---|---|
| | *M* | *M* | $X^2$ | *p* |
| Identify appropriate audience | 1.86 | 1.47 | 1.65 | 0.48 |
| Effectively edit and proofread the works of others | 1.5 | 1.69 | 1.39 | 0.71 |
| Appropriately attribute journalistic sources | 1.86 | 1.81 | 1.06 | 0.79 |
| Use correct editing marks and symbols | 1.91 | 1.82 | 0.94 | 0.82 |
| Edit layout and designs of publications | 1.95 | 1.83 | 0.41 | 0.94 |

*Note:* 0.05 level of significance

Statistical test show none of the writing skill competencies were statically different.

Table 24 describes broadcasting competencies relationships between agricultural communications professionals and agricultural students.

Table 24
*Broadcasting Competencies Relationships Between Agricultural Communications Professionals' and Agricultural Students*

| | *Agricultural Communications Professionals* | *Agricultural Students* | | |
|---|---|---|---|---|
| | *M* | *M* | $X^2$ | *p* |
| Interview a source effectively | 1.27 | 1.52 | 2.49 | 0.48 |
| Use appropriate tone and voice | 1.41 | 1.65 | 2.64 | 0.45 |
| Present effective video/radio broadcast | 1.77 | 1.68 | 1.05 | 0.79 |
| Budget and supervise video/radio production | 2.09 | 2 | 3.03 | 0.39 |
| Understand technical aspects of broadcasting equipment and editing software | 2.09 | 2.15 | 0.37 | 0.95 |

*Note:* 0.05 level of significance

Statistical test show none of the writing skill competencies were statistically different.

Table 25 describes technology competencies relationships between agricultural communications professionals and agricultural students.

Table 25
*Technology Competencies Relationships Between Agricultural Communications Professionals' and Agricultural Students*

| | *Agricultural Communications Professionals* | *Agricultural Students* | | |
|---|---|---|---|---|
| | *M* | *M* | $X^2$ | *p* |
| Navigate the Internet and download important information | 1.45 | 1.55 | 0.55 | 0.91 |
| Effectively use social media | 1.68 | 1.65 | 5.68 | 0.13 |
| Use spreadsheet software | 2.18 | 1.87 | 4.03 | 0.26 |
| Effectively utilize media equipment (cameras, recorders, speakers, etc.) | 2.05 | 1.98 | 2.24 | 0.52 |
| Design websites and blogs | 2.59 | 2.06 | 12.33 | 0.006 |
| Use photo editing software | 2.27 | 2.23 | 1.41 | 0.70 |

*Note:* 0.05 level of significance

Using statistical testing, the ability to *design websites and blogs* ($p = 0.006$) was identified as statistically different between agricultural communications professionals and agricultural students. The other five technology competencies were not indicated as statistically different.

Table 26 describes the importance of agricultural communication related classes/modules relationships between agricultural communications professionals and agricultural students.

Table 26
*Agricultural Communications Related Classes/Modules Relationships Between Agricultural Communications Professionals' and Agricultural Students*

| | *Agricultural Communications Professionals* | *Agricultural Students* | | |
|---|---|---|---|---|
| | *M* | *M* | $X^2$ | *p* |
| Communicating Agriculture to the Public | 1.59 | 1.32 | 5.99 | 0.11 |
| Risk and Crisis Communications in Agriculture and Natural Resources | 1.77 | 1.64 | 1.23 | 0.75 |
| Apprenticeship/internship/placement/ practicum in agricultural journalism | 1.68 | 1.85 | 2.56 | 0.46 |
| Public Relations Principles | 1.73 | 1.85 | 1.37 | 0.71 |
| Development of Agricultural Publications | 1.77 | 1.88 | 1.8 | 0.61 |
| Communication Law and Ethics | 1.64 | 1.88 | 2.97 | 0.4 |
| Advanced Public Speaking | 2.32 | 1.91 | 4.43 | 0.22 |
| Technical Writing | 1.36 | 1.97 | 10.4 | 0.02 |
| Agricultural and Environmental Photography | 2.23 | 2 | 6.08 | 0.11 |
| Electronic (Online) Communication in Agriculture | 1.73 | 2.02 | 2.96 | 0.4 |
| Communications Campaigns | 1.73 | 2.06 | 3.66 | 0.3 |
| News Reporting and Feature Writing | 1.27 | 2.06 | 19.51 | 0.0002 |
| Video and Radio Broadcast Production in Agriculture | 1.77 | 2.08 | 2.81 | 0.42 |
| Photo Journalism | 2.18 | 2.33 | 3.73 | 0.29 |
| Graphic Design | 2.73 | 2.60 | 2.96 | 0.4 |

*Note:* 0.05 level of significance

Statistical tests show the following importance of agricultural communication related classes/modules are statistically different, *Technical Writing* ($p = 0.02$) and *News Reporting and*

*Feature Writing* ($p$ = 0.0002). The other agricultural communication related classes/modules were not indicated as statistically different.

Table 27 describes the agricultural science related classes/modules relationships between agricultural communications professionals and agricultural students.

Table 27
*Agricultural Science Related Classes/Modules Relationships Between Agricultural Communications Professionals' and Agricultural Students*

| | *Agricultural Communications Professionals* | *Agricultural Students* | | |
|---|---|---|---|---|
| | | | $X^2$ | $p$ |
| Agricultural Education | 2.27 | 1.43 | 24.54 | <0.0001 |
| Animal Science | 2.05 | 1.43 | 21.56 | <0.0001 |
| Agricultural Business | 1.86 | 1.45 | 9.78 | 0.02 |
| Agricultural Economics | 2.05 | 1.49 | 11.07 | 0.01 |
| Pest Management | 2.32 | 1.51 | 19.91 | 0.0002 |
| Agronomy | 2.09 | 1.55 | 12.38 | 0.006 |
| Environmental Sciences | 2.14 | 1.57 | 14.25 | 0.002 |
| Food Science | 2.23 | 1.72 | 14.52 | 0.002 |
| Horticulture | 2.18 | 2.17 | 3.41 | 0.33 |

*Note:* 0.05 level of significance

For importance of agricultural science related classes/modules all but one class/module was indicated as statistically different. *Agricultural Education* ($p$ = <0.0001) and *Animal Science* ($p$ = <0.0001) were indicated as two of the statically different classes/modules. *Horticulture* ($p$ = 0.33) was not identified as statistically different.

# CHAPTER V: RECOMMENDATIONS, & IMPLICATIONS

The purpose of this study was to characterize the opinions and perceptions of agricultural communications professionals' and agricultural students across the United Kingdom, and to identify desired competencies possible U.K. agricultural communications graduates should aspire to achieve. The study was guided by the following objectives: determine the demographics of agricultural communications professionals and agricultural students in the United Kingdom; determine professional competencies agricultural communications professionals and agricultural students would expect agricultural communications graduates to have; determine agricultural communications professionals' and agriculture students' opinions about topics and classes that should comprise the agricultural communications curriculum; and describe relationships among the demographic characteristics of the survey respondents and opinions on desired competencies, topics, and classes in the curriculum. The following conclusions are representative of the respondents in the study.

***RO1: Determine demographics of agricultural communications professionals and agricultural students in the United Kingdom.***

As of 2016, 19,000 students were pursing degrees in agricultural disciplines in the U.K., and RAU had a 44% increase in female agriculture students (Truss, 2016). However, the data collected from student respondents at SRUC and Writtle University (where there are no agricultural communications programs) identified the majority of respondents as male. Interestingly, among survey respondents from industry, the majority of respondents identified as female and had at least a bachelor's degree. This can lead us to infer that, as is the case in the U.S., careers in agricultural communications are attractive to females who are interested in finding careers related to agriculture. An agricultural communications program could potentially

increase the number of females involved in agricultural communications. A majority of the respondents from industry, including many females, held positions as public relations/marketing specialists and journalists. These professionals also indicated they had at least some experience with agriculture. Identifying potential students with these professional interests should be a part of marketing and recruiting efforts for an agricultural communications program in the U.K.

***RO2: Determine professional competencies agricultural communications professionals and agriculture students would expect agricultural communications graduates to have.***

To reach objective two, respondents were asked to identify professional competencies they expected from an agricultural communications graduate. These competencies were identified as ones typically desired for agricultural communications graduates to develop over time in their academic career and then productively enter the agricultural communications field. According to Truss (2016), as new technologies emerge so does the need for skilled communicators who can disseminate technology to promote U.K. agriculture. Agricultural communications professionals tended to find journalistic writing as an important competency, while technology was not as important competency to possess (though both were relatively important). Agricultural students, however, found communications technology to be more of an important competency than the professionals thought it to be. This difference could be due to the generational gap between current agricultural students and agricultural communications professionals. This difference in perspectives is worth studying further as the discipline grows in the U.K.

***RO3: Determine agricultural communications professionals' and agriculture students' opinions about topics and classes that should comprise the agricultural communications curriculum.***

Objective three was reached by asking respondents to indicate their opinions on topics and classes agricultural communications students should take during their higher education career. Interestingly, graphic design and photo journalism, two common topics taught in U.S. agricultural communications programs, were both deemed to be less important by both groups of respondents. Also, agricultural communications professionals found it less important for agricultural graduates to take agricultural sciences classes than agricultural students. This finding indicates that agricultural science knowledge may not be as important in terms of preparing students for careers in agricultural communications and that emphasis should be placed on building communications skills. Tomlinson (2008) stated that students understand the need to gain experiences outside of the required curriculum, so their opinion that agricultural science knowledge is import is not surprising. Both groups of respondents found most of the communications classes to be of importance.

***RO4: Describe relationships among the demographic characteristics of the survey respondents and opinions on desired competencies and classes/modules in the curriculum.***

The fourth and final objective was reached by describing the relationship among the demographic characteristics of both survey respondent groups, opinions on desired competencies and classes/modules in the curriculum. Only three of the 40 competencies were determined to be statistically different between the two groups. This analysis suggests the agricultural communications professionals and agricultural students agree most of the competencies are important in some manner. One of the main differences in the two groups was the importance of writing classes/modules.

***Recommendations and Implications***

Additional studies should be conducted to evaluate if the needs of agricultural communications professional are being met by current nonagricultural communications graduates. A further study should be conducted to determine the need for an agricultural communications academic discipline in the communication professional of the United Kingdom. If an agricultural communications academic discipline is established in the United Kingdom, a study should be conducted to examine the professional success of program graduates.

If the study were to be repeated, it is recommended to increase the data collection period to gain more respondents. A higher response rate, especially from the agricultural communications professionals, would increase the accuracy of determining the needs from an agricultural communications graduate. Additional material should be added to the survey instrument to determine the locations of the respondents, especially student respondents. This study should also be recreated in the United Kingdom, by U.K. researchers, to determine if geographical and cultural difference would affect the study.

U.K. agricultural communication professionals tended to rate the writing skill competencies higher than agriculture students. This aligns with typical curricular approaches in the U.S. For example, one faculty member at the University of Arkansas said, “writing is the backbone of any agricultural communications program” (Jefferson Miller, personal communication, 2018). The data confirms that professionals understand this; however, students in this study did not think it is as important as other competencies such as technology. This can lead to the inference that professionals know writing is necessary in the workforce, and while students may be less aware of the importance of writing, they are more aware of the future of technology and the importance is will have in their future careers.

This study appears to indicate a significant opportunity for females in the agricultural communications workforce and discipline. Per the results of this study, the number of women agricultural communication professional respondents were greater than men. The number of females working in the agriculture industry has increased significantly over the years worldwide, and many in the U.S. have gravitated toward careers in agricultural communications and journalism. The United Kingdom should seize the opportunity to involve more women in agriculture, beginning with the creation of an agricultural communications discipline.

### *Practical Recommendations*

Based on the results of this study, it is recommended the United Kingdom education system should use the following list of potential modules/courses as a starting point for an agricultural communications program:

- Agricultural Business
- Agricultural Economics
- Agronomy
- Animal Science
- Apprenticeship/internship/placement/practicum in agricultural journalism
- Communicating Agriculture to the Public
- Communications Campaigns
- Communications Law and Ethics
- Development of Agricultural Publications
- Electronic (Online) Communications in Agriculture
- News Reporting and Feature Writing

- Public Relations
- Risk and Crisis Communications in Agriculture and Natural Resources
- Technical Writing

***Conclusions***

This study strived to identify and describe the opinions prospective employers and current agricultural students about the prospects of developing an agricultural communications academic discipline in the U.K. An understanding of the competencies employers would expect of agricultural communications graduates, as well as an understanding of what students would expect to learn, would formed the survey components of this study. A total of 22 agricultural communications professionals and 67 agricultural students completed the survey. Collected data showed agricultural students and agricultural communications professionals answers overall were not statistically different. Both groups found the many of the competencies such as writing skills and general communication skills to be important for an agricultural communications graduate in the United Kingdom. Future studies should investigate the need for an agricultural communications academic discipline in the communications profession of the United Kingdom and the impact women can have in this discipline.

## REFERENCES


Adams, A., & Cox, A. (2008). *Questionnaires, in-depth interviews and focus groups*. In: Cairns, Paul and Cox, Anna L. Eds. Research Methods for Human Computer Interaction. Cambridge, UK: Cambridge University Press, pp. 17–34.

Aherns, C., & Gibson, C. (2013). The evolution of the agricultural communications degree program at Texas Tech University: a historical perspective. *Journal of Applied Communications, 97*(2), 36-49.

Ahmed, A., Arshad, M.A., Mahmood, A. & Akhtar, S. (2017). Neglecting human resource development in OBOR, a case of the China–Pakistan economic corridor (CPEC). *Journal of Chinese Economic and Foreign Trade Studies*, *10*(2), pp.130-142

Ambrose, Linda & Jensen, Joan. (2017). *Women in agriculture, professionalizing rural life in North America and Europe, 1880-1965.* Iowa City: University of Iowa Press. 1-86

Bradley, E., & Mothe, B. L. (1903). *The lighter branches in agriculture.* London: Chapman & Hall Ltd.

British Guild of Agricultural Journalists. (2017). Home. Retrieved from http://www.gaj.org.uk

Bowden, J., & Masters, G. N. (1993). Implication for higher education of a competency-based approach to education and training. Canberra: Australian Government Publishing Service

Collins, R. (1979). *The credential society: An historical sociology of education and stratification.* New York: Academic Press.

Deering, M. (2005). *Broadcasting proficiencies in agricultural communications: Frequency of use and role in curriculum (master's thesis).* Oklahoma State University, Stillwater, OK.

Department for Environment, Food & Rural Affairs (Defra). (2016). Agriculture in the United Kingdom 2016. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/629226/AUK-2016-17jul17.pdf

Dickens, Charles. (1867). *All the year round, a weekly journal conducted by Charles Dickens, with which is incorporated household words*. (588) London: Chapman & Hall.

Dillman, D. A. (1991). The design and administration of mail surveys. *Annual Review of Sociology, 17,* 225-249.

Doerfert, D. L., & Miller, R. P. (2006). What are agriculture industry professionals trying to tell us? Implications for university-level agricultural communications curricula. *Journal of Applied Communications, 90*(3), 17-31.

Edgar, L. D., Cox, C., & Edgar, D. W. (2010). Visual Communication on the Road in Arkansas: Video and Photo Creative Projects to Promote Agriculture. Funded Grant from the United States Department of Agriculture – National Institute of Food and Agriculture.

Evans, James F. and Bolick, James G. (1982) "Today's Curricula: in agricultural journalism and communications. *Journal of Applied Communications*, *65*(1)

Google. (n.d.). [Google Maps location of SRUC, RAU and Writtle campuses]. Retrieved from https://www.google.com/maps/@54.4245366,-4.4354782,6z/data=!3m1!4b1!4m2!6m1!1s1oa2vkuKd6moajAHw8dPX6t0iVwWnDPq5?authuser=0

Higher Education Funding Council for England. (2017). Register of HE providers. Retrieved from http://www.hefce.ac.uk/reg/register/search/Overview

Hirsch, F. (1977). *The social limits to growth*. London: Routledge.

Independent. (2013). Scotland's rural college (SRUC). Retrieved from http://www.independent.co.uk/student/into-university/az-uni-colleges/scotlands-rural-college-sruc-459052.html

Kurtzo, F., Hansen, M. J., Rucker, J. K., & Edgar, L. D. (2016) Agricultural communications: perspectives from the experts. *Journal of Applied Communications*, *100*(1), 17-28.

Large, M. (2014). Characteristics of agricultural communications undergraduate programs. (master's thesis). University of Arkansas, U.S.

Linsky, A. S. (1975). Stimulating responses to mailed questionnaires: a review. *Public Opinion Quarterly, 39,* 82-101

Maiga, A.A. (2011). *Competencies needed by university graduates of agricultural communications in the Republic of Mali, West Africa. (master's thesis)*. Oklahoma State University, U.S.

Miller, J., Large, M., Rucker, J., Shoulders, K., & Buck, E. (2015) Characteristics of U.S. agricultural communications undergraduate programs. *Journal of Applied Communications, 99*(4), 76-90.

Morgan, C. (2012). Competencies needed by agricultural communications undergraduates: A focus group study of alumni. *Journal of Applied Communications*, *96*(2), 17-29.

Morgan, C., & Rucker, J. K. (2013). Competencies needed by agricultural communication undergraduates: An academic perspective. *Journal of Applied Communications*, *97*(1), 50-65.

Mujis, D. (2004). *Doing quantitative research in education with SPSS.* Thousand Oaks, CA: Sage Publications Inc.

National Research Council. (2009) *Transforming agricultural education for a changing world*. Washington, DC: The National Academies Press.

Northouse, P.G. (2013). *Leadership: Theory and practice* (6th ed.). Thousand Oaks, CA: Sage Publications Inc.

Olaniyan, D. A. & Okeakinde, T. (2008). Human capital theory: implications for educational development. *Pakistan Journal of Social Sciences 5*(5), 479-483.

Pinchbeck, Ivy. (1930). *Women workers and the Industrial Revolution, 1750-1850*. New York: F.S. Crofts and Company. 325-342.

Royal Agriculture University. (2017) Undergraduate courses. Retrieved from https://www.rau.ac.uk/study/undergraduate/courses

Schaefer, D. & Dillman, D. A. (1997). Development of a standard e-mail methodology: Results of an experiment. *Public Opinion Quarterly, 62*, 378-397.

Scotland's Rural College. (2017) Subject areas. Retrieved from https://www.sruc.ac.uk/info/120083/subject_areas

Scott, C. (1961). Research on mail surveys. *Journal of the Royal Statistical Society, 124,* 143-205

SRUC. (2017). About us. Retrieved from https://www.sruc.ac.uk/info/120359/about_us

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

SRUC. (2017). Our mission, vision, aims, & values. Retrieved from https://www.sruc.ac.uk/info/120393/our_mission_vision_aims_and_values

Swanson, R.A., & Holton, E.F. III. (2001). *Foundations of human resource development.* San Francisco, California: Berrett-Koehler Publishers Inc.

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.* Unpublished manuscript, Lubbock, TX.

The Guardian. (2018). University Guide 2019. Retrieved from https://www.theguardian.com/education/ng-interactive/2018/may/29/university-league-tables-2019

Truss, E. (2016). Environment Minister addresses the National Farmers' Union Conference Retrieved from https://www.gov.uk/government/speeches/environment-minister-addresses-the-national-farmers-union-conference

Tomlinson, M. (2008). 'The degree is not enough': students' perceptions of the role of higher education credentials for graduate work and employability. *British Journal of Sociology of Education. 29(1)*, 50-60.

University of Arkansas. (2016). U of A student degree, enrollment and demographics. Retrieved from https://research.uark.edu/research-analytics/ua-student-degree-enrollment-and-demographics.php

U.S. Department of Education. (2010). IPEDS, classification of instruction programs (CIP). Retrieved from https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cipid=87185

USDA. (2015). One of the best fields for new college graduates? Agriculture. Retrieved from https://nifa.usda.gov/press-release/one-best-fields-new-college-graduates-agriculture

Verdon, N. (2012) Business and pleasure: middle class women's work and the professionalization of farming in England, 1890-1939. *Journal of British Studies, 51*, 406.

Warwick. (1897). Women and the future of agriculture. *The Land Magazine*, 723-729.

## Appendix A: Research Compliance Protocol Approval Letter

UNIVERSITY OF ARKANSAS

| | |
|---|---|
| **To:** | Sara Maples<br>BELL 4188 |
| **From:** | Douglas James Adams, Chair<br>IRB Committee |
| **Date:** | 02/20/2018 |
| **Action:** | **Exemption Granted** |
| **Action Date:** | 02/20/2018 |
| **Protocol #:** | 1711083233 |
| **Study Title:** | Introducing the Academic Discipline of Agricultural Communications to the United Kingdom: A Needs Analysis |

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or irb@uark.edu.

cc: Jefferson Davis Miller, Investigator

Page 1 of 1

## Appendix B: Agricultural Professionals Instrument

You are invited to participate in this study about agricultural competencies that you deem important. Your response is critical to assisting the foundation of an agricultural communications academic degree program in the United Kingdom.

This survey will take approximately 7-10 minutes. Please answer each question to the best of your ability. There are no anticipated risks or benefits. Your participation is voluntary and anonymous. You have the right to withdraw from this study at any time. All information will be secured on a password protected computer.

Please contact the principal researcher, Sara Maples, at skmaples@uark.edu or faculty advisor, Dr. Jefferson Miller, at jdmiller@uark.edu, if you have any questions or concerns about the study. For questions or concerns about your rights as a research participant, please contact Ro Windwalker, the University of Arkansas Research Compliance Office at (479) 575-2208 or irb@uark.edu.

Please indicate below if you agree or disagree to participate in this survey.

- ○ Agree (1)
- ○ Disagree (2)

*Skip To: End of Survey If You are invited to participate in this study about agricultural competencies that you deem import... = Disagree*

Page Break

What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Choose not to respond (3)

Page Break

Are you a professional in any of the following fields? (*Mark all that apply*)

- ☐ Editor (1)
- ☐ Journalist (Writer) (2)
- ☐ Broadcaster (3)
- ☐ Photographer (4)
- ☐ PR/Marketing specialist (5)
- ☐ Other (6) _____

How many years have you been in the communications/journalism field?

_____

Page Break

What university or college degrees have you earned? *(Mark all that apply)*

- ☐ None (1)
- ☐ Higher National Diploma (HND) (2)
- ☐ Higher National Certificate (HNC) (3)
- ☐ Diploma of Higher Education (4)
- ☐ Foundation Degree (5)
- ☐ Bachelors (6)
- ☐ Masters (MA, MLitt, MSc, etc.) (7)
- ☐ Doctorate (8)
- ☐ Other (9) _____

Page Break

What types of experiences have you had in agriculture? (*Mark all that apply)*

- ☐ None (1)
- ☐ Live(d) in a rural area (2)
- ☐ Work(ed) in a rural area (3)
- ☐ Live(d) on a farm (4)
- ☐ Own(ed) a farm (5)
- ☐ Work(ed) on a farm (6)
- ☐ Work(ed) for an agricultural business (7)
- ☐ Own(ed) an agricultural business (8)
- ☐ Completed secondary school agriculture class/module (9)
- ☐ Completed university agriculture class/module (10)
- ☐ Other (11) _____

Page Break

The following questions are related to the concept of developing an agricultural communications academic program in a U.K. college of agriculture. The questions will ask you about competencies you think agricultural communications graduates should obtain through such a program. Agricultural communications students are taught to understand and communicate specialized agricultural science and information through journalism, advertising, public relations, graphic design and telecommunications.

End of Block: Demographics

Start of Block: Agriculture, General Comm & Writing Skills

Below is a list of competencies in the area of **agriculture**. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Understand the agriculture community in the U.K. (1) | ○ | ○ | ○ | ○ |
| Understand the cultural impact of agriculture in the U.K. (2) | ○ | ○ | ○ | ○ |
| Understand public perceptions of agricultural issues (3) | ○ | ○ | ○ | ○ |
| Understand the impact of government and political involvement on agriculture (4) | ○ | ○ | ○ | ○ |
| Describe the international impact agriculture creates (5) | ○ | ○ | ○ | ○ |

Below is a list of competencies in the area of **general communication skills**. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Use effective nonverbal communication (1) | ○ | ○ | ○ | ○ |
| Practice effective oral communication (2) | ○ | ○ | ○ | ○ |
| Identify appropriate and newsworthy story ideas (3) | ○ | ○ | ○ | ○ |
| Use a variety of media to inform the public (4) | ○ | ○ | ○ | ○ |

Page Break

Below is a list of competencies in the area of **writing skills**. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Understand and practice ethical journalism (1) | ○ | ○ | ○ | ○ |
| Appropriately attribute journalistic sources (2) | ○ | ○ | ○ | ○ |
| Interview a source effectively (3) | ○ | ○ | ○ | ○ |
| Use appropriate tone and voice (4) | ○ | ○ | ○ | ○ |
| Write using appropriate journalistic style (5) | ○ | ○ | ○ | ○ |
| Write using appropriate grammar and punctuation (6) | ○ | ○ | ○ | ○ |
| Write features on agriculture topics (7) | ○ | ○ | ○ | ○ |
| Write for the internet (8) | ○ | ○ | ○ | ○ |
| Write social media posts (9) | ○ | ○ | ○ | ○ |
| Write for print media (10) | ○ | ○ | ○ | ○ |
| Write opinion columns (11) | ○ | ○ | ○ | ○ |
| Write news stories (12) | ○ | ○ | ○ | ○ |

End of Block: Agriculture, General Comm & Writing Skills

Start of Block: Layout and Editing

Below is a list of competencies in the area of **layout and editing**. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Appropriately attribute journalistic sources (1) | ○ | ○ | ○ | ○ |
| Use correct editing marks and symbols (2) | ○ | ○ | ○ | ○ |
| Effectively edit and proofread the works of others (3) | ○ | ○ | ○ | ○ |
| Edit layout and designs of publications (4) | ○ | ○ | ○ | ○ |
| Identify appropriate audience (5) | ○ | ○ | ○ | ○ |

End of Block: Layout and Editing

Start of Block: Technology

Below is a list of competencies in the area of broadcasting. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Interview a source effectively (1) | ○ | ○ | ○ | ○ |
| Use appropriate tone and voice (2) | ○ | ○ | ○ | ○ |
| Present effective video/radio broadcast (3) | ○ | ○ | ○ | ○ |
| Budget and supervise video/radio production (4) | ○ | ○ | ○ | ○ |
| Understand technical aspects of broadcasting equipment and editing software (5) | ○ | ○ | ○ | ○ |

Page Break

Below is a list of competencies in the area of technology. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Design websites and blogs (2) | ○ | ○ | ○ | ○ |
| Navigate the Internet and download important information (3) | ○ | ○ | ○ | ○ |
| Effectively use social media (4) | ○ | ○ | ○ | ○ |
| Use photo editing software (5) | ○ | ○ | ○ | ○ |
| Use spreadsheet software (6) | ○ | ○ | ○ | ○ |
| Effectively utilize media equipment (cameras, recorders, speakers, etc.) (7) | ○ | ○ | ○ | ○ |

Page Break

The following are **communications-related** classes/modules offered in the typical U.S. agricultural communications academic discipline. Please indicate if you believe these classes/modules would be important to an agricultural communications academic discipline in the U.K. (cont. on next page)

| | Very Important (1) | Important (2) | Slightly Important (3) | Not at all important (4) |
|---|---|---|---|---|
| Advanced Public Speaking (1) | ○ | ○ | ○ | ○ |
| Public Relations Principles (2) | ○ | ○ | ○ | ○ |
| Communications Campaigns (3) | ○ | ○ | ○ | ○ |
| Communicating Agriculture to the Public (4) | ○ | ○ | ○ | ○ |
| Risk and Crisis Communications in Agriculture and Natural Resources (5) | ○ | ○ | ○ | ○ |
| Development of Agricultural Publications (6) | ○ | ○ | ○ | ○ |
| News Reporting and Feature Writing (7) | ○ | ○ | ○ | ○ |
| Technical Writing (8) | ○ | ○ | ○ | ○ |
| Video and Radio Broadcast Production in Agriculture (9) | ○ | ○ | ○ | ○ |
| Graphic Design (10) | ○ | ○ | ○ | ○ |
| Electronic (Online) Communication in Agriculture (11) | ○ | ○ | ○ | ○ |
| Photo Journalism (12) | ○ | ○ | ○ | ○ |
| Agricultural and Environmental Photography (13) | ○ | ○ | ○ | ○ |
| Communication Law and Ethics (14) | ○ | ○ | ○ | ○ |
| Apprenticeship/internship/placement/practicum in agricultural journalism (15) | ○ | ○ | ○ | ○ |

The following are **agricultural science-related** classes/modules offered in the typical U.S. agricultural communications academic discipline. Please indicate if you believe these classes/modules would be important to an agricultural communications academic discipline in the U.K.

| | Very Important (1) | Important (2) | Slightly Important (3) | Not at all important (4) |
|---|---|---|---|---|
| Environmental Sciences (1) | ○ | ○ | ○ | ○ |
| Agronomy (2) | ○ | ○ | ○ | ○ |
| Horticulture (3) | ○ | ○ | ○ | ○ |
| Pest Management (4) | ○ | ○ | ○ | ○ |
| Animal Science (5) | ○ | ○ | ○ | ○ |
| Agricultural Economics (6) | ○ | ○ | ○ | ○ |
| Agricultural Business (7) | ○ | ○ | ○ | ○ |
| Agricultural Education (8) | ○ | ○ | ○ | ○ |
| Food Science (9) | ○ | ○ | ○ | ○ |

**End of Block: Courses in US**

**Start of Block: Extra Competencies**

What competencies would you like to see in an agricultural communications academic discipline but were not asked about in the questions above?

_____

End of Block: Extra Competencies

Start of Block: Yes/No

The U.K. does not currently have an agricultural communications academic discipline. Do you think the U.K. would benefit from an agricultural communications academic discipline in higher education?

- ○ Yes (1)
- ○ No (2)

End of Block: Yes/No

## Appendix C: Agricultural Students Instrument

You are invited to participate in this study about agricultural competencies that you deem important. Your response is critical to assisting the foundation of an agricultural communications academic degree program in the United Kingdom.

This survey will take approximately 7-10 minutes. Please answer each question to the best of your ability. There are no anticipated risks or benefits. Your participation is voluntary and anonymous. You have the right to withdraw from this study at any time. All information will be secured on a password protected computer.

Please contact the principal researcher, Sara Maples, at skmaples@uark.edu or faculty advisor, Dr. Jefferson Miller, at jdmiller@uark.edu, if you have any questions or concerns about the study. For questions or concerns about your rights as a research participant, please contact Ro Windwalker, the University of Arkansas Research Compliance Office at (479) 575-2208 or irb@uark.edu.

Please indicate below if you agree or disagree to participate in this survey.

- ○ Agree (1)
- ○ Disagree (2)

*Skip To: End of Survey If You are invited to participate in this study about agricultural competencies that you deem import... = Disagree*

Page Break

What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Choose not to respond (3)

Page Break

What types of experiences have you had in agriculture? (*Mark all that apply)*

- ☐ None (1)
- ☐ Live(d) in a rural area (2)
- ☐ Work(ed) in a rural area (3)
- ☐ Live(d) on a farm (4)
- ☐ Own(ed) a farm (5)
- ☐ Work(ed) on a farm (6)
- ☐ Work(ed) for an agricultural business (7)
- ☐ Own(ed) an agricultural business (8)
- ☐ Completed secondary school agriculture class/module (9)
- ☐ Completed university agriculture class/module (10)
- ☐ Other (11) _____

Page Break

The following questions are related to the concept of developing an agricultural communications academic program in a U.K. college of agriculture. The questions will ask you about competencies you think agricultural communications graduates should obtain through such a program. Agricultural communications students are taught to understand and communicate specialized agricultural science and information through journalism, advertising, public relations, graphic design and telecommunications.

Page Break

Below is a list of competencies in the area of **agriculture**. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very Important (1) | Important (2) | Slightly Important (3) | Not at all important (4) |
|---|---|---|---|---|
| Understand the agriculture community in the U.K. (1) | ○ | ○ | ○ | ○ |
| Understand the cultural impact of agriculture in the U.K. (2) | ○ | ○ | ○ | ○ |
| Understand public perceptions of agricultural issues (3) | ○ | ○ | ○ | ○ |
| Understand the impact of government and political involvement on agriculture (4) | ○ | ○ | ○ | ○ |
| Describe the international impact agriculture creates (5) | ○ | ○ | ○ | ○ |

Page Break

Below is a list of competencies in the area of **general communication skills**. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Use effective nonverbal communication (1) | ○ | ○ | ○ | ○ |
| Practice effective oral communication (2) | ○ | ○ | ○ | ○ |
| Identify appropriate and newsworthy story ideas (3) | ○ | ○ | ○ | ○ |
| Use a variety of media to inform the public (4) | ○ | ○ | ○ | ○ |

Page Break

Below is a list of competencies in the area of writing skills. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Understand and practice ethical journalism (1) | ○ | ○ | ○ | ○ |
| Appropriately attribute journalistic sources (2) | ○ | ○ | ○ | ○ |
| Interview a source effectively (3) | ○ | ○ | ○ | ○ |
| Use appropriate tone and voice (4) | ○ | ○ | ○ | ○ |
| Write using appropriate journalistic style (5) | ○ | ○ | ○ | ○ |
| Write using appropriate grammar and punctuation (6) | ○ | ○ | ○ | ○ |
| Write features on agriculture topics (7) | ○ | ○ | ○ | ○ |
| Write for the internet (8) | ○ | ○ | ○ | ○ |
| Write social media posts (9) | ○ | ○ | ○ | ○ |
| Write for print media (10) | ○ | ○ | ○ | ○ |
| Write opinion columns (11) | ○ | ○ | ○ | ○ |
| Write news stories (12) | ○ | ○ | ○ | ○ |

Below is a list of competencies in the area of layout and editing. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Appropriately attribute journalistic sources (1) | ○ | ○ | ○ | ○ |
| Use correct editing marks and symbols (2) | ○ | ○ | ○ | ○ |
| Effectively edit and proofread the works of others (3) | ○ | ○ | ○ | ○ |
| Edit layout and designs of publications (4) | ○ | ○ | ○ | ○ |
| Identify appropriate audience (5) | ○ | ○ | ○ | ○ |

Page Break

Below is a list of competencies in the area of broadcasting. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Interview a source effectively (1) | ○ | ○ | ○ | ○ |
| Use appropriate tone and voice (2) | ○ | ○ | ○ | ○ |
| Present effective video/radio broadcast (3) | ○ | ○ | ○ | ○ |
| Budget and supervise video/radio production (4) | ○ | ○ | ○ | ○ |
| Understand technical aspects of broadcasting equipment and editing software (5) | ○ | ○ | ○ | ○ |

Page Break

Below is a list of competencies in the area of technology. Please designate the level of importance you believe the competency is to an agricultural communications graduate.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Design websites and blogs (2) | ○ | ○ | ○ | ○ |
| Navigate the Internet and download important information (3) | ○ | ○ | ○ | ○ |
| Effectively use social media (4) | ○ | ○ | ○ | ○ |
| Use photo editing software (5) | ○ | ○ | ○ | ○ |
| Use spreadsheet software (6) | ○ | ○ | ○ | ○ |
| Effectively utilize media equipment (cameras, recorders, speakers, etc.) (7) | ○ | ○ | ○ | ○ |

Page Break

The following are communications related classes/modules offered in the typical U.S. agricultural communications academic discipline. Please indicate if you believe these classes/modules would be important to an agricultural communications academic discipline in the U.K. (cont. on next page)

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Advanced Public Speaking (1) | ○ | ○ | ○ | ○ |
| Public Relations Principles (2) | ○ | ○ | ○ | ○ |
| Communications Campaigns (3) | ○ | ○ | ○ | ○ |
| Communicating Agriculture to the Public (4) | ○ | ○ | ○ | ○ |
| Risk and Crisis Communications in Agriculture and Natural Resources (5) | ○ | ○ | ○ | ○ |
| Development of Agricultural Publications (6) | ○ | ○ | ○ | ○ |
| News Reporting and Feature Writing (7) | ○ | ○ | ○ | ○ |
| Technical Writing (8) | ○ | ○ | ○ | ○ |
| Video and Radio Broadcast Production in Agriculture (9) | ○ | ○ | ○ | ○ |
| Graphic Design (10) | ○ | ○ | ○ | ○ |
| Electronic Communication in Agriculture (11) | ○ | ○ | ○ | ○ |
| Photo Journalism (12) | ○ | ○ | ○ | ○ |
| Agricultural and Environmental Photography (13) | ○ | ○ | ○ | ○ |
| Communication Law and Ethics (14) | ○ | ○ | ○ | ○ |
| Internship/placement/practicum in agricultural journalism (15) | ○ | ○ | ○ | ○ |

The following are agricultural science-related classes/modules offered in the typical U.S. agricultural communications academic discipline. Please indicate if you believe these classes/modules would be important to an agricultural communications academic discipline in the U.K.

| | Very important (1) | Important (2) | Slightly important (3) | Not at all important (4) |
|---|---|---|---|---|
| Environmental Sciences (1) | ○ | ○ | ○ | ○ |
| Agronomy (2) | ○ | ○ | ○ | ○ |
| Horticulture (3) | ○ | ○ | ○ | ○ |
| Pest Management (4) | ○ | ○ | ○ | ○ |
| Animal Science (5) | ○ | ○ | ○ | ○ |
| Agricultural Economics (6) | ○ | ○ | ○ | ○ |
| Agricultural Business (7) | ○ | ○ | ○ | ○ |
| Agricultural Education (8) | ○ | ○ | ○ | ○ |
| Food Science (9) | ○ | ○ | ○ | ○ |

Page Break

What competencies would you like to see in an agricultural communications academic discipline but were not asked about in the questions above?

_____

Page Break

The U.K. does not currently have an agricultural communications academic discipline. Do you think the U.K. would benefit from an agricultural communications academic discipline in higher education?

- ○ Yes (1)
- ○ No (2)

**End of Block: Default Question Block**