

Perceptions of Agricultural Communications Freshmen Regarding Curriculum Expectations and Career Aspirations

Tamra Watson and J. Tanner Robertson

Abstract

The purpose of this study was to describe agricultural communications freshmen perceptions of agricultural communications curriculum by describing selected personal characteristics, curriculum expectations and career aspirations of agricultural communications freshmen at Oklahoma State University, Texas Tech University and Texas A&M University. This study also described agricultural communications freshmen's interests and perceived importance of agricultural communications skills at the selected institutions. The population for the study was 100 agricultural communications freshmen enrolled in an entry-level agricultural communications course during the 2010 Fall Semester. To assess the perceptions of the population, a 54-question instrument was developed and sent to each University and administered on site. Data was collected from each site using scantron sheets and was analyzed using descriptive statistics.

Keywords

curriculum, freshmen, perceptions, aspirations

Introduction

History has taught man one of the simplest ways to raise awareness of an issue, problem, or crisis is to talk about it to communicate. Communication is a 13-letter word used to define the “process through which messages, both intentional and unintentional, create meaning” (Baldwin, Perry, & Moffitt, 2004, p. 5). More specifically, scientific communicators — employed as editors, journalists, broadcasters, public relations representatives, web designers, and photographers — have the responsibility to stand in the “critical intersection of the practice of science and the public understanding of science” (Treise & Weigold, 2002, p. 320). Communication is perhaps the only way people can learn and understand the complexity of scientific developments (Treise & Weigold). “For most people, the reality of science is what they read in the press. They understand science less through direct experience or past education, than through the filter of journalistic language and imagery” (Nelkin, 1995, p. 2).

While scientific communicators believe their work is important, Treise and Gold (2002) stated scholars believe the process is executed poorly. Part of this poor execution is attributed to a lack of education, both in science and communication (Treise & Weigold). Palen (1994) argued most

This research study was presented at the 2011 Association for Communication Excellence Conference held in Englewood, Colorado.

journalism graduates are not educated about scientific issues in their basic communications courses.

The unique education of scientific communicators has been important to agriculturists for more than a century. As early as 1905, agricultural journalism was taught at the university level to train writers for the agricultural press (Burnett & Tucker, 2001). By 1908, the first department of agricultural journalism was established in Madison, Wisconsin. Through time, the academic discipline evolved to introduce more strategic communications concepts such as public relations, marketing and advertising (Simon, Robertson, & Doerfert, 2003). With the broader skill set, the name “agricultural communications” was selected around 1970 to represent the academic discipline (Simon, Robertson, & Doerfert). Today, the industry depends on trained agricultural communicators from more than 25 different programs to inform the public about complex agricultural issues such as food safety, environmental conservation, and the scientific practices involved in agricultural production (Burnett & Tucker, 2001; Reisner, 1990). More importantly, the industry depends on talented agricultural communicators to present scientific information to a diverse audience in interesting and entertaining ways (Buck & Barrick, 1995). Doerfert and Miller (2006) claimed individuals in the agricultural industry will look to agricultural communicators to lead them through great changes of knowledge management. Hence, a great need exists to educate and train such professionals.

In 2007, agricultural communications curriculum evaluation was described as the No. 4 priority by the National Research Agenda of the American Association for Agricultural Education (Osborne, 2007). Researchers claimed curriculum development and evaluation is necessary to keep up with industry trends, issues and problems (Doerfert & Miller, 2006; Morgan, 2008; Simon, Robertson & Doerfert, 2003; Sprecker & Rudd, 1998; Terry, 1996). However, the industry’s needs are only one of three measurements used in curriculum development and evaluation. To be considered effective, any curriculum must balance student interest with faculty vision and industry need (Coffey, 1987).

Of the three categories, students are the major force in the shaping and molding of curriculum content (Finch & Crunkilton, 1999). Thus, student characteristics, skills, interests, expectations, and maturity level should receive close scrutiny when selecting content for a curriculum (Finch & Crunkilton). Therefore, any efforts to alter curriculum should be made for student benefit and not the economy (Beyer & Liston, 1996). However, the majority of agricultural communications curriculum studies have been written from the industry need perspective (Doerfert & Miller, 2006; Morgan, 2008; Sprecker & Rudd, 1997, 1998). Few studies have been published about the expectations or characteristics of agricultural communications students (Tucker & Paulson, 1988). Taking such a view, may have the danger to reduce a student to an abstract form of a cerebral statistic, instead of individual thinking, responsive and physical human being (Beyer & Liston). Hence, Myers (2005) urged educators to “not relinquish the power found in designing curriculum to those who do not intimately know the students” (p. 25). Students should be invited continually to share their opinion regarding what is taught in their classroom (Myers).

Theoretical framework: Expectancy-Value theory

In 1995, Sullins, Hernandez, Fuller, and Tashiro used the expectancy-value theory as a theoretical framework to understand students’ choice to major in a scientific discipline. The theory, outlined by Atkinson (1964), claims a person’s motive to engage and achieve a task is constructed from his or her expectations and values. *Expectancy* is defined as the likelihood of a success weighed against an individual’s past experiences; while *value* is viewed as the reasons or potential rewards behind engaging in the task (Schunk & Pajares, 2005). The usefulness of the expectancy-value theory has been well established and applied in diverse settings (Spence & Helmreich, 1983).

To understand students' choices and interests in science or agricultural communications, one must understand the expectations a student holds that directly influence his/her achievement choices (Wigfield & Eccles, 2000). A student's expectancy is shaped by past experiences in cultural and self-perceived concepts. These different experiences lead the student to make some type of judgment about the probability of success in a particular behavior (Franken, 2007). For example, a student may believe if he/she engages in education, he/she may expect to receive a higher salary, status, privilege, or prestige (Spence & Helmreich, 1983). Because past experience directly influences behavior, the assessment of agricultural and communications experiences of agricultural communications freshmen has the potential to reveal information that shapes their ability belief — the probability in which they can succeed in a given task (Wigfield & Eccles, 2000). Hence, curriculum developers could be one step closer in understanding why students choose to major in agricultural communications.

However, expectancy is not considered motivational alone; rather it must be coupled with value to provide sufficient incentive to engage in the task (Franken, 2007). Wigfield and Eccles (1992) claimed research dedicated to understanding an individual's incentive value has been neglected. Eccles et al. (1983) identified three types of incentive values: attainment value, intrinsic value and utility value. Attainment value is the importance of performing well in the desirable task. It helps to reinforce valued characteristics such as masculinity/femininity or competence. On the other hand accomplishing a task may offer an environment to fulfill achievement, power or social needs. Intrinsic value is considered the level of interest one has for engaging in a task. People motivated by intrinsic value seek immediate enjoyment from task engagement (Wigfield & Eccles, 2000). Utility value, on the other hand, is the level of importance an individual assigns to the task. A student may choose to enroll in a course because of its utility value or importance in helping him/her achieve a goal (i.e., a job or graduation) even though a specific class holds no interest value for a student (Eccles et al., 1983). In this case, the value a student places in a specified career outweighs the negative attitude toward the subject matter. Whatever the driving motivation, parents and teachers are encouraged to help students participate in activities they naturally enjoy (Eccles et al.). In addition, keeping students within their fields of natural interest may have the potential to increase student retention with a degree. Sullins, Hernandez, Fuller, and Tashiro (1995) found that expectancy-values were a significant factor in distinguishing one major from another.

Student characteristics, career aspirations, and curriculum expectations

Franken (2007) claimed an individual's expectations are shaped by past experiences, self-perception and culture. Therefore a literature review was conducted to reveal the personal characteristics, curriculum expectations, and career aspirations of agricultural communications students. The literature available was limited. For example, the one consistent personal characteristic revealed was that the majority of students found in the agricultural communications classroom are female (Bisdor-Rhoades et al., 2005, Tucker & Paulson, 1988).

Agricultural communications students' curriculum expectations were also revealed by Tucker and Paulson (1988). They found students expressed a stronger interest in agricultural classes and affiliated organizations than those associated with mass communications. However, first year students were generally more likely to express a higher level of interest in non-agricultural subjects than their upperclassmen colleagues (Tucker & Paulson). Researchers also found students were more likely to rate the level of agricultural and communication interest higher than their perceived knowledge (Tucker & Paulson). When students were asked to list an alternative major, 58% chose another

major within agriculture, while only 32% chose something within mass communications (Tucker & Paulson).

With regards to career aspirations, more than half the students tested by Tucker and Paulson (1988) expected to work in agricultural public relations or advertising, while only 23% expressed interest in working for mainstream communications outlets (Tucker & Paulson). Radio and television production was rated as the second most desirable job, while a career involving agricultural economics, business, or cooperatives was marked as least favorable among agricultural communications students (Tucker & Paulson).

From the literature, it is simple to see the amount of knowledge available for understanding a student's personal characteristics, career aspirations and curriculum expectations is limited.

Purpose of Study

Therefore, the purpose of this study was to describe agricultural communications freshmen perceptions of agricultural communications curriculum by describing the personal characteristics, curriculum expectations, and career aspirations of agricultural communications freshmen at Oklahoma State University, Texas Tech University, and Texas A&M University. In addition, this study described agricultural communications freshmen's interest and perceived importance of agricultural communications skills.

Methods

The study was designed as a descriptive census survey of agricultural communications freshmen at Oklahoma State University, Texas Tech University, and Texas A&M University. For the purpose of this study, agricultural communications freshmen were defined as first year university students registered in an entry level agricultural communications course in a well-established agricultural communications program. To qualify as a well-established program, the program's enrollment numbers had to be greater than 100 and it had to have at least three faculty members assigned to teach agricultural communications courses. Based on this definition, three locations were chosen to administer the instrument: Oklahoma State University, Texas Tech University, and Texas A&M University. The entire population for this study totaled 100 agricultural communications freshmen enrolled in the 2010 fall semester. A 54-question instrument was developed by the researcher by extensively reviewing the literature to administer to the population (Muijs, 2004) and adapting 30 phrases from a study conducted by Ciuffetelli (2002). The instrument was reviewed by a panel of experts — comprised of Oklahoma State University professors and graduate students — for content validity (Muijs, 2004) and a pilot test conducted to establish reliability. The reliability alpha of the pilot data interest scale was .832; and the pilot data importance scale had a .770 reliability alpha. Creswell (2008) reported anything above .700 was reasonably reliable.

After receiving Institutional Review Board approval from all three universities, an instrument was mailed to professors at Oklahoma State University, Texas Tech University, and Texas A&M University. On a day designated by the professor, freshmen enrolled in an entry-level agricultural communications course were asked to volunteer to take a 54-question survey. Answers were recorded by the participants on two scantron sheets provided, and mailed by to the researcher. No incentive or reward was offered to the participants or administrators for taking part in the study. Of the 100 surveys administered, 75 were returned. Seven surveys were eliminated from the census because the respondent did not report him/herself as a freshman, making the response rate 68%. Descriptive statistics like frequency and means were used to analyze the data.

Results

Personal characteristics

Of all the respondents, 54 were female (79.4%) and 14 were male (20.6%). Fifty-two of the respondents (76.5%) indicated to be 17 to 18 years old. When asked about the location of their university, 56 of the respondents (82.4%) reported they attend university within their state of residence and 11 respondents (16.2%) attended university outside their state of residence. When respondents were asked if they considered the place they grew up to be a rural or urban area, 50 respondents (73.5%) indicated they grew up in a rural area and 18 respondents (26.5%) indicated they grew up in an urban area.

Respondents were asked to indicate their agricultural experience (see Table 1) and communications experience (see Table 2) as part of their personal characteristics.

As part of their personal characteristics, respondents were asked to indicate their degree plan. Thirty-one respondents (46.3%) reported a degree plan of “agricultural communications”. The second most reported major was “agricultural communications + agricultural major” accounting for 20.9% of all respondents (N=14). Respondents were asked to mark what individual was the most influential in helping them in their degree choice. The most common responses were “self-interest” (N=22, 32.4%), “FFA advisor” (N=15, 22.1%) and “college advisor” (N=11, 16.2%)

Curriculum expectations

Respondents were asked to indicate the amount of coursework in agriculture and communications they expected to have during the next four years. Of all the responses, 34 respondents (50.0%) expected to take an equal amount of agricultural and communications courses, 21 respondents (30.9%) expected to take more communications courses than agricultural courses, and 13 respondents (19.1%) expected to take more agricultural courses than communications courses.

Respondents were asked to report the type of agricultural sciences courses they expected to enroll in during their university experience. Fifty-two respondents (76.5%) expected to take a diverse set of agricultural science courses (i.e. animal science, food science, plant science); and 16 respondents

Table 1
Type of Respondents' Agricultural Experiences

	No. of Respondents	%
High school agricultural classes or FFA	19	27.9
Family owned livestock and/or crop production	18	26.5
No agricultural experience	12	17.6
Government programs	2	2.9
Employee of livestock and/or crop production	1	1.5
Agricultural communications employee	1	1.5
All of the above	14	20.6
Missing Data	1	1.5

Table 2
Type of Respondents' Communications Experiences

	No. of Respondents	%
High school communications courses	16	23.5
Social media user	13	19.1
Member of high school yearbook or newspaper staff	12	17.6
Held a job with publication type company or organization	7	10.3
High school, community or religion organization reporter	6	8.8
No communications experience	3	4.4
High school, community or religion organization photographer	2	2.9
All of the above	8	11.8
Missing Data	1	1.5

(23.5%) expected to take a specific set of agricultural science courses (i.e. animal science: genetics, reproduction).

Respondents were asked similar question about their expectations for communications coursework. Forty-eight respondents (70.6%) expected to learn a broad set of communications skills, such as public relations, writing and web design, while 19 respondents (27.9%) expected to learn a specific set of communications skills such as public relations or advertising.

As part of their degree program, respondents were asked how many writing courses they expected to enroll in within the next four years. The majority of students (N=67, 94%) expected to enroll in at least one communications-based writing course. Twenty-six of those students (38.8%) expected to enroll in two communications-based writing courses. Four respondents (6.0%) did not plan to enroll in any communications-based writing courses.

Respondents were asked how many agricultural communications internships they expected to complete in the next four years. Most of the students (N=68, 92.6%) expected to complete at least one agricultural communications internship. The most common response selected was “two agricultural internships” (N=22, 32.4%).

In another course-specific curriculum question, respondents were asked to indicate if they believed agricultural economics/business courses were important for agricultural communications professionals. Sixty-one respondents (89.7%) reported “yes,” one respondent indicated “no,” and six respondents (8.8%) reported they did not know if agricultural economic/business courses were important for an agricultural communications professional.

Respondents were asked to indicate if they expected to join the National Agricultural Communicators of Tomorrow organization. Thirty-eight respondents (55.9%) indicated they planned on being a member, 23 respondents (33.8%) indicated they did not know, and seven indicated they did not plan on becoming a member.

Career aspirations

Respondents were asked to indicate their plans after graduation. Thirty-five respondents (51.5%)

planned to enter the workforce, while the other 32 (47%) planned to continue their education for a master's or doctoral degree. One respondent did not report his/her plans.

Respondents were also asked to indicate the type of corporation or organization in which they expected to work for after graduation. The majority of respondents (N=35, 52.2%) reported a desire to work in the agricultural industry. Twelve (17.6%) reported a desire to work for a non-agricultural industry. Other respondents claimed they desired to work for the government (N=8, 11.9%), for a non-profit (N=4, 6.0%), or in higher education (N=2, 3.0%).

Within the workforce, respondents were asked to indicate what type of position they expected after graduation. Thirty-two respondents (47.9%) chose a specific position listed and twenty-five respondents (37.3%) reported they wanted to work in a diversified position. Ten respondents (14.9%) marked "none of the above." Of the specific positions listed, "public relations representative" was the most commonly marked (N=13, 19.4%).

Another question asked respondents to report the location of their aspired workplace. The most common response was "work in my home state" (N=30, 44.1%) followed by "work in the United States" (N=13, 19.1%).

Respondents were also asked to indicate the salary range they expected to receive after graduation. No specification was made in the question as to which graduation (i.e. bachelor, master or doctorate) the question referred. The results are shown in Table 3.

Value of Communications Skill Sets: Interest v. Importance

Respondents were asked to rate their interest level or intrinsic value of 30 agricultural communications skill statements using a rated scale where 0 = "Not Interested"; 1 = "Somewhat Not Interested"; 2 = "Unsure"; 3 = "Somewhat Interested"; 4 = "Interested. Respondents were also asked

Table 3
Respondents' Future Salary Expectations

	No. of Respondents	%
A salary range of \$60,001-\$70,000	13	19.1
A salary range of more than \$90,000	12	17.6
A salary range of \$30,001-\$40,000	11	16.2
A salary range of \$40,001-\$50,000	8	11.8
A salary range of \$50,001-\$60,000	8	11.8
A salary range of \$20,001-\$30,000	6	8.8
A salary range of \$80,001-\$90,000	6	8.8
A salary range of \$70,001-\$80,000	4	5.9

to rate their importance level or extrinsic value of 30 agricultural communications skill statements using a rated scale where 0 = “Not Important”; 1 = “Somewhat Not Important”; 2 = “Unsure”; 3 = “Somewhat Important”; 4 = “Important.” Tables 4 and 5 show all of the statements rated by the respondents, ranked 1 to 30.

Respondents’ answers generated high standard deviations. The average deviation for respondents’ extrinsic value was 1.03; and the average standard deviation for respondents’ intrinsic value was 1.16.

Conclusions

Personal Characteristics

The majority of agricultural communications freshmen at Oklahoma State University, Texas Tech University and Texas A&M University were 18-year-old females, raised in a rural town (population less than 10,000), and attended a university within their state of residence.

The most common agricultural experiences of agricultural communications freshmen at selected institutions were obtained in the high school classroom or on a family owned livestock and/or crop production. Communications experiences were obtained from high school communications courses, social media or from service on the high school yearbook/newspaper staff.

The most frequent degree plans reported by agricultural communications freshmen at selected institutions were “agricultural communications” and “agricultural communications + agricultural major.” When making their degree choice, agricultural communications freshmen agreed the most influential individuals were: self, FFA advisor, and college advisor.

Curriculum Expectations

Agricultural communications freshmen expected to enroll in an equal amount of agricultural and communications courses, which would provide broad and diversified content. Most agricultural freshmen expected to enroll in one communications based writing course, an agricultural economics course and participate in at least one internship experience. The majority of agricultural communications freshmen at the selected institutions also planned on becoming a member of the National Agricultural Communicators of Tomorrow organization.

Career Aspirations

About half of agricultural communications freshmen at selected institutions planned to enter the workforce after graduation, while the other half expected to continue their education. Working for most of them meant going to work for the agricultural industry, within their home state. While in the work place, some of the agricultural communications freshmen planned to have a specific job title, such as public relations representative, reporter, broadcaster, etc., and the others expected to work in a diversified position allowing them to fulfill various roles. However, no consensus was found in agricultural communications freshmen’s salary expectations at the selected institutions.

Value of Communications Skill Sets: Interest v. Importance

Agricultural communications freshmen ranked the total communications skill sets significantly higher ($p < .001$) in level of importance than they did in their level of interest. The skills sets most extrinsically valued by the freshmen were: describing the agricultural community to the public, resolving conflict and fixing barriers of communications between an organization and its public.

Agricultural communications freshmen held the most intrinsic value for teamwork, describing

Table 4
Skill Statements Ranked by Respondents' Level of Interest (Intrinsic Value)

Rank	Skill Statement	F	M	SD
1	Work as a member of a team	68	3.37	0.89
2	Describe the agricultural community to the public	68	3.34	1.04
3	Write with proper grammar and punctuation	68	3.21	1.01
4	Design a logo, advertisement, flier or brochure	68	3.13	1.08
5	Understand what makes a layout and design more pleasing to a viewer	68	3.12	1.06
6	Resolve conflict	68	3.10	1.11
7	Fix barriers of communication between an organization and its public	68	3.01	1.08
8	Use symbolism of color to enhance publications, websites, and advertisements	68	3.01	1.04
9	Determine ethical solutions to problems	68	3.01	1.06
10	Use graphics effectively to increase understanding	68	3.01	1.19
11	Report on a topic from various points of view	68	2.97	1.03
12	Develop an effective campaign	68	2.97	1.22
13	Select photos for proper medium	68	2.91	1.22
14	Evaluate the level of agricultural literacy in the United States	68	2.90	1.02
15	Talk with strangers about diverse topics	68	2.88	1.23
16	Effectively take shots from different angles	68	2.88	1.27
17	Identify bias in media stories	68	2.87	1.14
18	Use photo editing programs	68	2.81	1.40
19	Work under pressure	68	2.79	1.13
20	Operate camera equipment	68	2.76	1.39
21	Discuss the impact of government and legislative policy upon agriculture	68	2.72	1.21
22	Sort through information & select the most important material for an audience	68	2.68	0.99
23	Discuss environmental/global issues and their relation to agriculture	68	2.63	1.24
24	Use lighting to enhance photo elements	67	2.61	1.45
25	Understand the economical structure of agriculture	68	2.59	1.13
26	Apply the rules of Associated Press Style	68	2.49	1.19
27	Edit and critique others' work	68	2.40	1.25
28	Apply copyright laws	68	2.40	1.20
29	Understand the impact of biotechnology on world production systems	68	2.25	1.22
30	Analyze public perception of plant and animal food issues	68	2.07	1.30

Note. Classifications based on Cartmell's (2001) scale: M = 3.20 or higher = Interested; 2.40 – 3.19 = Somewhat Interested; 1.60 – 2.39 = Unsure; 0.80 – 1.59 = Somewhat Not Interested; 0 – 0.79 = Not Interested.

Table 5
Skill Statements Ranked by Respondents' Level of Importance (Extrinsic Value)

Rank	Skill Statement	F	M	SD
1	Describe the agricultural community to the public	68	3.51	0.85
2	Resolve conflict	68	3.44	0.77
3	Fix barriers of communication between an organization and its public	68	3.40	1.03
4	Work as a member of a team	68	3.38	0.87
5	Write with proper grammar and punctuation	68	3.36	0.71
6	Work under pressure	67	3.31	1.12
7	Develop an effective campaign	68	3.29	0.82
8	Report on a topic from various points of view	68	3.25	1.03
9	Understand what makes a layout and design more pleasing to a viewer	68	3.24	0.96
10	Sort through information & select the most important material for an audience	68	3.16	1.02
11	Determine ethical solutions to problems	68	3.16	1.08
12	Discuss the impact of government and legislative policy upon agriculture	68	3.16	1.09
13	Talk with strangers about diverse topics	68	3.07	1.15
14	Design a logo, advertisement, flier or brochure	68	3.06	1.01
15	Evaluate the level of agricultural literacy in the United States	68	3.03	0.95
16	Use graphics effectively to increase understanding	68	3.03	1.04
17	Select photos for proper medium	68	3.03	1.12
18	Apply copyright laws	68	3.01	1.10
19	Identify bias in media stories	68	3.00	1.03
20	Discuss environmental/global issues and their relation to agriculture	68	2.99	1.02
21	Understand the economical structure of agriculture	68	2.97	1.08
22	Use symbolism of color to enhance publications, websites, and advertisements	68	2.97	1.16
23	Use photo editing programs	68	2.96	0.99
24	Edit and critique others' work	68	2.90	1.03
25	Operate camera equipment	68	2.90	1.09
26	Analyze public perception of plant and animal food issues	68	2.87	1.17
27	Effectively take shots from different angles	68	2.81	1.20
28	Apply the rules of Associated Press Style	68	2.76	1.15
29	Understand the impact of biotechnology on world production systems	68	2.65	1.09
30	Use lighting to enhance photo elements	66	2.53	1.18

Note. Classifications based on Cartmell's (2001) scale: M = 3.20 or higher = Interested; 2.40 – 3.19 = Somewhat Interested; 1.60 – 2.39 = Unsure; 0.80 – 1.59 = Somewhat Not Interested; 0 – 0.79 = Not Interested.

the agricultural community to the public, and writing with proper punctuation and grammar. However, the freshmen were unsure about their interest the following: edit and critique others' work, apply copyright laws, understand biotechnology and world production systems, and analyze public perception of plant and animal food issues.

It is important to note the high variation listed between the students. Respondents' answers were more varied on the intrinsic level than the extrinsic level. Students may have felt more freedom when expressing their personal interests, than judging the importance of agricultural communications skill sets. In addition, students may have developed some skills sets prior to coming to college, therefore adding variation to their response.

Implications for Practice

Effective curriculums are achieved when a balance is found between student interest, faculty vision and industry need; although students may not be able to participate actively on a curriculum development committee, most students cast their vote by deciding to continue in the degree, or switch to something else (Coffey, 1987). By assessing freshmen expectations and values, as outlined by Atkinson (1964), curriculum developers, evaluators and executers, have a better chance of understanding and advising a new student in agricultural communications, and, therefore, have the potential to increase student retention (Sullins et al., 1995).

Schunk and Pajares (2005) reported an individual's motive to engage in a future task is weighed against his or her past successful experience. For the agricultural communications freshmen at the selected institutions, past experiences were gleaned from the family farm, high school classroom or organizations. Such experiences must have been positive or rewarding, therefore, giving the freshmen an idea that they could be successful as agricultural communicators. As long as these courses are giving an accurate representation of agricultural communications, professors, and professionals should use high school curriculum as a catalyst for preparing future agricultural communicators.

Professors and curriculum evaluators should also consider the motivating influence of being raised in a rural community (population less than 10,000). The livelihoods of agricultural communications freshmen at the selected institutions were most likely influenced or shaped by an agricultural based economy. Since most of these freshmen were born, agriculture has evolved into a more technological and global industry; in addition, the rise of consumer influence in agricultural production has also changed the nature of the agribusiness (Doerfert & Miller, 2006). Hence, a desire to protect and communicate the importance of their livelihood could have become a strong driving force to major in agricultural communications.

However, expectancy or the existence of past positive experience is not considered motivational alone; rather it must be coupled with value to provide sufficient incentive to engage in the task (Franken, 2007). When considering agricultural communication skill sets, the freshmen at the selected institutions reported a significantly stronger extrinsic value ($p < .001$) than intrinsic value. "Unsure" averages for skill statements were only revealed on the interest or intrinsic side. Such statistics could pose a threat to agricultural communications student retention. Eccles et al. (1983) claimed a strong level of intrinsic motivation implies students' performance is self-initiated, self-sustaining and self-rewarding. However, a strong level of extrinsic motivation implies the need for a constant reward, such as grades or money. Without these external rewards the motivation for task achievement is diminished (Eccles et al). Therefore, professors and curriculum developers at the selected institutions should seek to appeal to students' strong intrinsic values of teamwork, describing agricultural

communities to the public, and writing. Also, university recruitment specialists should recommend the degree choice of agricultural communications to those who show a strong interest in agricultural writing, design, photography, and Web design.

When outlining a student's four-year degree plan, expectations should also be considered. While industry experts claim communications skills should trump agricultural knowledge in curriculum (Morgan, 2008; Sprecker & Rudd, 1998), students still expect to enroll in an equal amount of agricultural courses and communication courses. However, the agricultural freshmen at the selected institutions did agree with the industry that the content of such courses should be broad and diversified. Academic advisers could assess their students' interest in different courses by showing a comprehensive list suggested by industry experts and compiled by Morgan (2008) and Terry (1996).

After graduation, half of the agricultural communications freshmen expected to enter the workforce, and the other half expected to continue their education. Buck and Barrick (1995) reported only 30% of agricultural communicators in six different professional organizations held a master's degree. If student expectations hold true, universities with graduate agricultural communications programs should consider how they will prepare to receive and recruit these students. Professionals should also consider how the increase of graduate degrees will affect salaries, leadership, and professional positions.

As student interest is included in the consideration of curriculum development and evaluation, there is a greater chance for student retention and satisfaction at all universities offering agricultural communication degree programs.

Recommendations for Future Research

The goal for agricultural communications curriculum at all institutions should be to balance student interest with faculty vision and industry need (Coffey, 1987). Therefore, further research should be done to ensure faculty's vision of agricultural communications curriculum matches the student interest and industry need presented in this study. If those visions and values do not align, further research should be conducted to discover the reasoning behind student, faculty, and industry differences. Morgan (2008) reported agricultural communications curriculum should be evaluated every two to five years to effectively mirror the needs of the industry.

More research should be conducted to understand agricultural communications student characteristics. Studies conducted in the past two decades show that agricultural communication programs have more females than males, yet provide no explanation. (Bisdorf-Rhoades et al. 2005, Bowen & Cooper, 1988). Research also should be conducted to explore agricultural and communication experience obtained before students enroll at a university. Since positive experience increase the likelihood of pursuing the task in the future, the following questions should be asked: do high school agriculture and communications curriculum paint an accurate picture of the industry? Do high school organization contests provide realistic experiences? Answers to such questions could provide valuable information for student recruiters and advisers.

More research is needed to discover if sophomores, juniors, and seniors' intrinsic and extrinsic values of agricultural communications are similar to the freshmen at the selected institutions. Bowen and Cooper (1988) claimed a student's interest level and participation in mass communications decreases with each class level. Since this research is outdated, new research is needed to assess students' interests. In addition, do student interest values change after they graduate and become professionals? If so, what influences such value changes?

Research should also be conducted to understand the intrinsic and extrinsic values that affect agricultural communications students' motivations. Some of the results of this study pose some interesting questions. For example, why were the freshmen interested in working as a member of a team, but unsure about their interest to edit and critique others' work? Or why are students interested in describing the agricultural community to the public and unsure about biotechnology and the public's perception of plant and animal food issues? By applying the same skills sets in an interview setting, researchers could learn much more about freshmen value systems.

In addition, this study should be replicated at other institutions. Erven (1987) claimed curriculum development should happen at the institutional level versus a general level. Programs in the South will vary from programs in the East and West, similarly to the students who live in and attend universities within those states. However, a content analysis of various student interest studies nationwide could have the potential to reveal general trends.

As future research is conducted within all three areas — student interest, faculty vision, and industry need — the agricultural communicators of tomorrow will be prepared to communicate and disseminate important scientific information in interesting and entertaining ways. Hence, becoming valuable citizens who effectively and responsibly stand in the “critical intersection of the practice of science and the public understanding of science” (Treise & Weigold, 2002, p. 320).

About the Authors

Tamra Watson graduated from Oklahoma State University with a Master of Science in Agricultural Communications in December of 2010. She currently works as a marketing specialist at the Utah Department of Agriculture and Food. Her passions include agriculture, academia, writing and the great outdoors. Tanner Robertson is an assistant professor of Agricultural Media and Communications at West Texas A&M University.

References

- Atkinson, J. H. (1964). *An introduction to motivation*. Toronto, Canada: D. Van Nostrand, Inc.
- Baldwin, J. R., Perry, S. D., Moffitt, M. A. (2004). *Communication theories for everyday life*. Boston, MA: Pearson Education, Inc.
- Beyer, L. E. & Liston, D. P. (1996) *Curriculum in conflict: Social visions, educational agendas, and progressive school reform*. New York, NY: Teachers College Press
- Bisdorf-Rhoades, E., Ricketts, J., Irani, T., Lundy, L., & Telg, R. (2005). Critical thinking dispositions of agricultural communications students. *Journal of Applied Communications*, 89(1), 25-34.
- Bowen, B. E., & Cooper, B. E. (1988). Employment and job satisfaction of agricultural communications graduate. *ACE Quarterly*, 71(4), 3-8.
- Buck, C. A., & Barrick, K.R. (1995). Characteristics, Educational Preparation, and Membership in Professional Organizations of Agricultural Communicators. Summary of Research 82.: Ohio State University, Columbus, OH. Dept. of Agricultural Education.
- Burnett, C., & Tucker, M. (2001). *Writing for agriculture: A new approach using tested ideas*. Dubuque, IA: Kendall/Hunt Publishing Co.
- Cartmell, D. (2001). *Arkansas daily newspaper editors attitudes toward agriculture and the gatekeeping criteria used when publishing agricultural news*. Unpublished dissertation. Oklahoma State University, Stillwater.

- Ciuffetelli, G.R. (2007). *Writing and editing proficiencies in agricultural communications: Frequency of use and role in curriculum*. Unpublished master's thesis, Oklahoma State University, Stillwater.
- Coffey, J. D. (1987). Undergraduate Agricultural Economics Curricula: Discussion. *American Journal of Agricultural Economics*, 69(5), 1043.
- Creswell, J. W. (2008) *Education research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Education Inc.
- 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.
- Eccles, J. P., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L., & Midley, C. (1983). Expectancies, values, and academic behaviors. In J.T. Spence (Ed.), *Achievement and achievement motives: Psychological and sociological approaches* (pp. 7-74). San Francisco, CA: W.H. Freeman.
- Erven, B. L. (1987). Reforming curricula: Challenge and change for agricultural economists. *American Journal of Agricultural Economic*, 69(5), 1037-1042
- Finch, C. R. & Crunkilton, J.R. (1999). *Curriculum development in vocational and technical education: Planning, content, and implementation*. Boston: Allyn and Bacon.
- Franken, R. (Ed.) (2007). *Human Motivation* (6th ed.). Belmont, CA: Thomson Wadsworth
- Meyers, L. (2005). Time for a tune-up: comprehensive curriculum evaluation. *Principal Leadership*, 6(1), 27-30.
- Morgan, C. (2008). *Competencies needed by agricultural communication undergraduates: An industry perspective*. Paper presented at the Southern Association of Agricultural Scientists Conference, Atlanta, GA.
- Morgan, C. (2009). *Competencies needed by agricultural communication undergraduates: A focus group study*. Paper presented at the Southern Association of Agricultural Scientists Conference, Orlando, FL
- Mujis, D. (2004). *Doing quantitative research in education with SPSS*. Thousand Oaks, CA : SAGE Publications Inc.
- Nelkin, D. (1995). *Selling Science: How the press covers science and technology*. Rev. ed. New York: Freeman.
- Osborne, E. (Ed). (2007). *National research agenda: agricultural education and communication: 2007-2010*: American Association for Agricultural Education.
- Palen, J. (1994). A map for science reporters: Science, technology, and society studies concepts in basic reporting and news writing textbooks. *Michigan Academician* 26, 507-19.
- Schunk, D. & Pajares, F. (2005). Competence perceptions and academic functioning. In A. Elliot, & C. Dweck (Eds.) *Handbook of competence and motivation* (pp. 85-104). New York, NY: The Guilford Press.
- Simon, L., Robertson, T., & Doerfert, D. (2003). *The inclusion of risk communications in the agricultural communications curriculum: a pre-assessment of need*. manuscript. Texas Tech University. Lubbock.
- Spence, J. & Helmreich, R. (1983) Achievement-related motives and behaviors. In J. Spence (Ed.) *Achievement and achievement motives: Psychological and sociological approaches* (pp. 7-74). San Francisco, CA: W.H. Freeman.

- Sprecker, K., Rudd, R. (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.
- Sprecker, K., Rudd, R. (1998). Opinions of practitioners concerning curricular requirements of agricultural communication students at the University of Florida. *Journal of Applied Communications*. 82(1) 31-42.
- Sullins, E., Hernandez, D., Fuller, C., Tashiro, J. (1995). Predicting who will major in a science discipline: Expectancy-value theory as part of an ecological model for studying academic communities. *Journal of Research in Science Teaching*, 32(1), 99-119.
- Terry, R., Jr. (1996). *Enhancing the agricultural communications curriculum*. Paper presented at the 23rd Annual National Agricultural Education Research Meeting, Cincinnati, OH.
- Terry, Jr., R., & Bailey-Evans, F. J. (1995). Competencies needed for graduates of agricultural communications programs. *Proceedings of the Southern Region Agricultural Education Research Meeting*, 44, 13-25.
- Treise, D. & Weigold, M. (2002). Advancing Science Communication: A survey of science communicators. *Science Communications*, 23(3), 310-322.
- Tucker, M., & Paulson, C. (1988). A descriptive study of characteristics, interests and career objectives of agricultural communications students. *ACE Quarterly*, 7(13), 10-16.
- Wigfield, A. & Eccles, J. (1992). The development of achievement task values: A theoretical analysis. *Developmental Review*, 12, 265-310.
- Wigfield, A. & Eccles, J. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, 25, 68-81.